CHEMISTRY

BOOKS - BRILLIANT PUBLICATION

ORGANIC CHEMISTRY : SOME BASIC PRINCIPLES - PART I (NOMENCLATURE)

Level I

1. Choose the option which show correct preferential order of groups among the following

A. $-COOH,\ -CHO,\ -OH,\ -NH_2$

B. $-NH_2,\ -OH,\ -COOH,\ -CHO$

C. $-COOH,\ -OH,\ -NH_2,\ -CHO$

D. $-COOH,\ -NH_2,\ -CHO,\ -OH$

Answer: A

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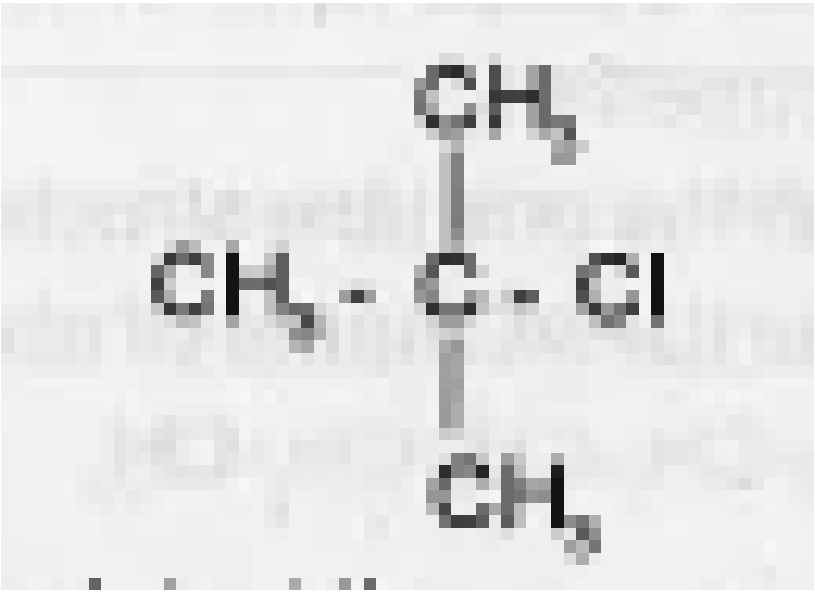
2. Give the IUPAC name of the following compound.



A. hexane-1, 2, 5-tricarbonitrile

B. hexane-1, 3, 6-tricarbonitrile

C. butane-1, 2, 4-tricarbonitrile

D. butane-1, 3, 4-tricarbonitrile

Answer: C

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3. The correct IUPAC name of tartaric acid is

A. 1, 4-dicarboxy-2,3-dihydroxyethane

B. α, α'-dihydroxybutane-1, 4-dioic acid

C. 1,4-dihydroxybutane-2,3-dioic acid

D. 2,3-dihydroxybutane-1,4-dioic acid

Answer: D

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4. The IUPAC name of $CH_3COCH(CH_3)_2$ is

A. iso-propylmethyl ketone

B. 2-methyl-3-butanone

C. 4-methyl iso-propyl ketone

D. 3-methyl-2-butanone

Answer: D

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5. The IUPAC name for $CH_3 - \underset{\underset{OH}{|}}{CH} - CH_2 - \overset{\overset{CH_3}{|}}{\underset{\underset{OH}{|}}{C}} - CH_3$

A. 1, 1-dimethyl-1, 3-butanediol

B. 4-methyl-2, 4-pentanediol

C. 2-methyl-2, 4-pentanediol

D. 1,3,3-trimethyl-1, 3-propanediol

Answer: C

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6. The IUPAC name for $CH_3C \equiv CCH(CH_3)_2$ is

A. 4-methyl-2-pentyne

B. 4,4-dimethyl-2-butyne

C. Methyl isopropyl acetylene

D. 2-methyl-4-pentyne

Answer: A

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7. The structure of 4-methyl-2-penten-1-ol is

A. $CH_3CH_2CH = CHCH_2OH$

B. $(CH_3)_2C = CHCH_2CH_2OH$

C. $(CH_3)_2CHCH = CHCH_2OH$

D. $CH_3CHOH - CH = C(CH_3)_2$

Answer: C

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8. The IUPAC name of $CH_3 - \overset{\overset{H}{|}}{\underset{\underset{C_2H_5}{|}}{C}} - \overset{\overset{C_4H_9}{|}}{\underset{\underset{CH_3}{|}}{C}} - CH_3$

A. 2-butyl-2-methyl-2-ethylbutane

B. 2-ethyl-3-3-dimethylheptane

C. 3,4,4-trimethylheptane

D. 3,4,4-trimethyloctane

Answer: D

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9. The IUPAC name of $CH_3CH = CHCOOC_2H_5$ is

A. Ethylbut-1-enoate

B. Ethylbut-2-enoate

C. Ethylprop-2-enoate

D. Ethylprop-1-enoate

Answer: B

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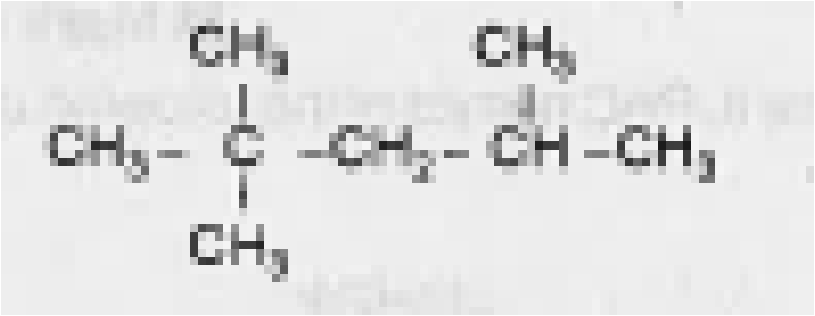
10. Write the IUPAC names of the following.



A. 2-ethyl oxirane

B. Ethyl methyl ether

C. Ketopentanone

D. Ketobutanone

Answer: A

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11. The number of $1^\circ, 2^\circ, \text{ and } 3^\circ$ H atoms in 3-ethyl-5-methyl heptane, respectively, is:

A. 12, 8, 1

B. 14, 4, 2

C. 12, 6, 2

D. 12, 8, 2

Answer: D

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12. In 2-Chloro-3-methyl hexanoic acid, the primary suffix is:

A. 2-Chloro-

B. $-3-$ Methyl

C. an(e)

D. oic acid

Answer: C

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13. Which of the following is not a cumulated diene?

A. Hexa-1, 2-diene

B. Hexa-2, 3-diene

C. Penta-2, 3-diene

D. Penta-1, 3-diene

Answer: D

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14. The IUPAC name of vinyl acetylene is:

A. Pent-1-en-4-yne

B. Pent-4-yn-1-ene

C. But-1-en-3-yne

D. But-1-yn-3-ene

Answer: C

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15. Which of the following is not the name of CH_3NC?

A. Methyl isocyanide

B. Aceto isonitrile

C. Methyl carbylamine

D. Acetonitrile

Answer: D

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16. Which of the following statements is wrong for a homologous series?

A. All members have the same general formula

B. All members have the same functional group

C. All members have the same chemical properties

D. All members have the same physical properties

Answer: D

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17. The IUPAC name of $(CH_3)_3C - CH = CH_2$ is

A. 2,2-Dimethyl but-3-ene

B. 2,2-Dimethyl pent-4-ene

C. 3,3-Dimethyl but-1-ene

D. Hex- 1 -ene

Answer: C

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18. The number of σ -and π -bonds in 1 -buten-3-yne is:

A. $5\sigma \text{ and } 5\pi$

B. $7\sigma \text{ and } 3\pi$

C. 8σ and 2π

D. 6σ and 4π

Answer: B

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19. Which of the following compounds has isopropyl group?

A. 2,2,3,3-Tetramethyl pentane

B. 2,2-Dimethyl pentane

C. 2,2,3-Trimethyl pentane

D. 2-Methyl pentane

Answer: D

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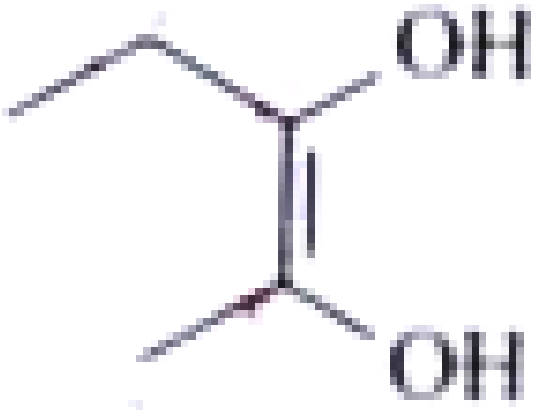
20. IUPAC name of



is:

A. but-2-ene,2,3-diol

B. pent-2-ene-2,3-diol

C. 2-methyl-2-ene-2,3-diol

D. hex-2-ene-2,3-diol

Answer: B

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21. IUPAC name of $H_3C - \underset{\underset{C_2H_5}{|}}{CH} - CH_2 - \underset{\underset{CHO}{|}}{CH} - CH_2Cl$ is:

A. 2-chloromethyl-4-methyl-hexanal

B. 1-chloro-4-ethyl-2-pentanal

C. 1-chloro-4-methyl-2-hexanal

D. 1-chloro-2-aldo-4-methyl hexane

Answer: A

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22. IUPAC name of $CH_3CH(OH)CH_2CH_2COOH$ is:

A. 4-hydroxypentanoic acid

B. 1-carboxy-3-butanoic acid

C. 1-carboxy-4-butanol

D. 4-carboxy-2-butanol

Answer: A

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23. The correct IUPAC name of $(C_2H_5)_4C$ is:

A. tetraethyl methane

B. 2-ethylpentane

C. 3,3-diethylpentane

D. 2,2-diethylbutane

Answer: C

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24. IUPAC name of the compound, $ClCH_2CH_2COOH$ is:

A. 3-chloropropanoic acid

B. 2-chloropropanoic acid

C. 2-chloroethanoic acid

D. chlorosuccinic acid

Answer: A

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25. The prefix name of -SH group in IUPAC system is:

A. mercapto

B. thiol

C. sulphide

D. sulphonicc acid

Answer: A

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26. In IUPAC suffix name of R-COX is:

A. oyl halide

B. halo carbonyl

C. carbamoyl

D. carboxy

Answer: A

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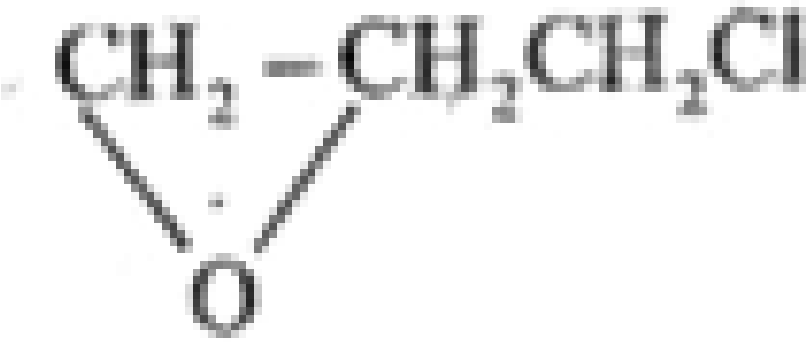
27. IUPAC name of the compound,



is:

A. 1-chloro2,3-epoxypropane

B. 2-chloropropanoic acid

C. 2-chloroethanoic acid

D. chlorosuccinic acid

Answer: B

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28. The family to which methoxyethene belongs is:

A. hydrocarbon

B. ketone

C. unsaturated ether

D. ester

Answer: C

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29. IUPAC name of following compound,  is:

A. 2-cyclohexylbutane

B. 2-phenylbutane

C. 3-cyclohexylbutane

D. 3-phenylbutane

Answer: B

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30. The structural formula of 2,2,4-trimethyl pentane is:

A. $CH_3 - \overset{\overset{CH_3}{|}}{\underset{\underset{CH_3}{|}}{C}} - \overset{\overset{CH_3}{|}}{CH} - CH_2 - CH_3$

B. $CH_3 - \overset{\overset{CH_3}{|}}{\underset{\underset{CH_3}{|}}{C}} - CH_2 - \overset{\overset{CH_3}{|}}{CH} - CH_3$

C. $CH_3 - \overset{\overset{CH_3}{|}}{\underset{\underset{CH_3}{|}}{C}} - \overset{\overset{CH_3}{|}}{CH} - CH_2 - CH_2 - CH_3$

D. $CH_3 - \underset{\underset{CH_3}{|}}{CH} - CH_2 - CH_2 - \overset{\overset{CH_3}{|}}{\underset{\underset{CH_3}{|}}{C}} - CH_3$

Answer: B

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31. The name of $(CH_3)_2HC - O - CH_2 - CH_2 - CH_3$ is:

A. isopropyl propyl ether

B. dipropyl ether

C. di-isopropyl ether

D. isopropyl propyl ketone

Answer: A

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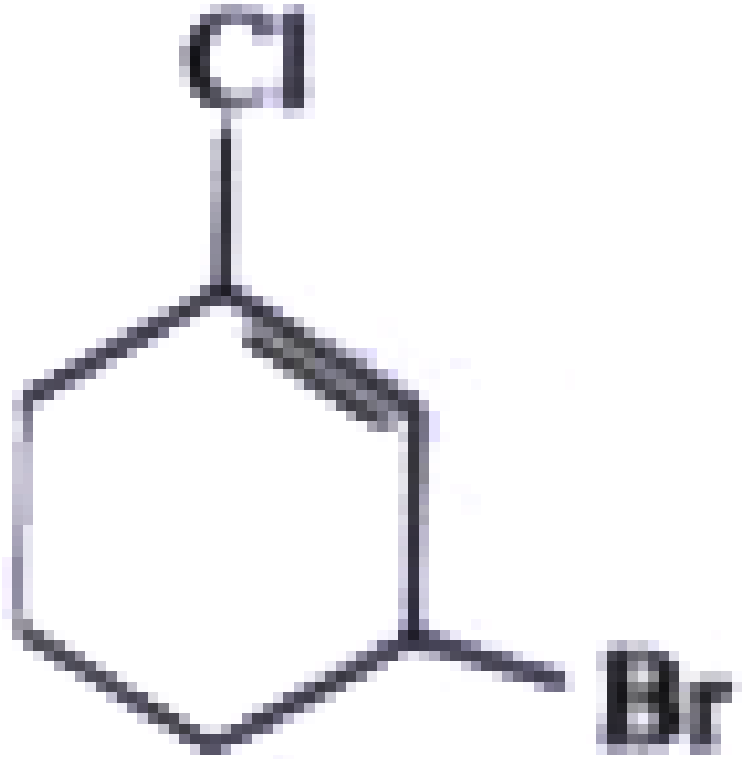
32. The IUPAC name of the compound shown is:



A. 2-bromo-6-chlorocyclohex-1-ene

B. 6-bromo-2-chlorocyclohexene

C. 3-bromo-1-chlorocyclohexene

D. 1-bromo-3-chlorocyclohexene

Answer: C

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33. The IUPAC name for $CH_3\underset{\underset{OH}{|}}{C}HCH_2\overset{\overset{CH_3}{|}}{\underset{\underset{OH}{|}}{C}}CH_3$ is:

A. 1,1-dimethyl-1,3-butanediol

B. 4-methyl-2,4-pentanediol

C. 2-methyl-2,4-pentanediol

D. 1,3,3-trimethyl-1,3-propanediol

Answer: C

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34. Which of the following IUPAC names is correct?

A. 2-methyl-3-ethylpentane

B. 2-ethyl-3-methylpentane

C. 3-ethyl-2-methylpentane

D. 3-methyl-2-ethylpentane

Answer: C

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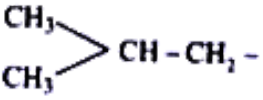
35. The structure of isobutyl group in an organic compound is:

A. $CH_3 - \underset{|}{CH} - CH_2 - CH_3$

B. $CH_3 - CH_2 - CH_2 - CH_2 -$

C. $CH_3 - \overset{CH_3}{\underset{CH_3}{\overset{|}{\underset{|}{C}}}} -$

D. 

Answer: D

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36. The IUPAC name of neopentane is

A. 2-methylbutane

B. 2,2-dimethylpropane

C. 2-methylpropane

D. 2,2-dimethylbutane

Answer: B

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37. The general formula $C_nH_{2n}O_2$ could be for open chain

A. diketones

B. carboxylic acids

C. diols

D. dialdehydes

Answer: B

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38. IUPAC name of 4-isopropyl-m-xylene is

A. 1-isopropyl-2,4-dimethylbenzene

B. 4-isopropyl-m-xylene

C. 4-isopropyl-3,5-dimethylbenzene

D. 4-isopropyl-3,5-dimethylbenzene

Answer: A

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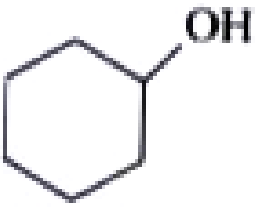
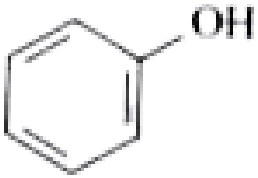
39. The structural formula of cyclohexyl alcohol is

A. 

B. 

C.

D.

Answer: A

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40. The correct bond line formula for the given compound? $(CH_3)_2 = CHCH_2CH_3$?

A. 

B. 

C. 

D. 

Answer: B

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41. Which of the following compounds represents 2,2,3-trimethylhexane?

A. $CH_3C(CH_3)_2CH_2CH_2CH(CH_3)_2$

B. $CH_3C(CH_3)_2CH_2CH(CH_3)CH_2CH_3$

C. $CH_3C(CH_3)_2CH(CH_3)CH_2CH_2CH_3$

D. $CH_3C(CH_3)_2CH_2C(CH_3)_2CH_3$

Answer: C

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42. Which of the following represents neopentyl alcohol?

A. $CH_3CH(CH_3)CH_2CH_2OH$

B. $(CH_3)_3CCH_2OH$

C. $CH_3(CH_2)_3OH$

D. $CH_3CH_2CH(OH)CH_3$

Answer: B

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43. The IUPAC name of the compound is 

A. 1-Iodo-2-methyl-3-ethylcyclohexane

B. 1-methyl-2-ethyl-6-iodocyclohexane

C. 1-Iodo-2-methyl-1-ethylcyclohexane

D. 1-Ethyl-3-iodo-2-methylcyclohexane

Answer: D

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44. Choose the option which show correct preferential order of groups among the following

A. $-COOH,\ -CHO,\ -OH,\ -NH_2$

B. $-NH_2,\ -OH,\ -CHO,\ -COOH$

C. $-COOH,\ -OH,\ -NH_2,\ -CHO$

D. $-COOH,\ -NH_2,\ -CHO,\ -OH$

Answer:

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45. The IUPAC name of the compound,

A. hexane-1, 2, 5-tricarbonitrile

B. hexane-1, 3, 6-tricarbonitrile

C. butane-1, 2, 4-tricarbonitrilc

D. butane-1, 3, 4-tricarbonitrilc

Answer:

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46. Which of the following is the correctIUPAC name of tartaric acid

A. I, 4-dicarboxy-2, 3-dihydroxyethane

B. α, α' -dihydroxybutane-1 , 4-dioic acid

C. 1, 4-dihydroxybutane-2, 3-dioic acid

D. 2, 3-dihydroxybutane-1, 4-dioic acid

Answer:

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47. The IUPAC name of $CH_3COCH(CH_3)_2$ is

A. iso-propylmethyl ketone

B. 2-methyl-3-butanone

C. 4-methyl iso-propyl ketone

D. 3-methyl-2-butanone

Answer:

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48. The IUPAC name for $CH_3 - \underset{\underset{OH}{|}}{CH} - CH_2 - \underset{\underset{OH}{|}}{\overset{\overset{CH_3}{|}}{C}} - CH_3$ is:

A. 1, 1-dimethyl-1, 3butanediol

B. 4-methyl-2, 4-pentanediol

C. 2-methyl-2, 4-pentanediol

D. 1, 3, 3-trimethyl-1 , 3-propanediol

Answer:

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49. The IUPAC name of $CH_3C \equiv CCH(CH_3)_2$ is

A. 4-methyl-2-pentyne

B. 4, 4-dimethyl-2-butyne

C. Methyl isopropyl acetylene

D. 2-methyl-4-pentyne

Answer:

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50. The structure of 4-methyl-2-penten-1-ol is

A. $CH_3CH_2CH = CHCH_2OH$

B. $(CH_3)_2C = CHCH_2CH_2OH$

C. $\left((CH_3)_2CHCH = CHCH_2OH\right.$

D. $CH_3CHOH - CH = C(CH_3)_2$

Answer:

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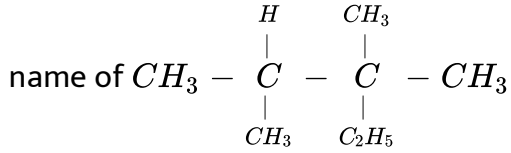
51. The IUPAC name of 

A. 2-butyl-2-methyl-2-ethylbutane

B. 2-ethyl-3-3-dimethylheptane

C. 3. 4, 4- trimethylheptane

D. 2, 3, 3- trimethylpentane

Answer:

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52. The IUPAC name of $CH_3CH = CHCOOCH_3$ is

A. Ethylbut-1-enoate

B. Methylbut-2-enoate

C. Ethylprop-2-enoate

D. Ethylprop-1-enoate

Answer:

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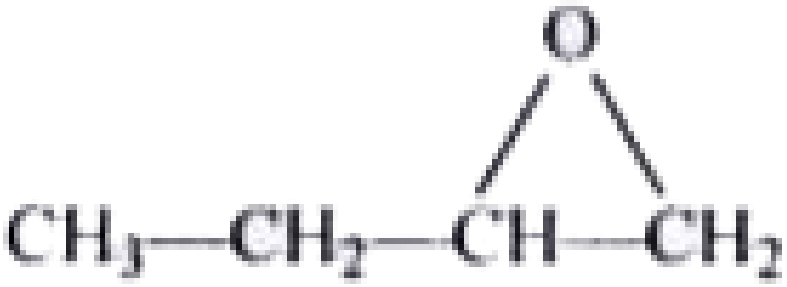
53. The IUPAC name of the compound



is : 2-ethyl oxirane, Ethyl methyl ether, Ketopentanone, Ketobutanone

A. 2-ethyl oxirane

B. Ethyl methyl ether

C. Ketopentanone

D. Ketobutanone

Answer:

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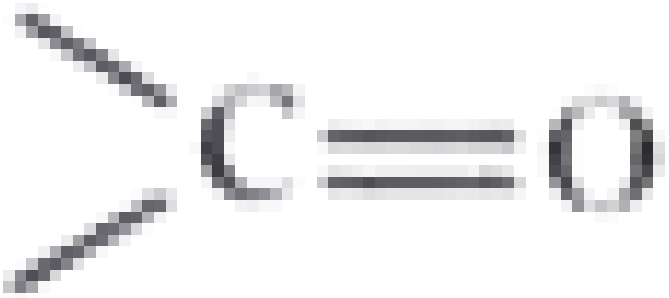
54. The decreasing order of priority for the following functional group is:

I) $-C \equiv N$ II) $-CONH_2$ III) 

IV) -CHO II > I > IV > III III > IV > I > II I > II > IV > III I > II > III > IV

A. II $>$ I $>$ IV $>$ III

B. III $>$ IV $>$ I $>$ II

C. I $>$ II $>$ IV $>$ III

D. I $>$ II $>$ III $>$ IV

Answer:

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55. The number of $1^{\circ}, 2^{\circ}, \text{ and } 3^{\circ}$ H atoms in 3-ethyl-5-methyl heptane, respectively, is:

A. 12,8, 1

B. 14,4,2

C. 12, 6,2

D. 12,8, 2

Answer:

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56. In 2-Chloro-3-methyl hexanone, the primary suffix is:

A. 2-Chloro-

B. -3-Methyl

C. an(e)

D. oic acid

Answer:

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57. Which of the following are cumulated dienes?

A. Hexa-1,2-diene

B. Hexa-2, 3-diene

C. Penta-2,3-diene

D. Penta-1,3-diene

Answer:

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58. The IUPAC name of vinyl acetylene is:

A. Pent-1-en-4-yne

B. Pent-4-yn-1-ene

C. But-1-en-3-yne

D. But-1-yn-3-ene

Answer:

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59. Which of the following is not the name of CH_3NC?

A. Methyl isocyanide

B. Aceto isonitrile

C. Methyl carbylamine

D. Acetonitrile

Answer:

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60. Which of the following statements is wrong for a homologous series?

A. All members have a general formula

B. All members have the same functional group

C. All members have the same chemical properties

D. All members have the same physical properties

Answer:

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61. The IUPAC name of $(CH_3)_3C - CH = CH_2$ is:

A. 2,2-Dimethyl but-3-ene

B. 2,2-Dimethyl pent-4-ene

C. 3,3-Dimethyl but-1-ene

D. Hex-1-ene

Answer:

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62. The number of σ-and π-bonds in 1-buten-3-yne is:

A. 5 σ and 5π

B. 7 σ and 3π

C. 8 σ and 2π

D. 6σ and 4π

Answer:

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63. Which of the following compounds has isopropyl group?

A. 2,2,3,3-Tetramethyl pentane

B. 2,2-Dimethyl pentane

C. 2,2,3-Trimethyl pentane

D. 2-Methyl pentane

Answer:

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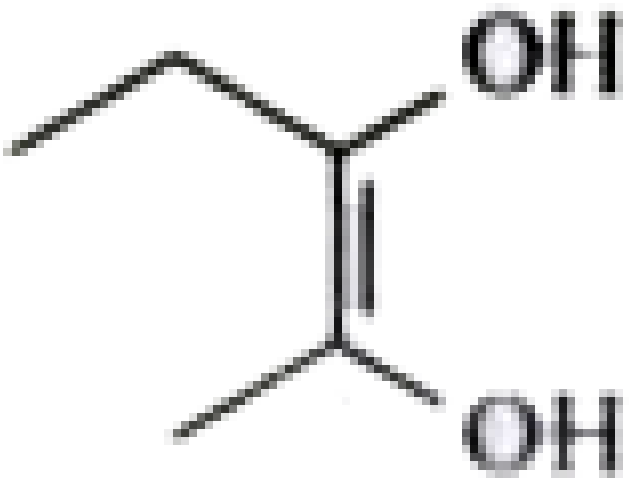
64. IUPAC name of



is

A. but-2-ene-2,3-diol

B. pent-2-ene-2,3-diol

C. 2-methylbut-2-ene-2,3-diol

D. hex-2-ene-2,3-diol

Answer:

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65. IUPAC name of $H_3C - \underset{\underset{C_2H_5}{|}}{CH} - CH_2 - \underset{\underset{CHO}{|}}{CH} - CH_2Cl$ is:

A. 2-chloromethyl-4-methyl-hexanal

B. 1-chloro-4-ethyl-2-pentanal

C. 1-chloro-4-methyl-2-hexanal

D. 1-chloro-2-aldo-4-methyl hexane

Answer:

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66. IUPAC name of $CH_3CH(OH)CH_2COOH$ is:

A. 3-hydroxybutanoic acid

B. 1-carboxy-3-butanoic acid

C. 1-carboxy-4-butanol

D. 4-carboxy-2-butanol

Answer:

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67. The correct IUPAC name of $(C_2H_5)_3CH$ is:

A. tetraethyl methane

B. 3-ethylpentane

C. 3, 3-diethylpentane

D. 2, 2-diethylbutane

Answer:

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68. IUPAC name of the compound, $CICH_2CH_2CH_2COOH$ is:

A. 4-chlorobutanoic acid

B. 2:chloropropanoic acid

C. 2-chloroethanoic acid

D. chlorosuccinic acid

Answer:

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69. In IUPAC system the prefix name of-SH group is:

A. mercapto

B. thiol

C. sulphide

D. sulphonic acid

Answer:

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70. Suffix name of-COX In IUPAC is:

A. oyl halide

B. halo carbonyl

C. carbamoyl

D. carboxy

Answer:

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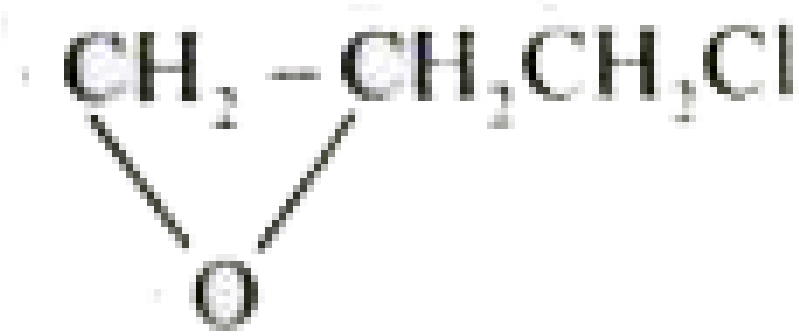
71. IUPAC name of the compound,



is:

A. 1-chloro-2,3-epoxypropane

B. 3-chloro-1,2-epoxypropane

C. 1-chloroethoxymethane

D. 1-chloro-ethoxy propane

Answer:

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72. The family to which methoxyethene belongs is:hydrocarbon ketone unsaturated ether ester

A. hydrocarbon

B. ketone

C. unsaturated ether

D. ester

Answer:

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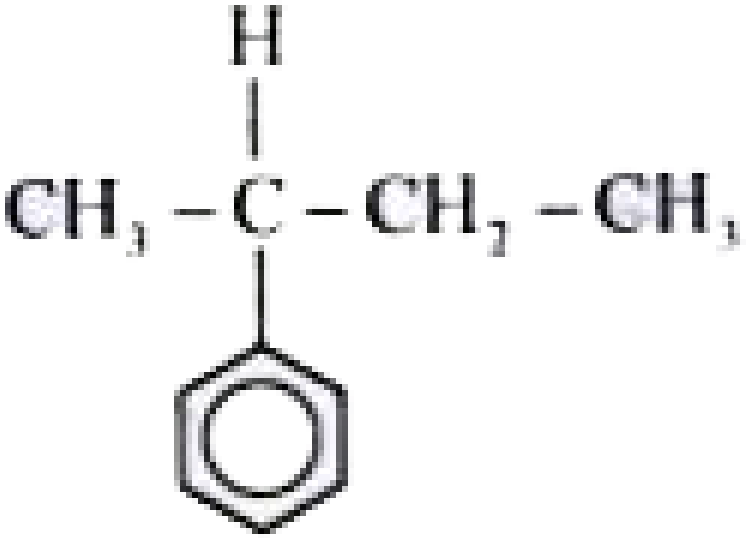
73. IUPAC name of following compound



is:

A. 2-cyclohexylbutane

B. 2-phenylbutane

C. 3-cyclohexylbutane

D. 3-phenylbutane

Answer:

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74. The structural fomrula of2, 2, 4-trimethyl pentane is:

A. $CH_3 - \underset{\underset{CH_3}{|}}{\overset{\overset{CH_3}{|}}{C}} - \overset{\overset{CH_3}{|}}{C}H - CH_2 - CH_3$

B. $CH_3 - \underset{\underset{CH_3}{|}}{\overset{\overset{CH_3}{|}}{C}} - CH_2 - \overset{\overset{CH_3}{|}}{C}H - CH_3$

C. $CH_3 - \underset{\underset{CH_3}{|}}{\overset{\overset{CH_3}{|}}{C}} - \overset{\overset{CH_3}{|}}{C}H - CH_2 - CH_2 - CH_3$

D. $CH_3 - \underset{\underset{CH_3}{|}}{C}H - CH_2 - CH_2 - \overset{\overset{CH_3}{|}}{\underset{\underset{CH_3}{|}}{C}} - CH_3$

Answer:

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75. The name of $(CH_3)_2HC - O - CH_2 - CH_2 - CH_3$ is:

A. isopropyl propyl ether

B. dipropyl ether

C. di-isopropyl ether

D. isopropyl propyl ketone

Answer:

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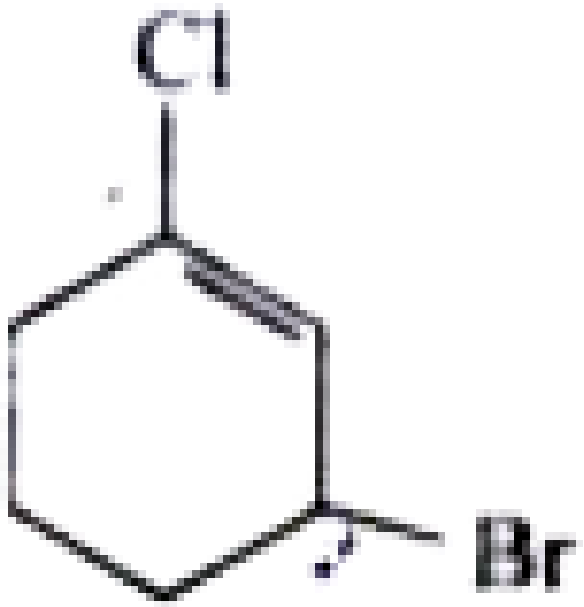
76. The IUPAC name of the compound shown is:



A. 2-bromo-6-chlorocyclohex-1-ene

B. 6-bromo-2-chlorocyclohexene

C. 3-bromo-1-chlorocyclohexene

D. 1-bromo-3-chlorocyclohexene

Answer:

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77. The IUPAC name for $CH_3\underset{\underset{OH}{|}}{C}HCH_2\overset{\overset{CH_3}{|}}{\underset{\underset{OH}{|}}{C}}CH_3$ is:

A. 1, 1-dimethyl-1 ,3-butanediol

B. 4-methyl-2,4-pentanediol

C. 2-methyl-2,4-pentanediol

D. 1 3,3-trimethyl-1.3-propanediol

Answer:

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78. Which of the following IUPAC names is correct?

A. 2-methyl-3-ethylpentane

B. 2-ethyl-3-methylpentane

C. 3-ethyl-2-methylpentane

D. 3-methyl-2-ethylpentane

Answer:

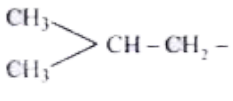
Watch Video Solution

79. The structure of isobutyl group in an organic compound is:

A. $CH_3 - \underset{|}{CH} - CH_2 - CH_3$

B. $CH_3 - CH_2 - CH_2 - CH_2 -$

C. $CH_3 - \overset{CH_3}{\underset{CH_3}{\overset{|}{\underset{|}{C}}}} -$

D. 

Answer:

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80. The IUPAC name of neopentane is

A. 2-methylbutane

B. 2,2-dimethylpropane

C. 2-methylpropane

D. 2,2-dimethylbutane

Answer:

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81. The general formula $C_nH_{2n}O_2$ could be for open chain

A. diketones

B. carboxylic acids

C. diols

D. dialdchydes

Answer:

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82. IUPAC name of 4-isopropyl-m-xylene is

A. 1-isopropyl-2,4-dimethylbenzene

B. 4-isopropyl-m-xylene

C. 4-isopropyl-3,5-dimethylbenzene

D. 4-isopropyl-3,5-dimethylbenzene

Answer:

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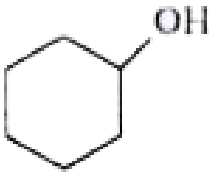
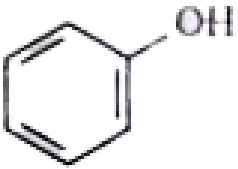
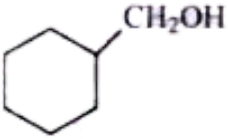
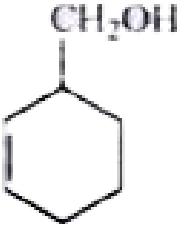
83. The structural formula of cyclohexyl alcohol is

A. 

B. 

C. 

D. 

Answer:

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84. The correct bond line formula for the given compound? $(CH_3)_2 = CHCH_2CH_3$?

A. 

B. 

C. 

D. 

Answer:

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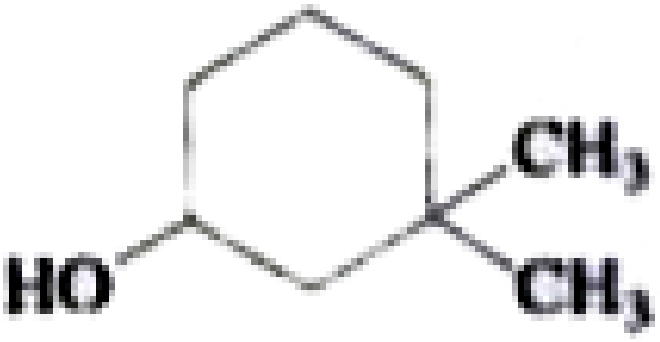
85. The correct IUPAC name of the compound



A. 1, 1-dimethyl-3-hydroxycyclohexane

B. 3. 3-dimethyl-1-hydroxycyclohexane

C. 3,3-dimethyl-1-cyclohexanol

D. 1, 1-dimethyl-3-cyclohexanol

Answer:

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86. Which of the following compounds represents 2,2,3-trimethylhexane?

A. $CH_3C(CH_3)_2CH_2CH_2CH(CH_3)_2$

B. $CH_3C(CH_3)_2CH_2CH(CH_3)CH_2CH_1$

C. $CH_3C(CH_3)_2CH(CH_3)CH2_CH_2CH_3$

D. $CH_3C(CH_3)_2CH_2C(CH_3)_2CH_3$

Answer:

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87. Which of the following represents neopentyl alcohol?

A. $CH_3CH(CH_3)CH_2CH_2OH$

B. $(CH_3)_3\mathrm{C}\mathrm{C}H_2OH$

C. $CH_3(CH_2)_3OH$

D. $CH_3CH_2CH(OH)CH_3$

Answer:

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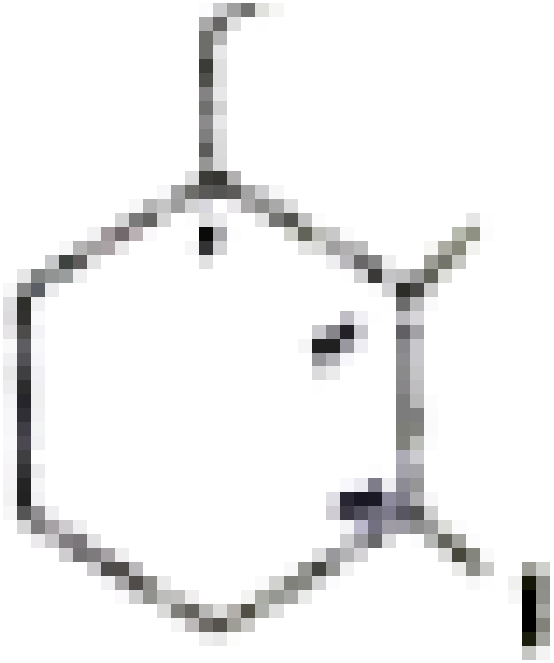
88. The IUPAC name of the compound is



A. 1-Iodo-2-methyl-3-ethylcyclohexane

B. 1-methyl-2-ethyl-6-iodocyclohexane

C. 1-Iodo-2-methyl-1-ethylcyclohexane

D. 1-Ethyl-3-iodo-2-methylcyclohexane

Answer:

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Level Ii

1. The correct IUPAC name of the compound, $CH_3 - \underset{\underset{Cl}{|}}{CH} - \underset{\underset{Br}{|}}{CH} - \underset{\underset{I}{|}}{CH} - CH_2 - CH_3$ is:

A. 4-bromo-5-chloro-3-iodohexane

B. 3-bromo-2-chloro-4-iodohexane

C. 3-bromo-4-iodo-2-chlorohexane

D. 2-chloro-3-bromo-4-iodohexane

Answer: B

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2. Represent the structure of 2-bromo-6-isobutyl 4-methyldec-3-en-1-ol?

A. 

B. 

C. 

D. 

Answer: D

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3. Give the structure of compound 2-(1-cyclobutenyl)-1-hexene?

A. 

B. 

C. 

D. 

Answer: B

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4. The IUPAC name of the following compound 

A. N,N-dimethyl-3-methylpentan-3-amine

B. 3-N,N-dimethyl-3-methyl pentanamine

C. 3-methyl-3-N,N-dimethyl pentane

D. 3-methyl-3-N,N-dimethyl butane

Answer: A

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5. The compound  have its IUPAC name as

A. octadec-9-enoic acid

B. oleic acid

C. ethylhexadec-9-enoic acid

D. ethylpentadec-9-enoic acid

Answer: A

View Text Solution

6. Which of the following compounds has incorrect IUPAC nomenclature?

A. $\underset{\text{ethyl butanoate}}{CH_3CH_2CH_2\overset{\overset{O}{||}}{C}OC_2H_5}$

B. $CH_3\,\underset{\underset{CH_3}{|}}{C}HCH_2CHO$

3-methyl butanal

C. $CH_3\,\underset{\underset{CH_3}{|}}{C}H\overset{\overset{O}{||}}{C}CH_2CH_3$

2-methyl-3-pentanone

D. $\begin{matrix} CH_3CHCHCH_3 \\ \quad\;\; | \quad\; | \\ \quad H_3COH \end{matrix}$

2-methyl-3-butanol

Answer: D

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7. Name of some compounds are given. Which one is not correct in IUPAC system?

A. $\begin{matrix} & & & & CH_3 & & \\ & & & & | & & \\ H_3C & - & CH_2 & - & CH_2 - CH & - & CH - CH_2CH_3 \\ & & & & | & & \\ & & & & CH_2CH_3 & & \end{matrix}$

3-methyl-4-ethyl heptane

B. $$\begin{array}{c} CH_3 - CH - CH - CH_3 \\ \quad\ \ | \qquad\ \ | \\ \quad\ OH \quad CH_3 \end{array}$$

3-methyl-2-butanol

C. $$\begin{array}{c} CH_3 - CH_2 - C - CH - CH_3 \\ \qquad\qquad || \quad\ \ | \\ \qquad\qquad CH_2CH_3 \end{array}$$

2-ethyl-3-methyl but-1-ene

D. $CH_3 - CH = CH - C \equiv CH$

pent-3-en-1-yne

Answer: A

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8. In which of the following cases does the suggested name not follow the IUPAC system of nomenclature?

A. $$\begin{array}{c} \quad CH_3 \quad CH_2CH_3 \\ \quad | \qquad\quad | \\ CH_3 - CH - CH - CH_3 \end{array}$$

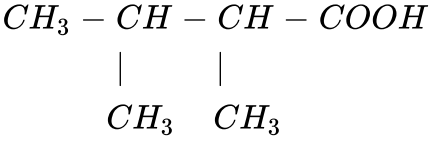
2,3-dimethylpentane

B. $CH_3 - C \equiv C - CH(CH_3)_2$

4-methylpent-2-yne

C. $$\begin{array}{c} CH_3 - CH - CO - CH_3 \\ \ | \\ \ CH_3 \end{array}$$

2-methyl-3-butanone

D. 

2,3-dime thyl butanoic acid

Answer: C

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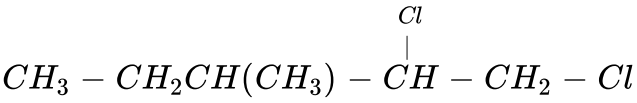
9. Write the IUPAC name of the following compound.



A. 3,3-dimethyl-1,2-dichlorobutane

B. 2-chlorohexane

C. 1,2-dichloro,3-methylpentane

D. 2-methyl-4,5-dichloropentane

Answer: C

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10. The IUPAC name of the compound

$$\begin{array}{ccccccccc} & & & & CH_3 & & & & \\ & & & & | & & & & \\ H_3C & - & CH & - & C & - & CH & - & CH_3 \\ & & | & & | & & | & & \\ & & CH_3 & & CH_2OH & & & & \\ & & & & | & & & & \\ & & & & CH_3 & & & & \end{array}$$

A. 2,3-dimethyl-3-ethylpentan-4-ol

B. 3-ethyl-3,4-dimethylpentan-2-ol

C. (2-propyl)-3-methylpentan-2-ol

D. 3-ethyl-2,3-dimethylpentan-1-ol

Answer: B

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11. The correct name of the given compound is: 

A. (E-2),(E-4),Hepta-2,4-diene

B. (Z-2),(Z-4),Hepta-2,4-diene

C. (E-2),(Z-4),Hepta-2,4-diene

D. (Z-2),(E-4),Hepta-2,4-diene

Answer: D

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12. Which of the following has only 1° and $2^\circ C$ atoms?

A. 2-Methyl butane

B. Butane

C. 2,2-Dimethyl butane

D. 2,2,3,3-Tetramethyl pentane

Answer: B

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13. Give the IUPAC name of 

A. 2,2-Dimethyl-3-propyl-4-isopropyl heptane

B. 4-Isopropyl-5-t-butyl octane

C. 4-t-Butyl-5-isopropyl octane

D. 2-Methyl-3-propyl-4-isopropyl heptane

Answer: C

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14. Which of the following compounds represents 2,2,3-trimethylhexane?

A. $CH_3 - \overset{\overset{CH_3}{|}}{\underset{\underset{CH_3}{|}}{C}} - \overset{\overset{CH_3}{|}}{CH} - CH_2 - CH_3$

B. $CH_3 - \overset{\overset{CH_3}{|}}{\underset{\underset{CH_3}{|}}{C}} - CH_2 - \overset{\overset{CH_3}{|}}{CH} - CH_3$

C. $CH_3-\underset{\underset{\displaystyle CH_3}{|}}{CH}-CH_2-CH_2-\overset{\overset{\displaystyle CH_3}{|}}{\underset{\underset{\displaystyle CH_3}{|}}{C}}-CH_3$

D. $CH_3-\overset{\overset{\displaystyle CH_3}{|}}{\underset{\underset{\displaystyle CH_3}{|}}{C}}-\overset{\overset{\displaystyle CH_3}{|}}{CH}-CH_2-CH_2-CH_3$

Answer: D

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15. The correct IUPAC name of the compound is:

$$\begin{array}{l} \qquad\qquad\qquad\qquad\quad CH_3 \\ \qquad\qquad\qquad\qquad\quad\;\; | \\ CH_3CH_2-C=CH-CH-CH_2-CH_3 \\ \qquad\qquad\quad\; | \\ CH_3CH_2-CH-CH_2-CH_2-CH_2-CH_3 \end{array}$$

A. 5,6-Diethyl-3-methyl dec-4-ene

B. 5,6-Diethyl-8-methyl dec-6-ene

C. 6-Butyl-5-ethyl-3-methyl oct-4-ene

D. 2,4,5-Triethyl-3-nonene

Answer: A

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16. The IUPAC name of the following compound is:

A. 4-Bromo-3-cyanophenol

B. 2-Bromo-5-hydroxy benzonitrile

C. 2-Cyano-4-hydroxy bromo benzene

D. 6-Bromo-3-hydroxy benzonitrile

Answer: B

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17. IUPAC name of

$$\begin{array}{l} OHC-CH=CH-\underset{\displaystyle CH_2CH_2CH_2CH_3}{\underset{|}{CH}}-CH=CH_2 \end{array}$$

is

A. 4-butyl-2,5-hexadien-1-al

B. 5-vinyloct-3-en-1-al

C. 5-vinyloct-5-en-8-al

D. 3-butyl-1,4-hexadien-6-al

Answer: A

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18. The structure of cis-bis (propenyl) ethene is:

A. 

B. 

C. 

D. 

Answer: D

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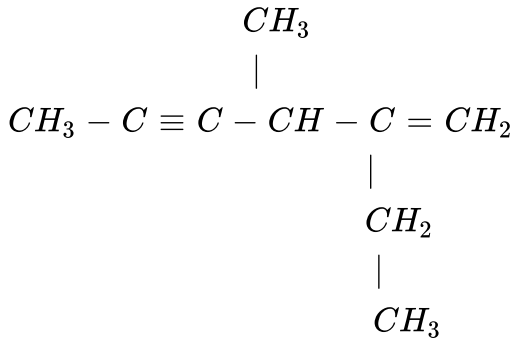
19. IUPAC name of  is:

A. 2-ethyl-3-methyl-hexa-1-en-4-yne

B. 5-ethyl-4-methyl-hexa-2-yn-5-yne

C. 3-methylene-4-methylhepta-5-yne

D. 5-methylene-5-ethyl-4-methylhepta-2-yne

Answer: A

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20. Which is wrong IUPAC name?

A. $CH_3CH_2CH_2COOCH_2CH_3$ (Ethyl butanoate)

B. $CH_3 - \underset{CH_3}{\underset{|}{C}}HCH_2CHO$ (3-methyl butanal)

C. $CH_3\underset{OH}{\underset{|}{C}}H - \underset{CH_3}{\underset{|}{C}}HCH_3$ (2-methyl butanal)

D. $CH_3\underset{CH_3}{\underset{|}{C}}HCOCH_2CH_3$ (2-methyl-3-pentan-3-one)

Answer: C

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21. The IUPAC name of $\begin{matrix} & \mathrm{CH}=\mathrm{CH} \\ & | \quad\quad | \\ OHC & \quad NH_2 \end{matrix}$ is:

A. 1-amino prop-2-enal

B. 3-amino prop-2-enal

C. 1-amino-2-formylethene

D. 3-amino-1-oxoprop-2-ene

Answer: B

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22. The correct decreasing order of priority for the functional groups of organic compounds in the IUPAC system of nomenclature is:

A. $-CONH_2,\ -CHO,\ -SO_3H,\ -COOH$

B. $-COOH,\ -SO_3H,\ -CONH_2,\ -CHO$

C. $-SO_3H,\ -COOH,\ -CONH_2,\ -CHO$

D. $-CHO,\ -COOH,\ -SO_3H,\ -CONH_2$

Answer: B

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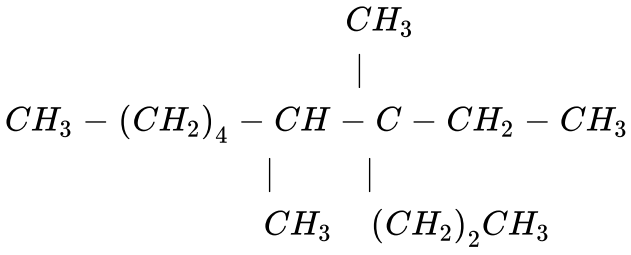
23. The IUPAC name of the compound,



A. 3,4-dimethyl-3-n-propylnonane

B. 4-ethyl-4,5-dimethyldecane

C. 6,7-dimethyl-7-n-propylnonane

D. 6,7-dimethyl-7-ethyldecane

Answer: B

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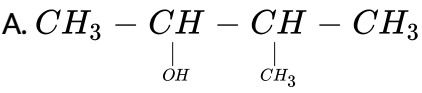
24. Which one is not in IUPAC system?

A. 

(3-methyl-2-butanol)

B. $CH_3CH_2CH_2-\underset{\underset{CH_2CH_3}{|}}{CH}-\overset{\overset{CH_3}{|}}{CH}-CH_2CH_3$

(3-methyl-4-ethyl heptane)

C. $CH_3-CH_2-\underset{\underset{CH_2}{||}}{C}-\underset{\underset{CH_3}{|}}{CH}-CH_3$

(2-ethyl-3-methyl-but-1-ene)

D. $CH_3-C\equiv C-CH(CH_3)_2$

(4-methyl-2-pentane)

Answer: B

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25. Structure of the compound whose IUPAC name is 3-Ethyl-2-hydroxy-4-methylhex-3-ene-5-ynoic acid is:

A.

B.

C.

D.

Answer: A

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26. IUPAC name of the molecule $CH_3-\overset{\underset{\|}{O}}{C}-\overset{\underset{|}{H_3C}}{C}=\overset{\underset{|}{CH_3}}{C}-\overset{\underset{\|}{O}}{C}-OH$ is:

A. 4-oxo-2,3-dimethylpent-2-en-1-oic acid

B. 3-carboxy-3-methylpent-2-en-3-one

C. 4-carboxy-3-methylpent-3-en-2-one

D. 2,3-dimethyl-4-oxopent-2-en-1-oic acid

Answer: D

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27. The IUPAC name of the following compound is: 

A. 4-(benzoylamino)-2-nitrobenzoic acid

B. 4-(benzamide)-6-nitrobenzoic acid

C. 4-(benzoylamino)-6-nitrobenzoic acid

D. 4-(benzamide)-6-nitrobenzoic acid

Answer: A

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28. Which of the simplest alkane, that is, the one with the smallest molecular weight, which possesses primary, secondary and tertiary carbon atoms?

A. 2-Methylpropane

B. 2-Methylbutane

C. 2-Methylpentane

D. 3-Methylpentane

Answer: B

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29. The IUPAC name for the compound $CH_3 - CH_2 - \underset{\displaystyle CH_2CH_3}{\underset{|}{N}} - CH_2CH_3$ is:

A. triethylamine

B. ethyltriamine

C. N,N-diethylethanamine

D. None of these

Answer: C

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30. Name the following substance

A. 1-Ethyl-3-chlorobenz-4-oic acid

B. 6-Chloro-4-ethyl benzoic acid

C. 4-Ethyl-2-chlorobenzoic acid

D. 2-Chloro-4-ethyl benzoic acid

Answer: D

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31. The IUPAC name of the compound $CH_3CH = CHCH = CHC \equiv CCH_3$ is

A. 4,6-octadien-2-yne

B. 2,4-octadien-6-yne

C. 2-octyn-4,6-dienes

D. 6-octyn-2,4-diene

Answer: B

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32. The IUPAC name of the compound $CH_3 - \underset{\underset{\text{O}}{\|}}{C} - CH_2 - \underset{\underset{CH_3}{|}}{\overset{\overset{\text{CN}}{|}}{C}} - CH_3$ is:

A. 4-cyano-4-methyl-2-oxopentane

B. 2-cyano-2-methyl-4-oxopentane

C. 2,2-dimethyl-4-oxopentanenitrile

D. 4-cyano-4-methyl-2-pentanone

Answer: C

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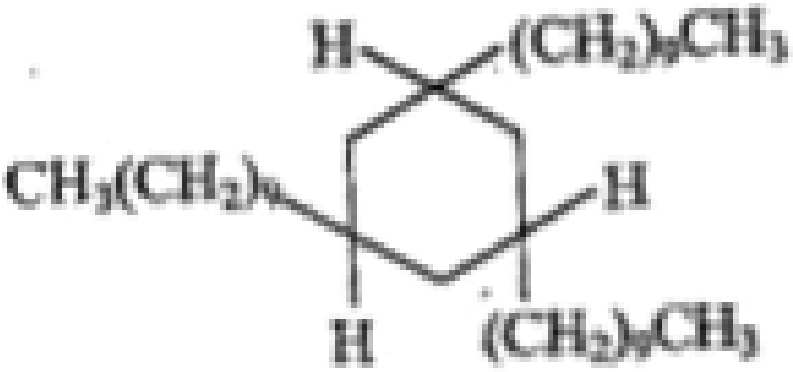
33. The IUPAC name of compound



is:

A. 1,3,5-Trisdecylcyclohexane

B. 2,4,6-Trisdecylcyclohexane

C. 3,5-Bisdecylcyclohexyldecane

D. None of these

Answer: A

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34. Which of the following functional groups will provide secondary suffix if all are present in one molecule?

A. $-OH$

B. $-CN$

C. $-COOH$

D. $-CHO$

Answer: C

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35. Which alkane would have only the primary and tertiary carbon?

A. pentane

B. 2-methyl butane

C. 2,2-dimethyl propane

D. 2,3-dimethyl butane

Answer: D

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36. Choose the correct IUPAC name of the following compound:

$$CH_3 - CH - CHO$$
$$\quad\quad\quad |$$
$$\quad\quad CH_2 - CH_3$$

A. butane-2-aldehyde

B. 2-methyl butanal

C. 3-methyl isobutyraldehyde

D. 2-ethyl propanal

Answer: B

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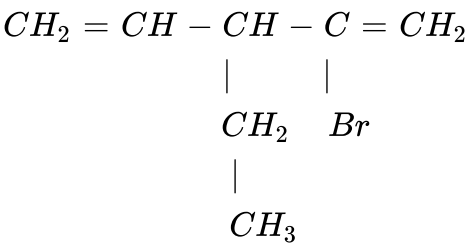
37. IUPAC name of  is:

A. 4-bromo-3-ethyl-1,4-pentadiene

B. 2-bromo-3-ethyl-1,4-pentadiene

C. 2-bromo-3-ethyl-1,5-pentadiene

D. none of the above

Answer: B

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38. The correct IUPAC name of the compound, $CH_3 - \underset{\underset{Cl}{|}}{CH} - \underset{\underset{Br}{|}}{CH} - \underset{\underset{I}{|}}{CH} - CH_2 - CH_3$ is:

A. 4-bromo-5-chloro-3-iodohexane

B. 3-bromo-2-chloro-4-iodohexane

C. 3-bromo-4-iodo-2-chlorohexane

D. 2-chloro-3-bromo-4-iodohexane

Answer:

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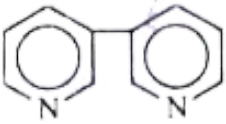
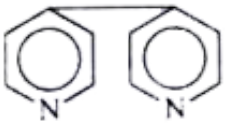
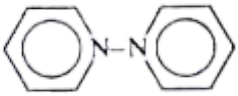
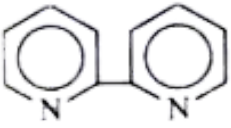
39. The compound 2, 2' -bi pyridine has the structure

A. 

B. 

C. 

D. 

Answer:

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40. Give the structure of compound 2-(1-cyclobutenyl)-1-hexene?

A. 

B.

C.

D.

Answer:

Watch Video Solution

41. Give the structure of the given IUPAC name of a compound; N, N-dimethyl,3-methyl pentan-3-amine

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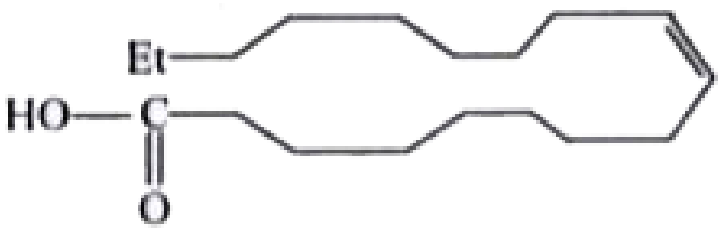
42. The compound  have its IUPAC name as

A. octadec-9-enoic acid

B. oleic acid

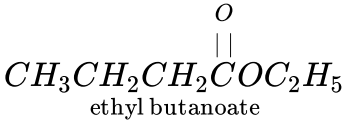
C. ethylhexadec-9-enoic acid

D. ethylpentadec-9-enoic acid

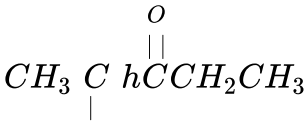
Answer:

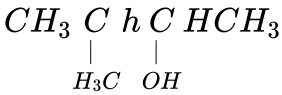
Watch Video Solution

43. Which of the following compounds has incorrect IUPAC nomenclature?

A. 
ethyl butanoate

B. 
3-methyl butanal

C. 
2-methyl-3-pentanone

D. 
2-methyl-3-butanol

Answer:

Watch Video Solution

44. Name of some compounds are given. Which one is not correct in IUPAC system?

A. $H_3C-CH_2-CH_2-\underset{\underset{CH_2CH_3}{|}}{C}H-\overset{\overset{CH_3}{|}}{C}H-CH_2CH_3$

3-methyl-4-ethyl heptane

B. $CH_3-\underset{\underset{OH}{|}}{C}H-\underset{\underset{CH_3}{|}}{C}H-CH_3$

3-methyl-2-butanol

C. 

D. $\underset{\text{pent-3-en-1- yne}}{C}H_3-CH=CH-C\equiv CH$

Answer:

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45. In which of the following cases does the suggested name not follow the IUPAC system of nomenclature?

A. 

B. $CH_3-\underset{\text{4-methylpent-2-yne}}{C\equiv C-CH(CH_3)_2}$

C. $CH_3-\underset{\underset{CH_3}{|}}{C}H-CO-CH_3$

2-methyl-3-butanone

D. 

Answer:

Watch Video Solution

46. Write the IUPAC name of the following compound.

$$CH3 - CH_2CH(CH_3) - \overset{Cl}{\overset{|}{C}}H - CH_2 - Cl$$

A. 3, 3-dimethyl-1 , 2-dichlorobutane

B. 2-chlorohexane

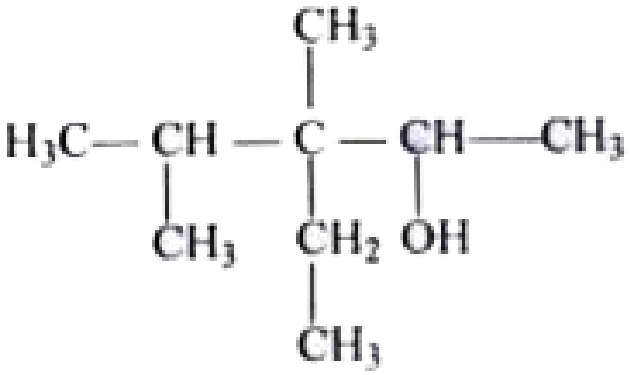
C. 1, 2-dichloro, 3-methylpentane

D. 2-methyl-4, 5-dichloropentane

Answer:

Watch Video Solution

47. The IUPAC name of the compound



is :

A. 2, 3-dimethyl-3-ethylpentan-4-ol

B. 3-ethyl-3, 4-dimethylpentan-2-ol

C. (2-propyl)-3-methylpentan-2-ol

D. 3-ethyl-2, 3-dimethylpentan-1-ol

Answer:

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48. The structure of the given compound is:

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49. Which of the following has only 1° and 2° C atoms?

A. 2-Methyl butane

B. Butane

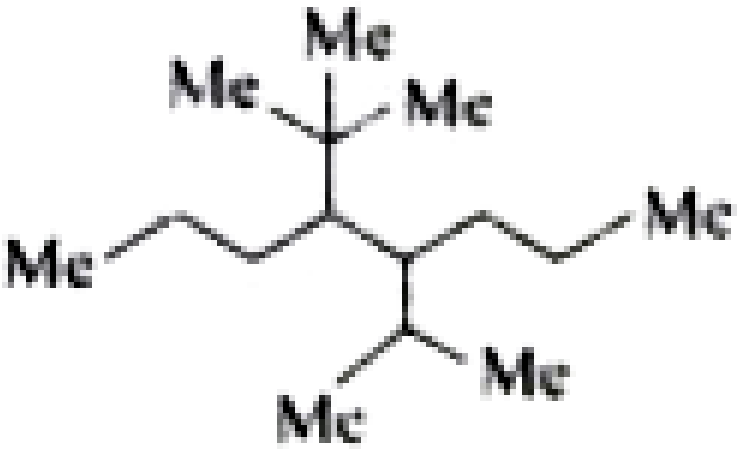
C. 2,2-Dimethyl butane

D. 2,2,3,3-Tetramethyl pentane

Answer:

Watch Video Solution

50. Give the IUPAC name of



A. 2,2-Dimethyl-3-propyl-4-isopropyl heptane

B. 4-Isopropyl-5-t-butyl octane

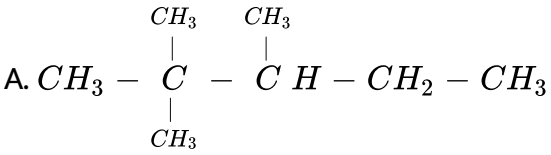
C. 4-t-Butyl-5-isopropyl octane

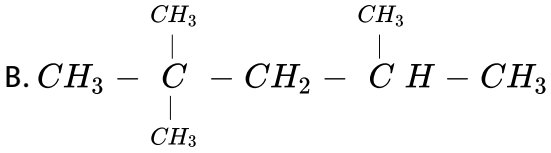
D. 2-Methyl-3-propyl-4-isopropyl heptane

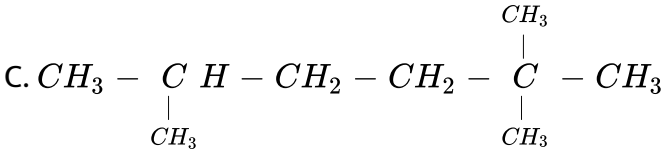
Answer:

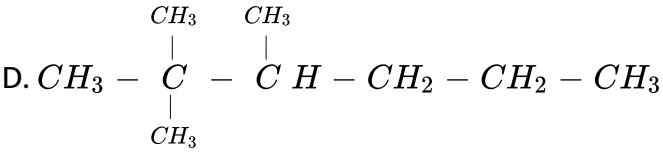
Watch Video Solution

51. Which compound is 2,2,3-trimethyl hexane?

A. 

B. 

C. 

D. 

Answer:

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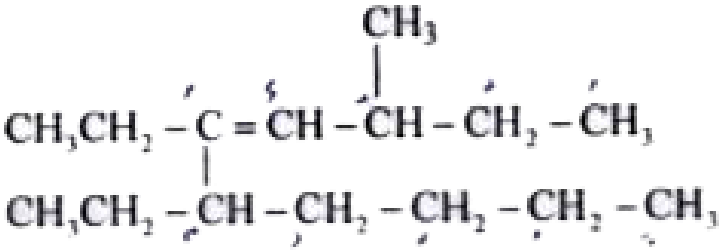
52. The correct IUPAC name of the compound is



A. 5,6-Diethyl-3-methyl dec-4-ene

B. 5,6-Diethyl-8-methyl dec-6-ene

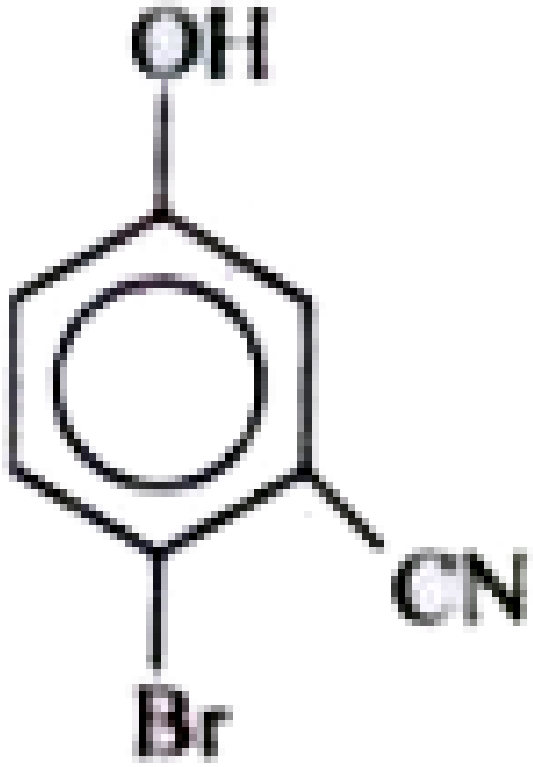
C. 6-Butyl-5-ethyl-3-methyl oct-4-ene

D. 2,4,5-Triethyl-3-nonene

Answer:

Watch Video Solution

53. The IUPAC name of the following compound is



A. 4-Bromo-3-cyanophenol

B. 2-Bromo-5-hydroxy benzonitrile

C. 2-Cyano-4-hydroxy bromo benzene

D. 6-Bromo-3-hydroxy benzonitrile

Answer:

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54. IUPAC name of $OHCCH=CH-\underset{\underset{CH_2CH_2CH_2CH_3}{|}}{CH}-CH=CH_2$ is :

4-butyl-2,5-hexadien-l-al, 5-vinyloct-3-en-l-al, 5-vinyloct-5-en-8-al, 3-butyl-1,4-hexadien-6-al

A. 4-butyl-2,5-hexadien-l-al

B. 5-vinyloct-3-en-l-al

C. 5-vinyloct-5-en-8-al

D. 3-butyl-1,4-hexadien-6-al

Answer:

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55. The structure of cis-bis (propenyl) ethene is:

A. 

B. 

C. 

D. 

Answer:

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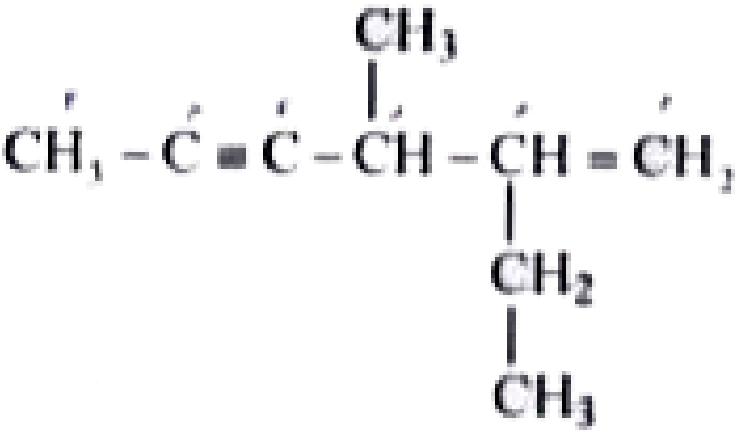
56. IUPAC name of the compound is



A. 2-ethyl-3-methyl-hexa-1-en-4-yne

B. 5-ethyl-4-methyl-hexa-2-yn-5-yne

C. 3-methylene-4-methylhepta-5-yne

D. 5-methylene-5-ethyl-4-methylhepta-2-yne

Answer:

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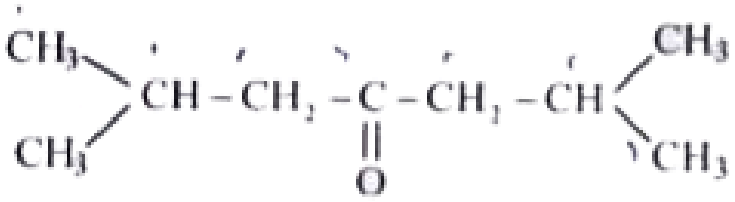
57. The IUPAC name of



A. 2,4-dimethylhexanone-3

B. 2,6-dimethylheptanone-4

C. 2,6-dimethylhexanone-4

D. 2,6-dimethylheptanone-5

Answer:

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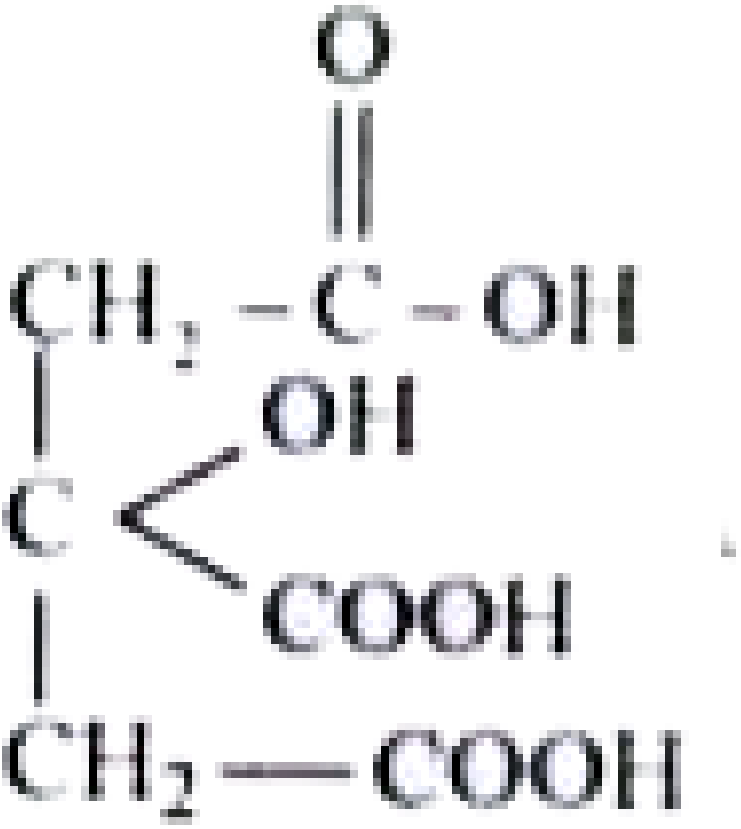
58. The IUPAC name of compound



A. 1,2,3-tricarboxy-2, 1-propane

B. 3-carboxy-3-hydroxy-1 ,5-pentanedioic acid

C. 3-hydroxy-3-carboxy-1,5-pentanedioic acid

D. none of the above

Answer:

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59. Which is wrong IUPAC name? : $CH_3CH_2CH_2COOCH_2CH_3$ (Ethyl butanoate) , $CH_3-\underset{\underset{CH_3}{|}}{C}HCH_2CHO$ (3-methyl butanal) , $CH3\underset{\underset{OH}{|}}{C}H-\underset{\underset{CH_3}{|}}{C}HCH3$ (2-methyl butanal) , $CH_3\underset{\underset{CH_3}{|}}{C}HCOCH_2CH_3$ (2-methyl-3-pentan-3-one)

A. $CH_3CH_2CH_2COOCH_2CH_3$ (Ethyl butanoate)

B. $CH_3-\underset{\underset{CH_3}{|}}{C}HCH_2CHO$ (3-methyl butanal)

C. $CH3\underset{\underset{OH}{|}}{C}H-\underset{\underset{CH_3}{|}}{C}HCH3$ (2-methyl butanal)

D. $CH_3\underset{\underset{CH_3}{|}}{C}HCOCH_2CH_3$ (2-methyl-3-pentan-3-one)

Answer:

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60. The IUPAC name of $\underset{OHC}{\overset{|}{C}}\ H = \underset{NH_2}{\overset{|}{C}}\ H$ is

A. 1-amino prop-2-enal

B. 3-amino prop-2-enal

C. `-amino-2- formylethene

D. 3-amino-1-oxoprop-2-ene

Answer:

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61. The correct decreasing order of priority for the functional groups of organic compounds in the IUPAC system of nomenclature is:

A. $-CONH_2,\ -CHO,\ -SO_3H,\ -COOH$

B. $-COOH,\ -SO_3H,\ -CONH_2,\ -CHO$

C. $-SO_3H,\ -COOH,\ -CONH_2,\ -CHO$

D. $-CHO,\ -COOH,\ -SO_3H,\ -CONH_2$

Answer:

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62. The IUPAC name of the compound, $CH_3-(CH_2)_4-\underset{CH_3}{\underset{|}{C}}H-\underset{(CH_2)_2CH_3}{\overset{CH_3}{\underset{|}{\overset{|}{C}}}}-CH_2-CH_3$ is:

A. 3,4-dimethyl-3-n-propylnonane

B. 4-ethyl-4,5-dimethyldecane

C. 6, 7-dimethyl-7-n-propylnonane

D. 6,7-dimethyl-7-ethyldecane

Answer:

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63. Which one is not in IUPAC system?

A. $CH_3 - \underset{\underset{OH}{|}}{C}H - \underset{\underset{CH_3}{|}}{C}H - CH_3$
(3-methyl-2-butanol)

B. 

C. 

D. $\underset{(\text{4-methyl-2-pentane})}{C}H_3 - C \equiv C - CH(CH_3)_2$

Answer:

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64. The structure of

A. 2-ethyl-3-methylbutanoyl chloride

B.

C.

D.

Answer:

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65. The correct structure of the compound

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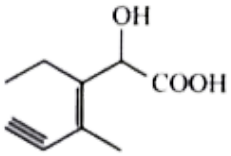
66. Structure of the compound whose IUPAC name is 3-Ethyl-2-hydroxy-4-methylhex-3-ene-5-ynoic acid is:

A. 

B.

C.

D. 

Answer:

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67. The structure of the following compound is:

A. 3-ethyl-4, 4-dimethylheptane

B.

C.

D.

Answer:

Watch Video Solution

68. The correct structure of the following compound is

A. 1-cyclopropylcyclobutane

B.

C.

D.

Answer:

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69. The structure of the following compound is:

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70. Which of the simplest alkane, that is, the one with the smallest molecular weight, which possesses primary, secondary and tertiary carbon atoms?

A. 2-Methylpropane

B. 2-Methylbutane

C. 2-Methylpentane

D. 3-Methylpentane

Answer:

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71. The IUPAC name for the compound $CH_3 - CH_2 - \overset{CH_2CH_3}{\underset{|}{N}} - CH_2CH_3$ is:

A. triethylamine

B. ethyltriamine

C. N,N-diethylethanamine

D. None of these

Answer:

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72. Structure the following substance

A.

B.

C.

D. 2-Chloro-4-ethyl benzoic acid

Answer:

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73. The structure of the compound

A. 1-amino-1-phenyl-2-methylpropane

B.

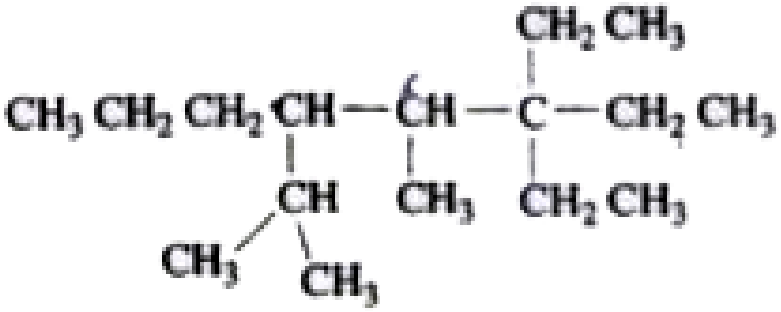
C.

D.

Answer:

Watch Video Solution

74. The IUPAC name of the compound



A. 3,3-diethyl-4-methyl-5-isopropyloctane

B. 3,3-diethyl-5-isopropyl-4-methyloctane

C. 4-isopropyl-5-methyl-6, 6-diethyloctane

D. 6,6-diethyl-4-isopropyl-5-methyloctane

Answer:

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75. The IUPAC name of the compound $CH_3CH = CHCH = CHC = \mathrm{C}\mathrm{C}H_3$ is

A. octa -4,6-dine-2-yne

B. octa-2,4-dine-6-yne

C. octa-2-yne-4,6-diene

D. octa-6-yne-2,4-diene

Answer:

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76. The IUPAC name of the compound $CH_3 - \overset{\overset{O}{||}}{C} - CH_2 - \overset{\overset{CN}{|}}{\underset{\underset{CH_3}{|}}{C}} - CH_3$ is

A. 4-cyano-4-methyl-2-oxopentane

B. 2-cyano-2-methyl-4-oxopentane

C. 2,2-dimethyl-4-oxopentanenitrile

D. 4-cyano-4-methyl-2-pentanone

Answer:

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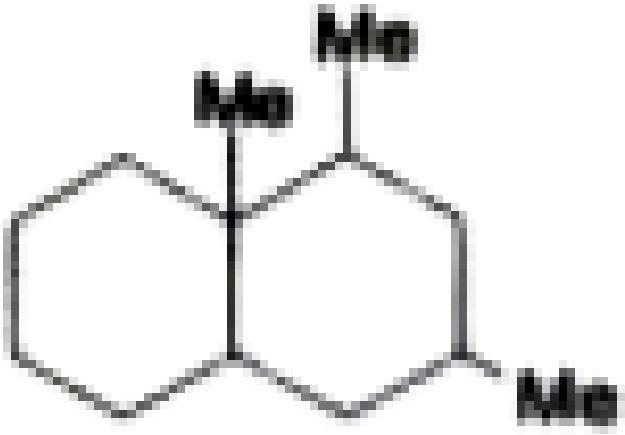
77. The IUPAC name of the compound



A. 1,2,4-Trimethylbicyclo [4.4.0] decane

B. 1,8, 10-Trimethylbicyclo [4.4.0] decane

C. 1,3, 9-Trimethylbicyclo [4.4.0] decane

D. 1,3, 10-Trimethylbicyclo [4.4.0] decane

Answer:

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78. Which of the following functional groups will provide secondary suffix if all are present in one molecule?

A. $-OH$

B. $-CN$

C. $-COOH$

D. $-CHO$

Answer:

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79. Which alkane would have only the primary and tertiary carbon?

A. butane

B. 2-methyl Hexane

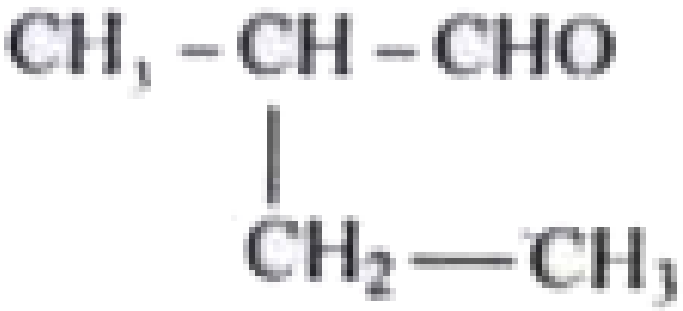
C. 2,2-dimethyl propane

D. 2,3-dimethyl butane

Answer:

Watch Video Solution

80. Choose the correct IUPAC name of the following compound:



A. butane-2-aldehyde

B. 2-methyl botanal

C. 3-methyl isobutyraldehyde

D. 2-ethyl propanal

Answer:

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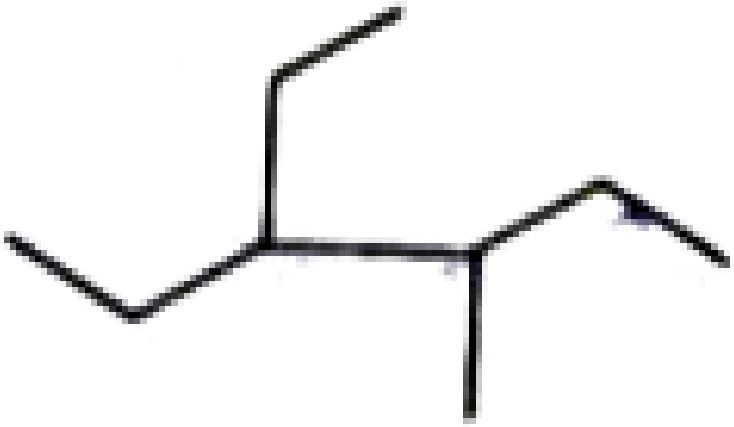
81. The IUPAC name of the compound



A. 2,2,4,4-tetramethyl pentane

B. 2,2-dimethyl propane

C. 3-methyl-4-ethyl hexane

D. 3-ethyl-4-methyl hexane

Answer:

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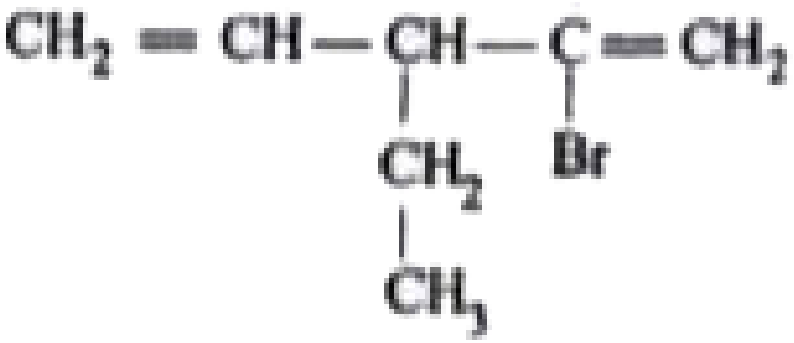
82. IUPAC name of the compound is



A. 4-bromo-3-ethyl-1 ,4-pentadiene

B. 2-bromo-3-ethyl-1,4-pentadiene

C. 2-bromo-3-ethyl-1,5-pentadiene

D. none of the above

Answer:

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Level Ii Assertion Reason Type

1. Assertion: The IUPAC name for the compound, $NCCH_2CH_2COOH$ is 3-cyano propanoic acid,

Reason : $-COOH$ is considered as substituent group while $-CN$ is considered as the principal functional group.

A. If both (A) and (R) are correct and (R) is the correct explanation of (A)

B. If both (A) and (R) are correct, but (R) is not the correct explanation of (A)

C. If (A) is correct, but (R) is incorrect

D. If both (A) and (R) are incorrect

Answer: C

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2. Assertion :1,3,5-Cycloheptatrienyl cation is called tropylium cation.

Reason : It is an aromatic compound.

A. If both (A) and (R) are correct and (R) is the correct explanation of (A)

B. If both (A) and (R) are correct, but (R) is not the correct explanation of (A)

C. If (A) is correct, but (R) is incorrect

D. If both (A) and (R) are incorrect

Answer: C

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3. Assertion : The IUPAC name of $CH_3CH = CHC \equiv CH$ is pent-3-en-1-yne and not pent-2-en-4-yne,

Reason : Lowest locant rule for multiple bond is preferred.

A. If both (A) and (R) are correct and (R) is the correct explanation of (A)

B. If both (A) and (R) are correct, but (R) is not the correct explanation of (A)

C. If (A) is correct, but (R) is incorrect

D. If both (A) and (R) are incorrect

Answer: A

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4. Assertion : The IUPAC name for the compound $C_2H_5 - \underset{\underset{CH_2}{||}}{C} - CH_2OH$ is 2-ethyl prop-2-en-1-ol.

Reason : Ethyl (C_2H_5) rather than methylene $(= CH_2)$ is considered as the substiuent group because 'e' of ethyl comes first in alphabetical other than 'm' of methylene.

A. If both (A) and (R) are correct and (R) is the correct explanation of (A)

B. If both (A) and (R) are correct, but (R) is not the correct explanation of (A)

C. If (A) is correct, but (R) is incorrect

D. If both (A) and (R) are incorrect

Answer: C

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5. Assertion : The IUPAC name for the compound $C_6H_5COOCH_2COOH$ is 3-benzoyloxy propanoic acid.

Reason : $C_6H_5CH_2CO-$ is called benzoyl group.

A. If both (A) and (R) are correct and (R) is the correct explanation of (A)

B. If both (A) and (R) are correct, but (R) is not the correct explanation of (A)

C. If (A) is correct, but (R) is incorrect

D. If both (A) and (R) are incorrect

Answer: D

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6. Assertion : The name of the hydrocarbon $(CH_3)_2CHCH_2CH_2CH(CH_3)CH_2CH_3$ is 2,5-dimethyl heptane and not 3, 6-dimethyl heptane.

Reason : Numbering should be done in such a way that sum of the locants on the parent chain is lowest possible number.

A. If both (A) and (R) are correct and (R) is the correct explanation of (A)

B. If both (A) and (R) are correct, but (R) is not the correct explanation of (A)

C. If (A) is correct, but (R) is incorrect

D. If both (A) and (R) are incorrect

Answer: A

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7. Assertion : In the case of polyfunctional compounds, the choice of principal functional group is made on the basis of order of preference.

Reason : The order of decreasing priority for some functional group is :

$-COOH,\ -SO_3H,\ -COOR,\ -COCl,\ -CONH_2,\ -CN,\ -CHO$

A. If both (A) and (R) are correct and (R) is the correct explanation of (A)

B. If both (A) and (R) are correct, but (R) is not the correct explanation of (A)

C. If (A) is correct, but (R) is incorrect

D. If both (A) and (R) are incorrect

Answer: B

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8. Assertion : The IUPAC name of the compound $CH_2 = CH - CH = CH - \underset{\underset{CH = CH_2}{|}}{CH} - C \equiv CH$ is 5-ethynylhepta-1,3,6-triene.

Reason : While numbering the carbon chain triple bond is given preference over the double bond.

A. If both (A) and (R) are correct and (R) is the correct explanation of (A)

B. If both (A) and (R) are correct, but (R) is not the correct explanation of (A)

C. If (A) is correct, but (R) is incorrect

D. If both (A) and (R) are incorrect

Answer: C

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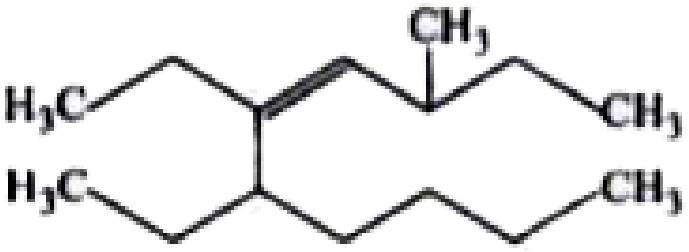
Level Iii

1. Give the IUPAC name of the following compound:



A. 5,6-diethyl-3-methyldec-4-ene

B. 7-methyl-2,4,6 trieneoctanal

C. 6-methyl heptene

D. 3,3-diethyl-5-ethyl-4-decene

Answer:

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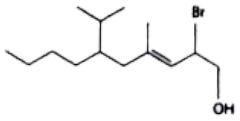
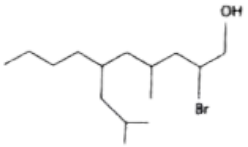
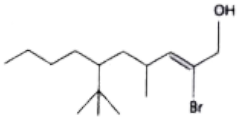
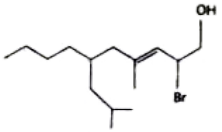
2. Represent the structure of 2-bromo-6-isobutyl 4-methyldec-3-en-1-ol?

A. 

B. 

C. 

D. 

Answer:

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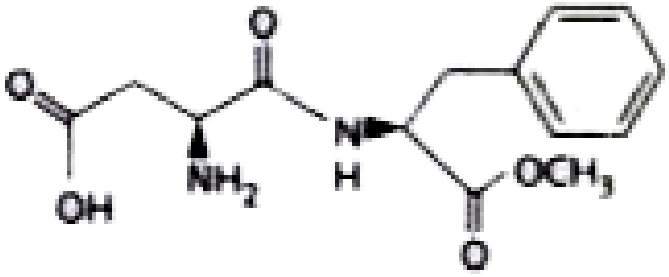
3. The number of functional groups in aspartame is:



A. 4

B. 6

C. 5

D. 7

Answer:

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4. IUPAC name of the molecule $CH_3 - \overset{\overset{O}{||}}{C} - \underset{\underset{H_3C}{|}}{C} = \underset{\underset{CH_3}{|}}{C} - \overset{\overset{O}{|}}{C} - OH$ is:

A. 4-oxo-2,3-dimethylpent-2-en-1-oic acid

B. 3-carboxy-3-methylpent-2-en-3-one

C. 4-carboxy-3-methylpent-3-en-2-one

D. 2,3-dimethyl-4-oxopent-2-en-1-oic acid

Answer:

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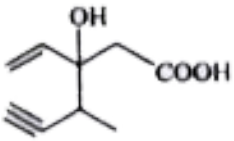
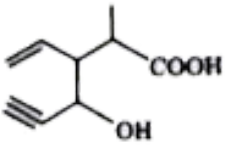
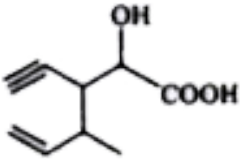
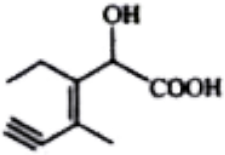
5. Structure of the compound whose IUPAC name is 3-ethyl-2-hydroxy-4-methylhex-3-en-5-ynoic acid is

A. 

B. 

C. 

D. 

Answer:

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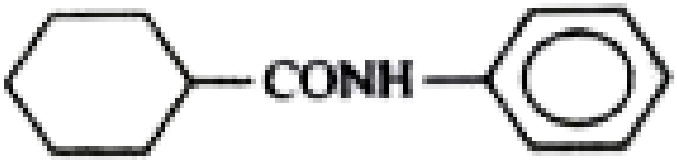
6. The IUPAC name of



is

A. N-cyclohexylbenzamide

B. N-phenyl-N-cyclohexylmethanamide

C. N-phenylcyclohexanecarboxamide

D. N-cyclohexyl-N-phenylmethanamide

Answer:

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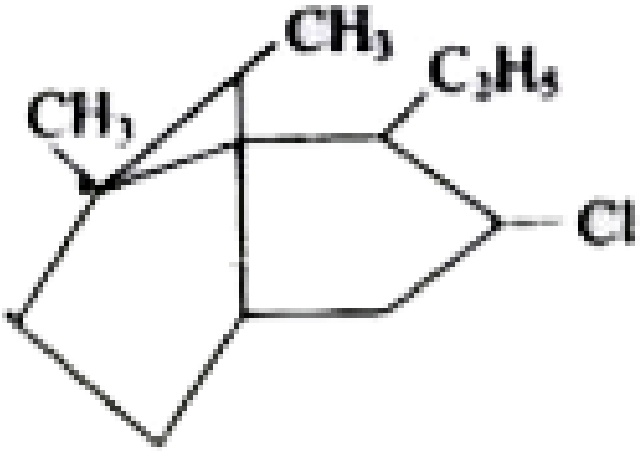
7. Give the IUPAC name of the following compound:



A. 3-chloro-2-ethyl-1 ,6-dimethylbicyclo [3.2.1] octane

B. 3-chloro-2-ethyl-1 ,8-dimethylbicyclo [3 .2.1] octane

C. 2-chloro-3-ethyl-1 ,8-dimethylbicyclo [3.2.1] octane

D. 2-chloro-3-ethyl-1 ,6-dimethylbicyclo [3.2. 1] octane

Answer:

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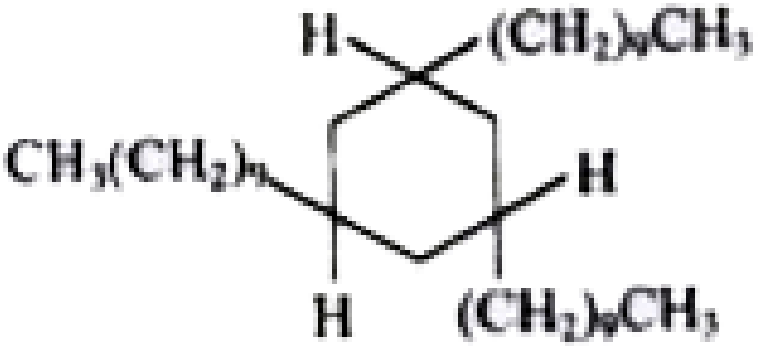
8. The IUPAC name of the compound



is :

A. 1,3,5-Trisdecylcyclohexane

B. 2,4,6-Trisdecylcyclohexane

C. 3.5-Bisdecylcyclohexyldecane

D. None of these

Answer:

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9. The compound $(CH_3)_2C(OH)CH_2CH_3$ is called:

A. 2-methyl butan-2-ol

B. isoamyl alcohol

C. ethyl dimethyl carbinol

D. tert-pentyl alcohol

Answer:

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10. The compound $C_6H_5 - CH = CH - COOH$ may be called as:

A. succinic acid

B. 3-phenylprop-2-enoic acid

C. mandelic acid

D. cinnamic acid

Answer:

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11. Which of the following are the names of cyclic ether? Oxirane Epoxyalkane Alkene oxide Carbinol

A. Oxirane

B. Epoxyalkane

C. Alkene oxide

D. Carbinol

Answer:

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12. Which of the following names are correct for the compound?

$$HOOC - CH_2 - CH_2 - \overset{COOH}{\underset{|}{C}} H - CH_2 - COOH$$

A. pentane-1, 3, 5-tricarboxylic acid

B. 3-carboxy hexane-1 , 6-dioic acid

C. heptane-1, 4, 7-trioic acid

D. octric acid

Answer:

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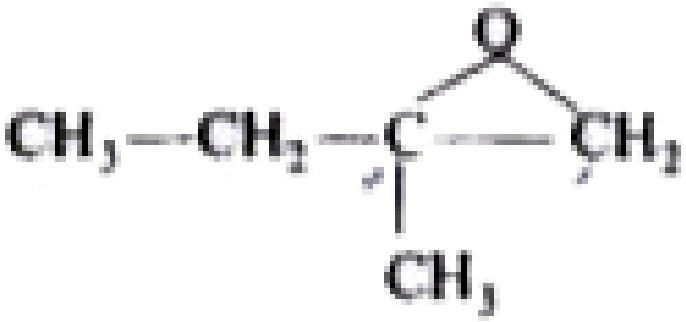
13. The compound may be named as:



A. 2-ethyl-2-methyl oxirane

B. 1,2-epoxy-2-methylbutane

C. 1,2-oxapentane

D. 2-methyl-2-butoxide

Answer:

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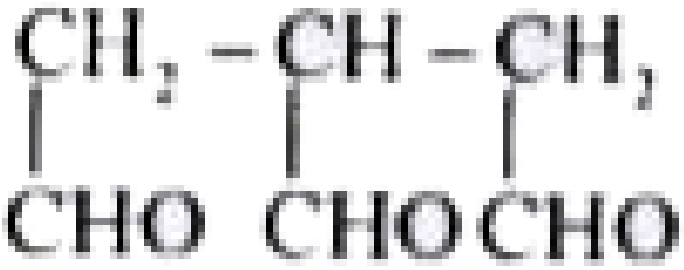
14. Which of the following names are not correct for the given compound?



A. 3 -Formyl pentane-1,5-dial

B. 1,2,3-Triformyl-propane

C. 2-Formylbutane-1,4-dial

D. Propane-1,2,3-tricarbaldehyde

Answer:

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15. Which of the following names are correct for the compound?

$$CH_3 - \overset{\overset{O}{||}}{C} - CH_2 - COOH$$

A. 3-Keto butan-1-oic acid

B. 4-Carboxy butan-2-one

C. 3-Oxo butan-1-oic acid

D. 3-Carboxy acetone

Answer:

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16. Which of the following statements are correct?

A. Spiro compounds contain fused rings at quarternary carbon

B. Bicyclo compounds contain two rings connected by a bridge

C. Bicyclo compounds cannot be aromatic

D. Cyclic alkynes are unstable

Answer:

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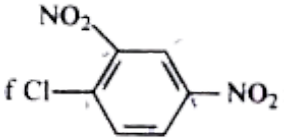
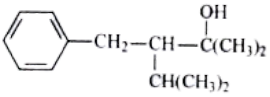
17.

A. The IUPAC name of the compound $CH_3CH = CHCH = CHC = CCH_3$ is 2,4-octadien-6-yne.

B. The IUPAC name  is 1-chloro-2,4-dinitrobenzene.

C. The IUPAC name of  is 3-benzyl-2,4-dimethyl-2-pentanol

D. The IUPAC name of $CH_3CH = Ch\underset{CH_3}{\underset{|}{C}}\ HCH_2CHO$ is 3-methyl-4-hexenal.

Answer:

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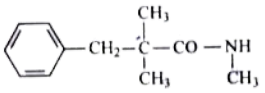
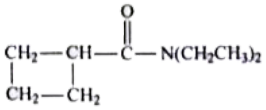
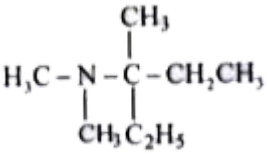
18. Which of the following statements are correct?

A. The IUPAC name of $CH_3CH = CHCH = CHCOOH$ is 2,4-hexadienoic acid.

B. The IUPAC name of the compound  is N-methyl-2,2-dimethyl 3-phenylpropanamide.

C. The IUPAC name of the compound  is N-N-diethylcyclobutanecarboxamide.

D. The IUPAC name of the compound  is(N,N-dimethyl amino)-3-ethylbutane.

Answer:

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19. How many types of functional group can be present in an amine with the formula C_3H_9N?

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20. The minimum number of carbon atoms which a ketone may contain is:

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21. The number of 3° carbon atoms in 2,2,4,4-tetramethylpentane is

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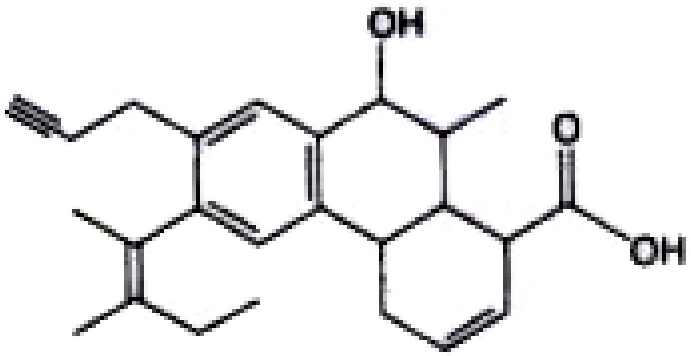
22. How many degrees of unsaturation are there in the following compound?



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23. The total number of benzene derivatives with the molecular formula $C_6H_3Cl_3$ is:

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24. Identify the number of sp3 hybridized carbon atoms in $(CH_3)_2C=CHCH(CH_3)_2$

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25. The number of secondary carbon atoms in $(CH_3)_2CHCH_2CH(CH_3)_2$ is

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26. Match the Column I and Column II and select the correct answer using the code given below the lists:

Column I	Column II
A) C_nH_{2n}	p) alcohols, ethers
B) C_nH_{2n-2}	q) alkenes, cycloalkanes
C) $C_nH_{2n+2}O$	r) aldehydes, ketones
D) $C_nH_{2n}O$	s) alkynes, alkadienes

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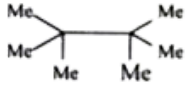
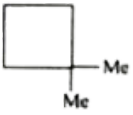
27. Match the following columns

Column I Compound	Column II Structure
A) C_8H_{18} with only 1° H atoms	p) 
B) C_6H_{12} with only 2° H atoms	q) 
C) C_6H_{12} with only 1° and 2° H atoms	r) 
D) C_8H_{14} with 12 secondary and 2 tertiary H atoms	s) 

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28. Match the following

Column I	Column II
A) Dimethyl acetylene	p) Propanone
B) Methyl acetic acid	q) Trichloromethane
C) Chloroform	r) Propanoic acid
D) Acetone	s) But-2-yne

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29. match the following

Column I	Column II
A) Benzene	p) Aromatic (Bicyclic)
B) Naphthalene	q) Aromatic (Monocyclic)
C) Anthracene	r) Alicyclic
D) Pyridine	s) Heterocyclic
E) Cycloalkane	t) Aromatic (Tricyclic)

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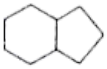
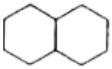
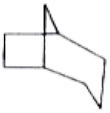
30. Match the following

Column I (Compounds)	Column II (Number of carbons in the bridges)
A) 	p) [3.2.1]
B) 	q) [4.3.0]
C) 	r) [4.4.0]
D) 	s) [3.2.0]

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31. Assertion: The IUPAC name for the compound, $NCCH_2CH_2COOH$ is 3-cyano propanoic acid,

Reason : $-COOH$ is considered as substituent group while $-CN$ is considered as the principal functional group.

A. Statement 1 is True, statement 2 is True, Statement 2 is Correct explanation for Statement 1.

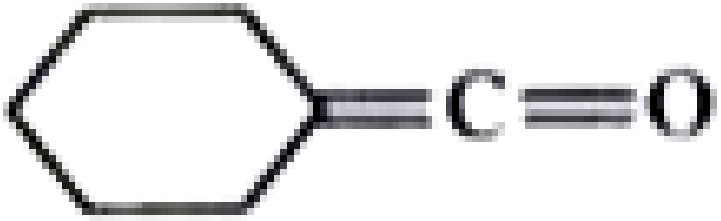
B. Statement 1 is True, Statement 2 is True, Statement 2 is NOT a correct explanation for Statement 1.

C. Statement 1 is True, Statement 2 is False.

D. Statement 1 is False, Statement 2 is True.

Answer:

32. The IUPAC name of the compound



is cyclo hexylidene methanone.

A. TRUE

B. FALSE

C.

D.

Answer:

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33. Assertion : The name of the hydrocarbon $(CH_3)_2CHCH_2CH_2CH(CH_3)CH_2CH_3$ is 2,5-dimethyl heptane and not 3, 6-dimethyl heptane.

Reason : Numbering should be done in such a way that sum of the locants on the parent chain is lowest possible number.

A. Statement 1 is True, statement 2 is True, Statement 2 is Correct explanation for Statement 1.

B. Statement 1 is True, Statement 2 is True, Statement 2 is NOT a correct explanation for Statement 1.

C. Statement 1 is True, Statement 2 is False.

D. Statement 1 is False, Statement 2 is True.

Answer:

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34. Statement 1 : In the case of polyfunctional compounds, the choice of principal functional group is made on the basis of order of preference.

Statement 2 : The order of decreasing priority for some functional group is: -COOH, $-SO_3H$, -COOR, -COCl, - $CONH_2$, - CN, 

A. Statement 1 is True, statement 2 is True, Statement 2 is Correct explanation for Statement 1.

B. Statement 1 is True, Statement 2 is True, Statement 2 is NOT a correct explanation for Statement 1.

C. Statement 1 is True, Statement 2 is False.

D. Statement 1 is False, Statement 2 is True.

Answer:

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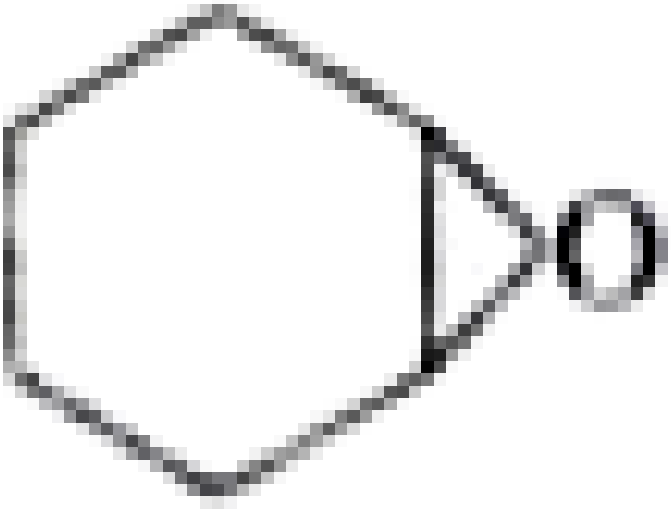
35. Statement 1 : The IUPAC name for



is 7-oxobicyclo [4.1.0] heptane.

Statement 2 : The prefix oxo is used for C=O group.

A. Statement 1 is True, statement 2 is True, Statement 2 is Correct explanation for Statement 1.

B. Statement 1 is True, Statement 2 is True, Statement 2 is NOT a correct explanation for Statement 1.

C. Statement 1 is True, Statement 2 is False.

D. Statement 1 is False, Statement 2 is True.

Answer:

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36. Statement 1 : The locant (2.8.7) is preferred over the locant (3.4.9).

Statement 2 : Lowest locant number at first difference is preferred.

A. Statement 1 is True, statement 2 is True, Statement 2 is Correct explanation for Statement 1.

B. Statement 1 is True, Statement 2 is True, Statement 2 is NOT a correct explanation for Statement 1.

C. Statement 1 is True, Statement 2 is False.

D. Statement 1 is False, Statement 2 is True.

Answer:

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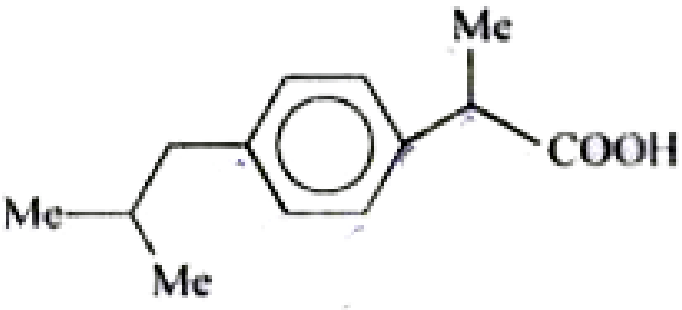
37. The analgesic drug ibuprofen (A) is chiral and exists in(+) and(-) forms. One enantiomer is physiologically active, while the other is inactive. The structure of ibuprofen is given below:



The principal functional group in (A) is:

A. Phenyl

B. $-COOH$ group

C. Isopropyl

D. Both(A)and(B)

Answer:

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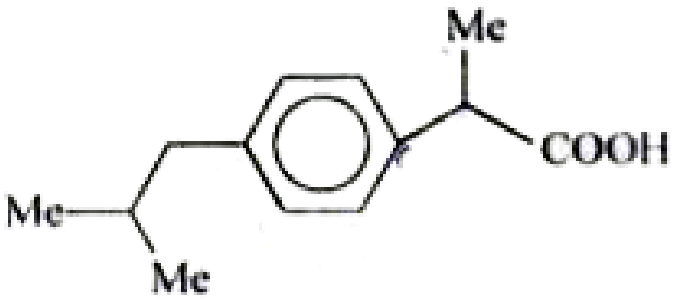
38. The analgesic drug ibuprofen (A) is chiral and exists in(+) and(-) forms. One enantiomer is physiologically active, while the other is inactive. The structure of ibuprofen is given below:



The IUPAC name of (A) is:

A. 3-(4-Isobutyl phenyl) propanoic acid

B. 2-(4-Isobutyl phenyl) propanoic acid

C. 3-(4-sec-Butyl phenyl) propanoic acid

D. 2-(4-sec-Butyl phenyl) propanoic acid

Answer:

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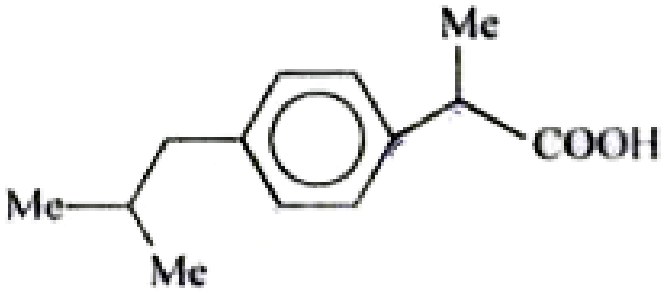
39. The analgesic drug ibuprofen (A) is chiral and exists in(+) and(-) forms. One enantiomer is physiologically active, while the other is inactive. The structure of ibuprofen is given below:



The number of π-bonds in(A) is:

A. 2

B. 3

C. 4

D. 5

Answer:

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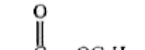
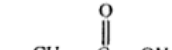
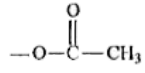
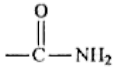
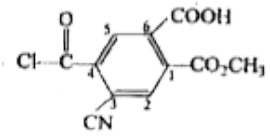
40. The priorities for citing principal groups in a carboxylic acid derivative are as follows:

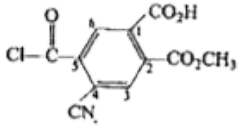
acid > anhydride > ester > acid halide > amide > cyanide

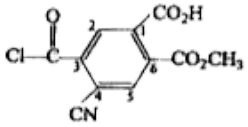
All of these groups have citationpriority over aldehydes and ketones as well as the other functional groups. Name of carboxylic acid derivatives when used as substituent groups are:

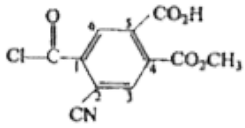
Group	Name	Group	Name
–COOH	carboxy		methoxy carbonyl
	ethoxy carbonyl		carboxy methyl
	acetoxy		chloroformyl
	carbamoyl		

Which of the following structures has the correct locants?

A. 

B. 

C. 

D. 

Answer:

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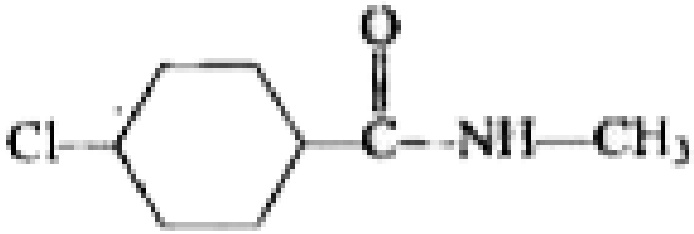
41. The priorities for citing principal groups in a carboxylic acid derivative are as follows:

acid $>$ anhydride $>$ ester $>$ acid halide $>$ amide $>$ cyanide

All of these groups have citationpriority over aldehydes and ketones as well as the other functional groups. Name of carboxylic acid derivatives when used as substituent groups are:

Group	Name	Group	Name
$-COOH$	carboxy	$-\overset{O}{\overset{\|}{C}}-OCH_3$	methoxy carbonyl
$-\overset{O}{\overset{\|}{C}}-OC_2H_5$	ethoxy carbonyl	$-CH_2-\overset{O}{\overset{\|}{C}}-OH$	carboxy methyl
$-O-\overset{O}{\overset{\|}{C}}-CH_3$	acetoxy	$-\overset{O}{\overset{\|}{C}}-Cl$	chloroformyl
$-\overset{O}{\overset{\|}{C}}-NH_2$	carbamoyl		



Which of the following is the correct IUPAC name of the above compound?

A. p-acetamido chlorocyclohexane

B. 4-chloro-N-methylcyclohexane carboxamide

C. N-methyl amido chlorocyclohexane

D. none of these

Answer:

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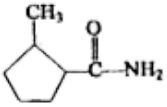
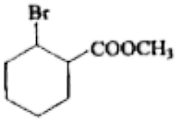
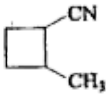
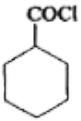
42. For which of the folfowing compounds, the IUPAC name is wrong?

Compound	IUPAC name
A) 	2 methyl cyclopentane carboxamide
B) 	Methyl, 2- bromocyclohexane carboxylate
C) 	2 methylcyclobutane carbonitrile
D) 	Cyclohexaneoyl chloride

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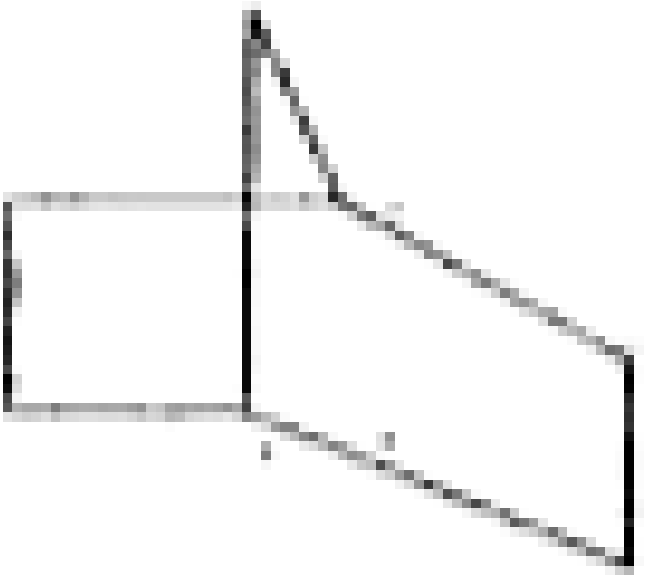
43.



What is the IUPAC name of the above compound?

A. cyclo [1.2.2] heptane

B. bicyclo [1.2.2] heptane

C. bicyclo [2.2. 1] heptane

D. cyclo [2.2. 1] heptane

Answer:

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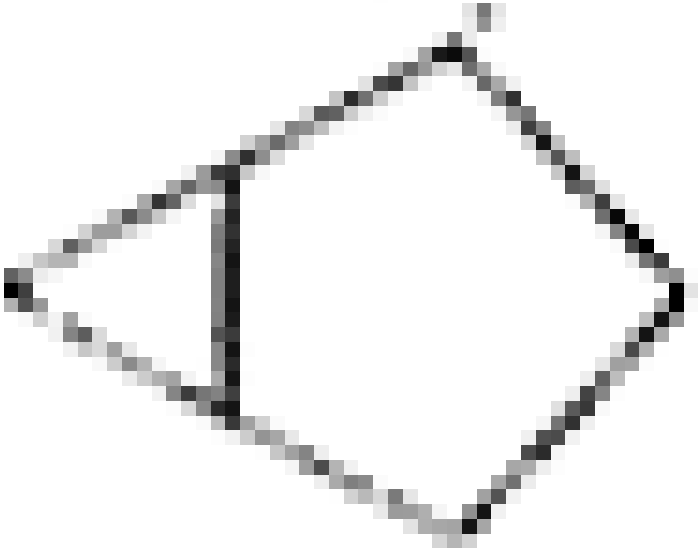

44.

The number of atoms in each bridge are:

A. [3.2.1]

B. [3.1.0]

C. [1.3.0]

D. [2.1.0]

Answer:

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45. In addition to the standard ring systems (such as cyclohexane), cyclic compounds can also be bicyclic, tricyclic, etc., or they can be spirocyclic, bicyclic or bridge head carbons. The point of attachment of two rings are called bridge head atoms.

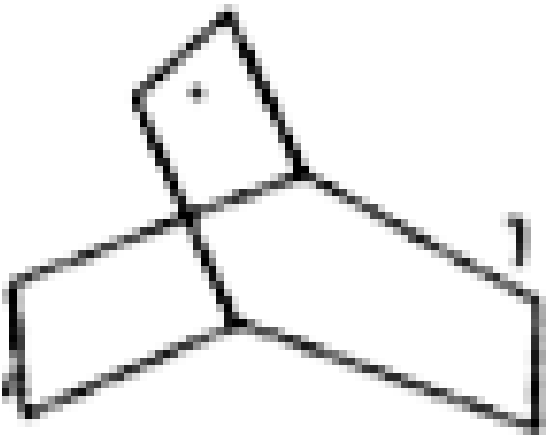
Some bicyclic compounds like camphor are commonly found in plants. Others like norbomane can be synthesized in the laboratory. The formal names of bicyclic and related ring systems are based on:

1) Total number of atoms in the molecule.

2) The number of atoms in each bridge connecting the bridge head atoms. These numbers are written in square bracket in decreasing order.

Spirocyclic compounds have two fused rings, but only one bridge head atom. Spirocyclic compounds are named like bicyclic compounds, but have the prefix spirocyclo.

Select the correct statement about the following compounds:



A. it is a tricyclic compound

B. its IUPAC name is bicyclo [2.2.2] octane

C. it is spiro compound

D. All of these

Answer:

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