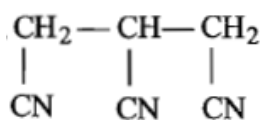


1.

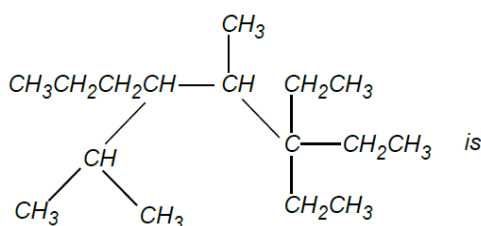


IUPAC name of the compound, is:

- (a) 1,2,3-tricyanopropane
- (b) propane-1,2,3-tricarbonitrile
- (c) 1,2,3-cyanopropane
- (d) propane tricarbylamine

2.

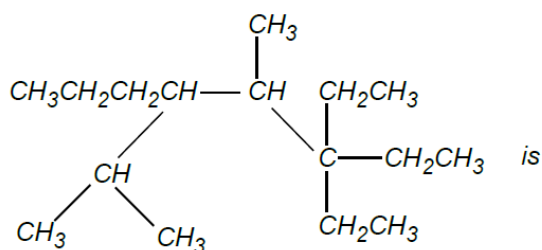
The IUPAC name of the compound



- (1) 3,3-diethyl-4-methyl-5 (methylethyl)octane
- (2) 3,3-diethyl-5-isopropyl-4-methyloctane
- (3) 4-isopropyl-5-methyl-6,6-diethyloctane
- (4) 6,6-diethyl-4-isopropyl-5-methyloctane

3.

The IUPAC name of the compound



- (1) 3,3-diethyl-4-methyl-5-isopropyloctane
- (2) 3,3-diethyl-5-isopropyl-4-methyloctane
- (3) 4-isopropyl-5-methyl-6,6-diethyloctane
- (4) 6,6-diethyl-4-isopropyl-5-methyloctane

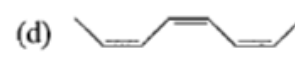
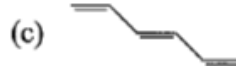
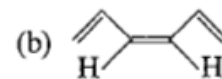
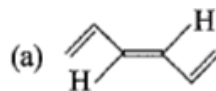
4.

Which of the following species is paramagnetic?

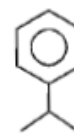
- (a) A carbocation
- (b) A free radical
- (c) A carbanion ion
- (d) All of these

5.

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



6.

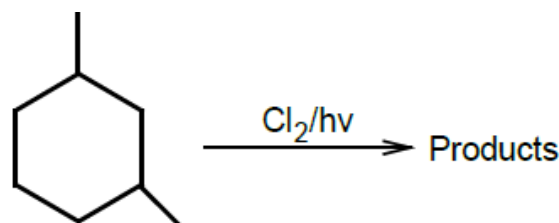


The correct IUPAC name of, is:

- (a) isopropyl benzene
- (b) cumene
- (c) phenyl isopropane
- (d) propan-2-yl benzene

7.

The monochlorinated products (excluding stereo-isomers) obtained from the reaction



- (1) 4
- (2) 5
- (3) 6
- (4) 7

8.

How many isomers are possible for the compound having molecular formula $\text{C}_3\text{H}_5\text{Br}_3$?

- (a) 5
- (b) 4
- (c) 6
- (d) 8

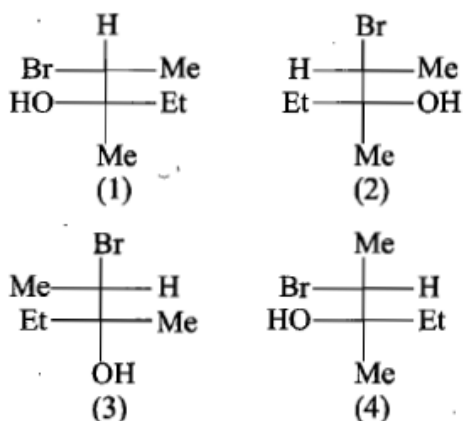
9.

Which of the following acid does not exhibit optical isomerism?

- (a) Maleic acid
- (b) α -amino acid
- (c) Lactic acid
- (d) Tartaric acid

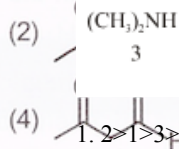
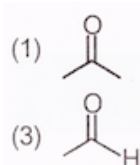
10.

Which of the following structures are superimposable?



- (a) 1 and 2
(b) 2 and 3
(c) 1 and 4
(d) 1 and 3

11. Maximum enol content is in



2. $1 > 3 > 2 > 4$
3. $3 > 1 > 2 > 4$
4. $1 > 2 > 3 > 4$

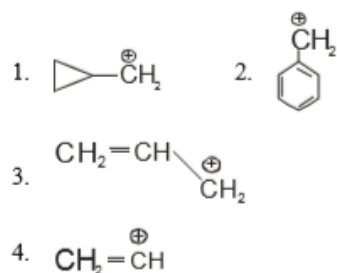
12. The relative stability order of carbanions $\text{CH}\equiv\text{C}^-$, CH_3^- and $\text{CH}_2=\text{CH}^-$ is _____

1. $\text{CH}\equiv\text{C}^- > \text{CH}_2=\text{CH}^- > \text{CH}_3^-$
2. $\text{CH}_3^- > \text{CH}_2=\text{CH}^- > \text{CH}\equiv\text{C}^-$
3. $\text{CH}\equiv\text{C}^- < \text{CH}_2=\text{CH}^- > \text{CH}_3^-$
4. $\text{CH}_2=\text{CH}^- < \text{CH}\equiv\text{C}^- < \text{CH}_3^-$

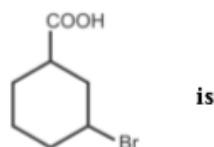
13. Which of the following is strongest nucleophile?

1. Br^- 2. OH^-
3. CN^- 4. CH_3O^-

14. Which of the following is the most stable carbocation

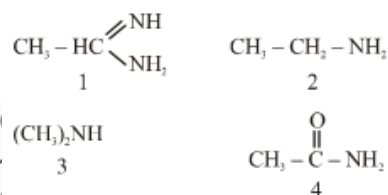


15. The IUPAC name of the following compounds



1. 1-Bromocyclohexane carboxylic acid
2. 3-Bromocyclohexanoic acid
3. 3-Bromohepatnoic acid
4. 3-Bromocyclohexane carboxylic acid

16. The correct order of basicities of the following compounds is:



2. $1 > 3 > 2 > 4$
3. $3 > 1 > 2 > 4$
4. $1 > 2 > 3 > 4$

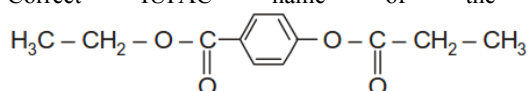
17. The most reactive of these compounds towards sulphonation is

1. Toluene 2. Chlorobenzene
3. Nitrobenzene 4. m-Xylene

18. How many geometrical isomers are possible of the following?
 $\text{CH}_3-\text{CH}=\text{CH}-\text{CH}=\text{CH}-\text{CH}_3$

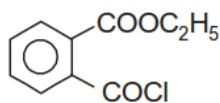
1. 2 2. 3
3. 4 4. 6

19. Correct IUPAC name of the compound



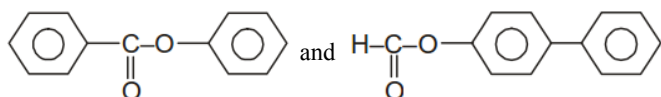
- (1) 4-(Ethyl methanolyonxy)phenylpropanoate
(2) Ethyl 4-propanoyloxybenzenecarboxylate
(3) 4-(1-Oxo-2-oxabutyl)phenylpropanoate
(4) 1-(1-Oxo-2-oxbutyl)-4-(1-oxopropoxy)benzene

20. The IUPAC name of the following compound is



- (1) 2-(Ethoxycarbonyl) benzaldehyde
(2) Ethyl 2-(Chloroformyl)benzoate
(3) Ethyl 2-(chloromethanoyl)benzoate
(4) Ethyl 2-(Chloroformyl)benzoate.

21.

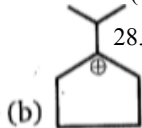
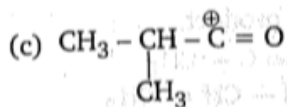
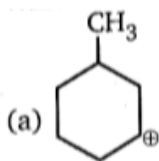


are

- (1) Position isomers
(2) Chain isomers
(3) Functional isomers
(4) Metamers

22.

Which of the following carbocation will undergo rearrangement ?



23.

Sodium nitroprusside when added to an alkaline solution of sulphide ions produces a colouration which is:

- (a) red
(b) blue
(c) brown
(d) purple

24.

In Kjeldahl's method of estimation of nitrogen, K_2SO_4 acts as:

- (a) an oxidising agent
(b) catalytic agent
(c) hydrolysing agent
(d) boiling point elevator

25.

The prussian blue colour obtained during the test of nitrogen by Lassaigne's test is due to the formation of:

- (a) $Fe[Fe(CN)_6]_3$ (b) $Na_3[Fe(CN)_6]$
(c) $Fe(CN)_3$ (d) $Na_4[Fe(CN)_5NOS]$

26.

A compound which does not give a positive test in Lassaigne's test for nitrogen is:-

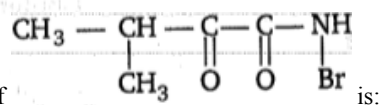
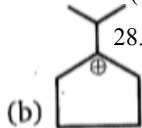
- (a) urea
(b) hydrazine
(c) azobenzene
(d) phenyl hydrazine

27.

The IUPAC name of is:

- (a) Ethyl 2-methylprop-2-enoate
(b) Ethyl 2-methylprop-1-enoate
(c) 1-Ethoxy 2-methylprop-2-enoate
(d) 1-Ethoxy 2-methylprop-2-enal

28.



The IUPAC name of

- (a) (N-Bromo)-2-keto-3-methylbutanamide
(b) (Bromo)-2-keto-4-methylbutanamide
(c) (N-Bromo)-1, 2-diketo-3-methylbutanamine carboxamide
(d) (N-Bromo)-1-keto-2-methylpropane

29.

Which reagent is used to remove SO_4^{2-} and Cl^- ?

- (a) NaOH (b) $Pb(NO_3)_2$
(c) $BaSO_4$ (d) KOH

30.

The silver sulphate solution is used to separate:

- (a) nitrate and bromide
(b) nitrate and chlorate
(c) bromide and iodide
(d) nitrate and nitrite

31.

Soda extract is prepared by:

- (a) fusing soda and mixture and, then extracted with water
(b) dissolving $NaHCO_3$ and mixture in dil. HCl

- (c) boiling Na_2CO_3 and mixture in dil.HCl
- (d) boiling Na_2CO_3 and mixture in distilled water
32. $\text{H}_2\text{C} = \text{O}$ behaves as:
- (a) nucleophile
- (b) electrophile
- (c) both (a) and (b)
- (d) none of these
33. Which of the following is strongest nucleophile?
- (a) Br^-
- (b) OH^-
- (c) CN^-
- (d) $\text{C}_2\text{H}_5\text{O}^-$
34. Which of the following is singlet carbene ?
- (a) $(\text{CH}_3)_3\text{C}^+$
- (b) $\text{C}_2\text{H}_5\text{-CH}$
- (c) CH_3CHCH_3
- (d) $\text{CH}_2 = \text{CH-C} + \text{H}_2$
35. The number of geometrical isomers in case of a compound with the structure,
 $\text{CH}_3\text{-CH=CH-CH=CH-C}_2\text{H}_5$ are:
- (a) four
- (b) three
- (c) two
- (d) five
36. Lactic acid is:
- (a) propionic acid
- (b) β -hydroxypropanoic acid
- (c) α -hydroxypropanoic acid
- (d) none of the above
37. The number of different amines corresponding to the formula $\text{C}_3\text{H}_9\text{N}$ is:
- (a) 2
- (b) 3
- (c) 4
- (d) 5
38. Hydrogen cyanide and hydrogen isocyanide are:
- (a) tautomers
- (b) positional isomers
- (c) metamers
- (d) chain isomers
39. Which is optically active?
- (a) Isobutyric acid
- (b) B-chloropropionic acid
- (c) Propionic acid
- (d) α -chloropropionic acid
40. The isomeric cis-2-butene and trans-2-butene can be distinguished on the basis of:
- (a) their physical nature
- (b) their reduction products
- (c) the products they give on ozonolysis
- (d) the products they give on addition to bromine
41. In the Kjeldahl's method for estimation of nitrogen present in a soil sample, ammonia evolved from 0.75 g of sample neutralised 10 mL of 1 M H_2SO_4 . The percentage of nitrogen in the soil is
- (a) 37.33
- (b) 45.33
- (c) 35.33
- (d) 43.33
42. In Duma's method of estimation of nitrogen 0.35 g of an organic compound gave 55 ml of nitrogen collected at 300 K temperature and 715 mm pressure. The percentage composition of nitrogen in the compound would be
 (Aqueous tension at 300 K-15 mm)
- (a) 16.45
- (b) 17.45
- (c) 14.45
- (d) 15.45
43. The Lassaigne's extract is boiled with con. HNO_3 while testing for halogens. By doing so it
- (a) helps in the precipitation of AgCl

- (b) increases the solubility product of AgCl
- (c) increases the concentration of NO_3^- ions
- (d) decomposes Na_2S and NaCN , if formed.

44.

Among the given compounds, the most susceptible to nucleophilic attack at the carbonyl group is

- (a) $\text{CH}_3\text{COOCH}_3$
- (b) CH_3CONH_2
- (c) $\text{CH}_3\text{COOCOCH}_3$
- (d) CH_3COCl

45.

How many stereoisomers does this molecule have?



- (a) 4
- (b) 6
- (c) 8
- (d) 2

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