

**Structural and stereo isomerism**

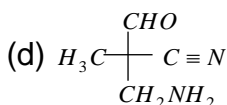
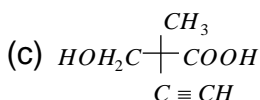
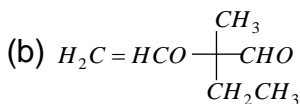
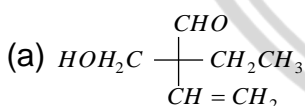
81. Lactic acid in which a methyl group, a hydroxyl group, a carboxylic acid group and a hydrogen atom are attached to a central carbon atom, shown optical isomerism due to the molecular geometry at the

- (a) Central carbon atom
- (b) Carbon atom of the methyl group
- (c) Carbon atom of the carboxylic acid group
- (d) Oxygen of the hydroxyl groups

82. The number of possible alkynes with molecular formula  $C_5H_8$  is

- (a) 2
- (b) 3
- (c) 4
- (d) 5

83. Which of the following will not lose asymmetry on reduction with  $LiAlH_4$



84. Reason for geometrical isomerism by 2-butene is

- (a) Chiral carbon
- (b) Free rotation about single bond
- (c) Free rotation about double bond
- (d) Restricted rotation about double bond

85. Stereoisomers which are not the mirror images of one another are called

- (a) Enantiomers
- (b) Mesomers
- (c) Tautomers
- (d) Diastereoisomers

86. The isomerism shown by *n*-butyl alcohol and isobutyl alcohol is

- (a) Metamerism
- (b) Chain
- (c) Position
- (d) Stereo

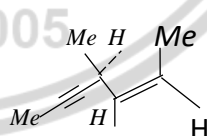
87. Which is optically active

- (a)  $CH_2Cl_2$
- (b)  $CHCl_3$
- (c) Meso form of tartaric acid
- (d) Glyceraldehyde

88. Which of the following will show geometrical isomerism

- (a)  $CH_3CH=CHCH_3$
- (b)  $(CH_3)_2C=C(CH_3)_2$
- (c)  $(CH_3)_2C=C(CH_3)_2$



- (d)  $CH_3 - CH = C(CH_3)_2$
89. What is the maximum number of open chain structures possible for  $C_4H_8$
- (a) 2 (b) 3  
(c) 4 (d) 1
90. Glucose has optical isomers
- (a) 8  
(b) 12  
(c) 16  
(d) Cannot be predicted
91. An organic compound  $^1CH_3 - ^2CH_2 - ^3CH_2 - ^4CH_2 - ^5CH_2 - ^6CH_2 - ^7CH_3$   
To make it chiral compound the attack should be on which carbon atom
- (a) 1 (b) 3  
(c) 4 (d) 7
92. Which of the following statements is not true about enantiomers
- (a) They have same physical properties  
(b) They have different biological properties  
(c) They have same chemical properties towards chiral compounds  
(d) None of these
93. Meso-tartaric acid is
- (a) Optically inactive
- (b) Optically active because of molecular symmetry  
(c) Optically inactive due to external compensation  
(d) Optically active because of asymmetric carbon atom
94. The number of possible isomers of the compound with molecular formula  $C_7H_8O$  is
- (a) 3 (b) 5  
(c) 7 (d) 9
95. The number of isomers for the compound with molecular formula  $C_2BrClFI$  is
- (a) 3 (b) 4  
(c) 5 (d) 6
96. Hydrogenation of the adjoining compound in the presence of poisoned palladium catalyst gives
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- (a) An optically active compound  
(b) An optically inactive compound  
(c) A racemic mixture  
(d) A diastereomeric mixture



97. The number of possible structural isomers for a compound with the molecular formula  $C_7H_{16}$  is
- (a) 8 (b) 9  
(c) 10 (d) 12
98. Which of the following molecule contains asymmetric carbon atom
- (a)  $CH_3CHClCOOH$   
(b)  $CH_3CH_2COOH$   
(c)  $ClCH_2CH_2COOH$   
(d)  $Cl_2CHCOOH$
99. A similarity between optical and geometrical isomerism is that
- (a) Each forms equal number of isomers for a given compound  
(b) If in a compound one is present then so is the other  
(c) Both are included in stereoisomerism  
(d) They have no similarity
100. If the light waves pass through a nicol prism then all the oscillations occur only in one plane, such beam of light is called as
- (a) Non-polarised light  
(b) Plane polarised light  
(c) Polarised light  
(d) Optical light

