Structural and stereo isomerism

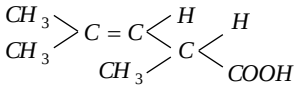
41. Diethyl ether and methyl *n*-propyl ether are
(a) Position isomers
(b) Functional isomers
(c) Metamers
(d) Chain isomers

42. *n*-propyl alcohol and isopropyl alcohol are examples of
(a) Position isomerism
(b) Chain isomerism
(c) Tautomerism
(d) Geometrical isomerism

43. It is possible to distinguish between optical isomers by
(a) Infrared spectroscopy
(b) Mass spectrometry
(c) Melting point determination
(d) Polarimetry

44. The isomerism exhibited by alkyl cyanide and alkyl isocyanide is
(a) Functional
(b) Positional
(c) Tautomerism
(d) Metamerism

45. The following compound can exhibits



(a) Tautomerism
(b) Optical isomerism
(c) Geometrical isomerism
(d) Geometrical and optical isomerisms

46. Name the compound, that is not isomer with diethyl ether
(a) *n*-propylmethyl ether
(b) Butane-1-ol
(c) 2-methylpropane-2-ol
(d) Butanone

47. Which statement is true for cyclohexane
(a) It has two possible isomers
(b) It has three conformations
(c) Boat conformation is most stable
(d) Chair and boat conformations differ in energy by 44 *kJ/mol*

48. Two compounds have the structural formulae $CH_3-O-CH_2CH_3$ and $CH_3-CH_2-CH_2OH$. The above is an example of
(a) Metamerism
(b) Functional isomerism
(c) Positional isomerism
(d) Chain isomerism

49. Which of the following pairs are not isomeric compounds

(a) Ethyl ethanoate and methyl propanoate

(b) Butanone and butanal

(c) Ethoxy propane and propoxy ethane

(d) Methoxy methane and ethanol

50. Functional isomerism is exhibited by the following pair of compounds

(a) Acetone, propionaldehyde

(b) Diethyl ether, methyl propyl ether

(c) Butane, isobutane

(d) 1-butene, 2-butene

51. The total number of possible isomeric trimethyl benzene is

(a) 2 (b) 3

(c) 4 (d) 6

52. Optically active isomers but not mirror images are called

(a) Enantiomers

(b) Mesomers

(c) Tautomers

(d) Diastereoisomers

53. C_7H_9N has how many isomeric forms that contain a benzene ring

(a) 4 (b) 5

(c) 6 (d) 7

54. The total number of isomers formed by C_5H_{10} is

(a) 2 (b) 3

(c) 4 (d) 5

(e) None of these

55. Which of the following contains asymmetric centre

(a) 2-butene

(b) 2, 2-dimethylpropane

(c) 2-hexyne

(d) Lactic acid

56. Which of the following cannot be given to exemplify chiral structure

(a) A shoe (b) A screw

(c) A screw driver (d) All of these

57. Which of the following is expected to be optically active

(a) $(CH_3)_4C$

(b) $C_2H_5CH(CH_3)C_3H_7$

(c) $(C_2H_5)_2CHCH_3$

(d) $CH_3CH=CHCH_3$

58. Which compound does not show geometrical isomerism

(a) 2-butene

(b) 2-pentene

(c) 2,3-dibromo-2-butene

(d) 2-methyl propene

59. The isomers which can be converted into another forms by rotation of the molecules around single bond are

(a) Geometrical isomers

(b) Conformers

(c) Enantiomers

(d) Diastereomers

60. The number of enantiomers of the compound $CH_3CHBrCHBrCOOH$ is

(a) 0 (b) 1

(c) 3 (d) 4