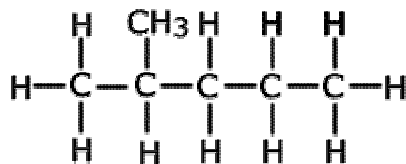


Exercise 9.17 – Isomerism SL

Q917-01 How many structural isomers can be obtained by replacing a hydrogen atom of the following compound by a chlorine atom?



Q917-02 Consider the hydrocarbons identified by the numbers 1 through 5 below:

1. $\text{CH}_3\text{CH}_2\text{CH}_2\text{CH}_3$
2. $\text{CH}_3\text{CH}=\text{CHCH}_3$
3. $\text{CH}_3\text{CH}_2\text{CH}_3$
4. $(\text{CH}_2)_4$
5. $\text{CH}_3\text{C}\equiv\text{CCH}_3$

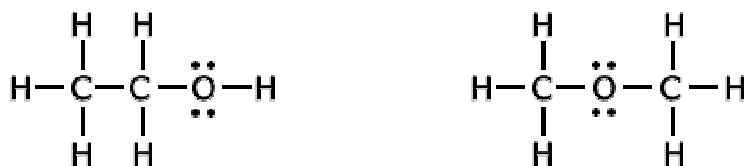
Which pair of the above compounds are isomers?

- A. 1 and 4
- B. 1 and 3
- C. 2 and 4
- D. 2 and 5

Q917-03 Which compounds are isomers?

- A. 1-propanol and 2-propanol
- B. methanoic acid and ethanoic acid
- C. methanol and methanal
- D. ethane and ethanol

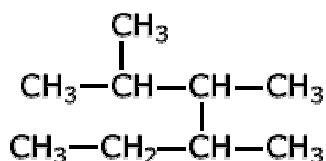
Q917-04 How are the following compounds related?



- A. isobars
- B. isotopes
- C. isomers
- D. these compounds are not related at all...they are totally different.

Exercise 9.17 – Isomerism SL

Q917-05 What is the correct IUPAC name for the hydrocarbon shown below?



- A. Nonane
- B. 2-ethyl 3,4-dimethylpentane
- C. 3,4,5-trimethylhexane
- D. 2,3,4-trimethylhexane

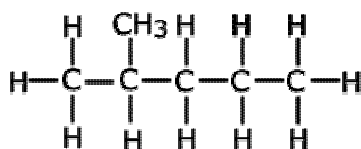
Q917-06 A straight-chain alkane contains eight carbon atoms. Its molecular formula is

- A. C_8H_8
- B. C_8H_{14}
- C. C_8H_{16}
- D. C_8H_{18}

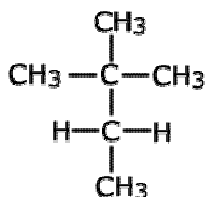
Q917-07 How many different structural isomers can be made with the formula $\text{C}_4\text{H}_9\text{Cl}$?

- A. 2
- B. 3
- C. 4
- D. 5

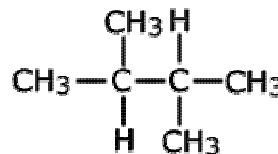
Q917-08 Which names are correct for the following isomers of C_6H_{14} ?



2-methylpentane



2-ethylmethylpropane



2,3-dimethylbutane

- A. I only
- B. II only
- C. II and III only
- D. I and III only

Q917-09 How many structural isomers are possible with the molecular formula C_6H_{14} ?

- A. 4
- B. 5
- C. 6
- D. 7

Q917-10 Which formulas represent butane or its isomers

- I $\text{CH}_3(\text{CH}_2)_2\text{CH}_3$
- II $\text{CH}_3\text{CH}(\text{CH}_3)\text{CH}_3$
- III $(\text{CH}_3)_3\text{CH}$

- A. I only
- B. I and II only
- C. I and III only
- D. II and III only