

Friday Worksheet

Name:

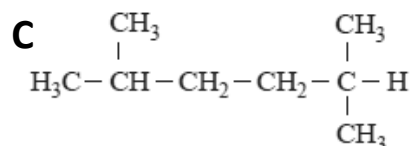
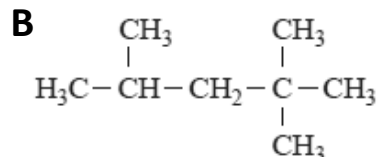
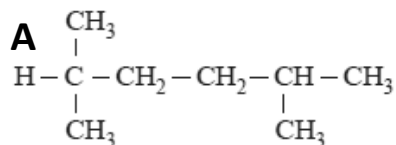
Organic worksheet 3

- 1) Give the systematic IUPAC name for the molecules shown on the right .

A) *2,5-dimethylhexane*

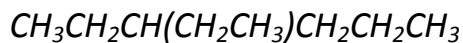
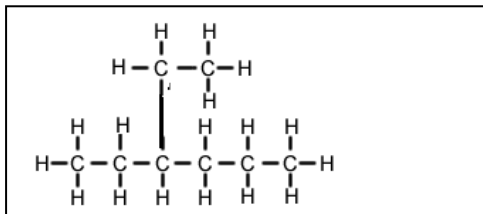
B) *2,2,4-trimethylpentane*

C) *2,5-dimethylhexane*

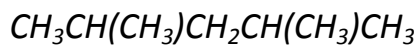
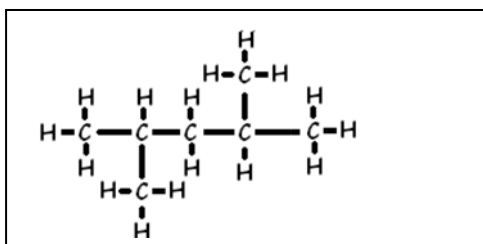


- 2) Give the structural and semi-structural formulae of the following molecules.

a) 3-ethylhexane



b) 2, 4-dimethylpentane



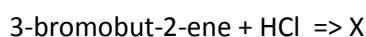
3) Which one of the following compounds is most soluble in water at room temperature? Explain

- a) Propane
- b) Propene
- c) Butan-2-ol
- d) Butanoic acid

Propane and propene are hydrocarbons and like all hydrocarbons are non-polar molecule and hence insoluble in water.

The acidic COOH - group of butanoic acid is more polar than the OH-group of 2-butanol, this makes butanoic acid more soluble in water.

4) 3-bromobut-2-ene and HCl react according to the equation below.



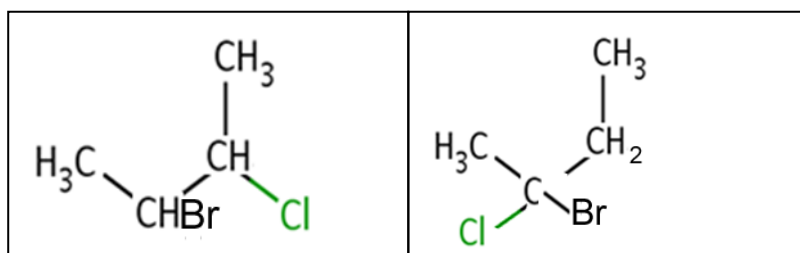
- a) Give the possible structural formulae and systematic names of X

2-bromo-3-chlorobutane

2-bromo-2-chlorobutane

- b) What type of reaction is this?

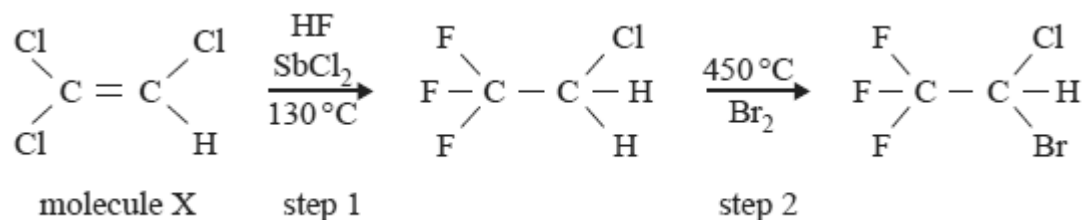
Addition



5) Which of the following compounds are isomers of 2,2,4-trimethylpentane (C_8H_{18})

- a) octane (C_8H_{18})
- b) 3-ethylhexane (C_8H_{18})
- c) 2, 4-dimethylpentane
- d) 2,4-dimethylhexane (C_8H_{18})

6) Below is the diagram of the formation of halothane.



- a) Give the IUPAC systematic name for halothane
2-bromo-2-chloro-1,1,1-trifluoroethane
- b) What type of reaction is step 2?
Substitution