

Problems CH-2

(1) Write structural formulas for the following compounds:

- a. 2-methylhexane b. 1-isopropyl-1,3-dimethylcyclohexane c. 4-ethyl-2,2-dimethylheptane d. 2-bromo-4-methyloctane
e. 1,1-diiodocyclobutane f. 2,3-dimethylbutane g. 1,1,2-trifluoropropane h. 1,1,3,3-tetrachlorocyclopropane

(2) Write a structure for each of the compounds listed. Explain why the name given here is incorrect, and give a correct name in each case.

- a. 2,3-fluoropropane b. 1-methylbutane c. 2-ethylbutane d. 1-methyl-2-ethylcyclopropane e. 1,1,3-trimethylhexane
f. 4-bromo-3-methylbutane g. 1,3-dimethylcyclopropane

(3) Write the structural formulas for all isomers of each of the following compounds, and name each isomer by the IUPAC system. (The number of isomers is indicated in parentheses.)

- a. C_4H_{10} (2) b. C_4H_9Cl (4) c. C_3H_6FCl (5) d. $C_3H_6Br_2$ (4)

(4) Arrange the following five hydrocarbons in order of increasing boiling point.

- a. 2-methylhexane b. heptane c. 3,3-dimethylpentane d. hexane e. 2-methylpentane

(5) Using structural formulas, write equations for the following halogenation reactions.

- a. the monochlorination of propane b. the monobromination of cyclopentane
c. the complete chlorination of butane d. the monobromination of methylcyclohexane