

CH1020 Exercises (Worksheet 1)

- 1) Calculate the percent composition of (a) sodium sulfate, (b) dinitrogen tetroxide, (c) strontium nitrate, and (d) aluminum sulfide.
- 2) A sample of an iron-containing compound is 22.0% iron, 50.2% oxygen, and 27.8% chlorine by mass. What is the empirical formula of this compound?
- 3) Ferrophosphorus (Fe_2P) reacts with pyrite (FeS_2), producing iron(II) sulfide and a compound that is 27.87% P and 72.13% S by mass and has a molar mass of 444.56 g/mol.
 - a) Determine the empirical and molecular formulas of the compound
 - b) Write a balanced chemical equation for the reaction
- 4) What is the empirical formula of the compound that is 24.2% Cu, 27% Cl, and 48.8% O by mass?
- 5) Which of the following nitrogen oxides have the same empirical formulas? (a) N_2O ; (b) NO; (c) NO_2 ; (d) N_2O_2 ; (e) N_2O_4
- 6) Which two of the hydrocarbons with molecular structures shown below have the same percent composition?

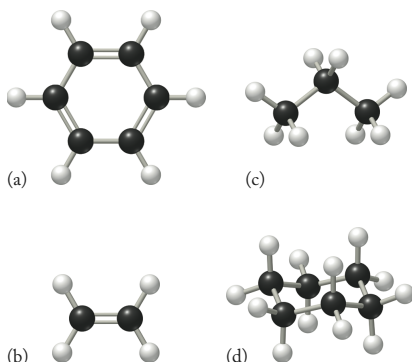


FIGURE P7.5