

39. Calculate the empirical formula of each compound.

a. 94.1% O, 5.9% H

b. 67.6% Hg, 10.8% S, 21.6% O

40. 1,6 – diaminohexane is used to make nylon. What is the empirical formula of this compound if its percent composition is 62.1% C, 13.8% H, and 24.1% N?

75. Which of the following compounds has the highest percent of iron by mass?

a. FeCl_2

b. $\text{Fe}(\text{C}_2\text{H}_3\text{O}_2)_3$

c. $\text{Fe}(\text{OH})_2$

d. FeO

76. What is an empirical formula? Which of the following molecular formulas are also empirical formulas?

a. ribose ($\text{C}_5\text{H}_{10}\text{O}_5$)

b. ethyl butyrate ($\text{C}_6\text{H}_{12}\text{O}_2$)

c. chlorophyll ($\text{C}_{55}\text{H}_{72}\text{MgN}_4\text{O}_5$)

d. DEET ($\text{C}_{12}\text{H}_{17}\text{ON}$)

77. Which of the following can be classified as an empirical formula?

a. S_2Cl_2

b. $\text{C}_6\text{H}_{10}\text{O}_4$

c. Na_2SO_3