

Chemistry – Chapter 10 Book assignment #4: Empirical & molecular formulas

1. Calculate the empirical formula of each compound.
 - a. 94.1% O, 5.9% H
 - b. 67.6% Hg, 10.8% S, 21.6% O
2. 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?
3. 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
4. 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 ($\text{C}_{12}\text{H}_{17}\text{ON}$)
5. 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