

Name: _____

Block: _____

Percent Composition

1. A 5.00 g sample of a compound was found to contain 1.93 g carbon, 0.49 g hydrogen and 2.58 g sulfur. What is the empirical formula of the compound?
2. What is the percentage composition of each element in the compound tetrahydrocannabinol (THC), which has the formula $C_{21}H_{30}O_2$?
3. A sample of a compound was found to contain 42.56 g of palladium (Pd) and 0.80 g of hydrogen. If the molar mass of the compound is 216.8 g/mol, what is the molecular formula of the compound?
4. Find the empirical formula of a compound that contains 30.45% nitrogen and 69.55% oxygen.

5. Find the percentage of boron in the compound boron triiodide (BI_3).

6. A compound containing only carbon and hydrogen has a molecular mass of 114.26 amu. If one mole of the compound contains 18.17 g of hydrogen, what is its molecular formula?

7. Find the molecular formula of a compound that contains 56.36 g of oxygen and 43.64 g of phosphorus. The molecular mass of the compound is 283.9 amu.

8. The compound caffeine has a molecular weight of 194.1926 amu. It contains 49.5% carbon, 5.2% hydrogen, 28.9% nitrogen, and 16.5% oxygen. What is its empirical formula? What is its molecular formula?