

## Practice Problems: Determining Formula from Percent Composition

See the complete solutions to these problems at <https://www.youtube.com/watch?v=MlaZnRbQN8g>.

1. A bright orange, crystalline substance is analyzed and determined to have the following mass percentages: 17.5% Na, 39.7% Cr, and 42.8% O. Determine its empirical formula.

2. A sample of cisplatin is 65.02% platinum, 9.34% nitrogen, 2.02% hydrogen, and 23.63% chlorine. Determine the empirical formula.

3. What are the empirical formula and the molecular formula for resorcinol? It is 65.44% carbon, 5.49% hydrogen, and 29.06% oxygen with a molar mass of 110 grams/mole.

4. Caffeine contains 49.5% C, 5.15% H, 28.9% N and 16.5 % O by mass and the molar mass is about 195 g/mol. What are its empirical and molecular formulas?