Empirical and Molecular Formula Practice

Find the empirical formula for the following molecular compositions:

1. 88.8% copper; 11.2% oxygen

2. 40% carbon; 6.7% hydrogen; 53.3% oxygen

3. 92.3% carbon; 7.7% hydrogen

4. 70.0% iron; 30.0% oxygen

5. 5.88% hydrogen; 94.12% oxygen

6. 38.7% chlorine; 61.3% fluorine

7. 7.19% phosphorus; 92.81% bromine

8. 30.4% nitrogen; 69.6% oxygen

Find the molecular formula for the following:

1. If the compound in question 7 has a molar mass of 431g/mol, what is the molecular formula?

2. If the compound in question 8 has a molar mass of 92g/mol, what is the molecular formula?

3. Naphthalene is a carbon and hydrogen containing compound often used in moth balls. The empirical formula is C_5H_4 and its molar mass is 128.16g/mol. Find the molecular formula.

4. A compound with the following composition has a molar mass of 60.10g/mol: 39.97% carbon; 13.41% hydrogen; 46.62% nitrogen. Find the molecular formula.