

Quiz 3.4 – Empirical Analysis

Name: _____

Question 1 (2 point)

Give the percent composition for all elements in the following compounds:

- NO_2
- $\text{C}_2\text{H}_5\text{Cl}$

Question 2 (2 points)

Give the empirical formula for compounds with the following compositions:

- 82.66% C and 17.34% H
- 62.04% C, 10.41% H, and 27.55% O

Question 3 (1 point)

What are the molecular formulas for the compounds in Question 2 if their molecular weights are:

- 58.12 g/mol
- 116.16 g/mol

Question 5 (2 points)

1.25 g of an unknown are combusted in excess O_2 to produce 4.28 g of CO_2 and 0.730 g of H_2O . A separate analysis gave the compound's molar mass as 154.211 g/mol

Give the empirical and molecular formulas for the unknown substance

Question 6 (3 points)

2.75 g of an unknown are combusted in excess O_2 to produce 3.94 g of CO_2 and 2.15 g of H_2O . A separate analysis gave the compound's molar mass as 92.095 g/mol

Give the empirical and molecular formulas for the unknown substance

Who Has Seen the Wind?

By Christina Rossetti

Who has seen the wind?
Neither I nor you:
But when the leaves hang trembling,
The wind is passing through.

Who has seen the wind?
Neither you nor I:
But when the trees bow down their heads,
The wind is passing by.