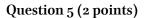
Quiz 3.4 – Empirical Analysis

Name:
Question 1 (2 point)
Give the percent composition for all elements in the following compounds:
o NO ₂
$\circ C_2H_5Cl$
Question 2 (2 points)
Give the empirical formula for compounds with the following compositions:
$\circ~82.66\%$ C and 17.34% H
$\circ~62.04\%$ C, 10.41% H, and 27.55% O
Question 3 (1 point) What are the melecular formulae for the compounds in Overtion a if their melecular varietts are
What are the molecular formulas for the compounds in Question 2 if their molecular weights are:
\circ 58.12 g/mol
$\circ~116.16~g/_{mol}$



 $1.25\,g$ of an unknown are combusted in excess O₂ to produce $4.28\,g$ of CO₂ and $0.730\,g$ of H₂O. 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 $_{\rm 2}$ to produce 3.94~g of CO $_{\rm 2}$ and 2.15~g of H $_{\rm 2}$ O. 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.