

EMPIRICAL FORMULAS → SMALLEST POSSIBLE

CH_3F
① ③ ①

W.HOLE NUMBER SUBSCRIPTS → MOLE RATIO

#g's → n each element → ÷ by Smallest → 1011 → 1091 → × 2, 3, 4 etc → WHOLE #'S → SUBSCRIPTS

MOLECULAR FORMULA
Whole # multiple of the EF

→ FIND EF → M_n EF

$\frac{\text{true } M_n}{\text{EF } M_n} \rightarrow \text{Whole \#} \times \text{EF Subscripts} \rightarrow \text{molecular formula}$

combustion analysis

$C_xH_y + O_2 \rightarrow CO_2 + H_2O$

mass $CO_2 \rightarrow$ mass C → n_C
mass $H_2O \rightarrow$ mass H → n_H

STOICH

3 steps get to moles
↳ Switch your moles → get moles of water

Keywords

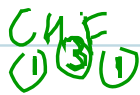
- balanced eqn
- products
- titration
- gravimetric analysis
- excess
- goes to completion

When LR?
2 reactants or more

M
g
atoms molecules (NA)

EMPIRICAL FORMULAS

⇒ SMALLEST POSSIBLE



WHOLE NUMBER
 SUBSCRIPTS

→ MOLE RATIO

#g's → n each element → ÷ by smallest → ↓ 0.11 / ↑ 10.11 → × → 2, 3, 4 etc

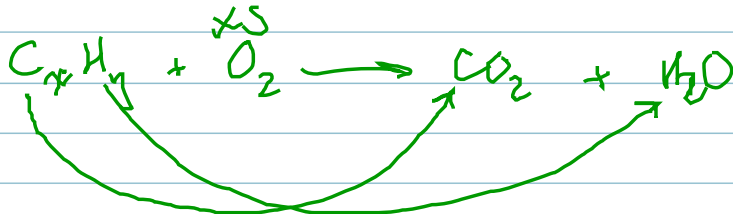
WHOLE #s
 ↓
 SUBSCRIPTS

MOLECULAR FORMULA
 (whole #) multiple of the EF

→ FIND EF → M_m EF

$\frac{\text{true } M_m}{\text{EF } M_m} \Rightarrow \text{whole \#} \times \text{EF SUBSCRIPTS} \rightarrow \text{molecular formula}$

combustion analysis



mass CO₂ → mass C → n_C
 mass H₂O → mass H → n_H

STOICH

3 steps get to moles

↳ Switch your moles → get dx of moles

Key words

- balanced eqn
- products
- titration
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- excess
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when LR?

2 reactants or more

M
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 # atoms molecules (NA)