

Percent Composition KCN

100 g

K →	39.098 g/mol	39.098 / 65.116 * 100 = 60.0%
C →	12.011 g/mol	12.011 / 65.116 * 100 = 18.4%
N →	14.007 g/mol	14.007 / 65.116 * 100 = 21.6%
	<u>65.116 g/mol</u>	

Acetic Acid → Empirical Formula Assume 100g

39.9% C 6.7% H 53.4% O

C	$\frac{39.9g}{12.011} = 3.32$	$\frac{3.32}{3.32} = 1$	Empirical
H	$\frac{6.7g}{1.008} = 6.64$	$\frac{6.64}{3.32} = 2$	CH ₂ O
O	$\frac{53.4g}{15.999} = 3.33$	$\frac{3.33}{3.32} = 1$	1:2:1
			C H O

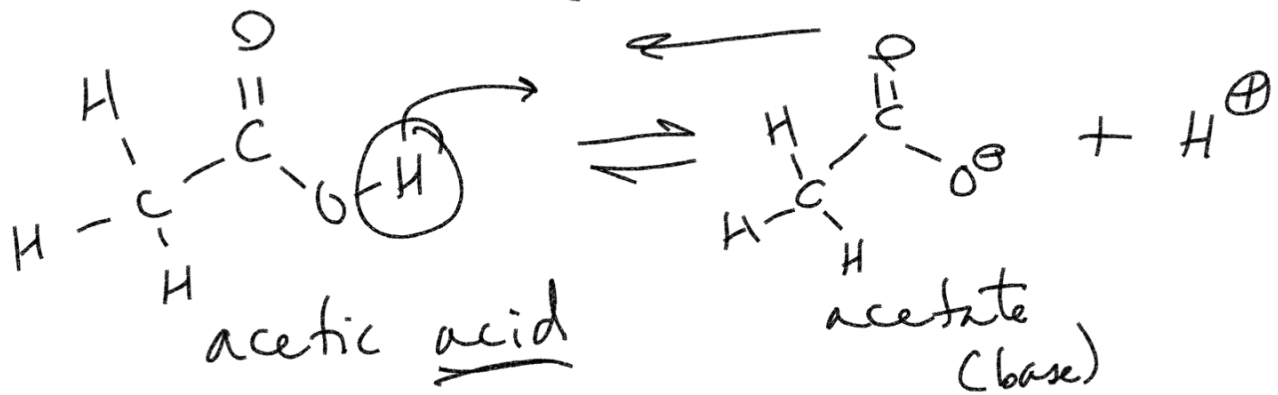
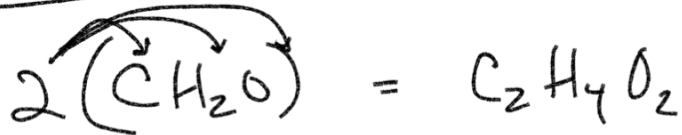
If acetic acid has a molar mass of 60 g/mol, what is the molecular formula?

C	1 * 12.011	H	2 * 1.008	O	1 * 15.999
	12.011	+	2.016	+	15.999

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$$\begin{array}{r} \text{C } 1 * 12.011 \\ 12.011 \end{array} \quad \begin{array}{r} \text{H } 2 * 1.008 \\ 2.016 \end{array} \quad \begin{array}{r} \text{O } 1 * 15.999 \\ 15.999 \end{array}$$

$$\text{CH}_2\text{O} \quad \text{30.026 g} \quad \frac{60}{30.026} = 2$$



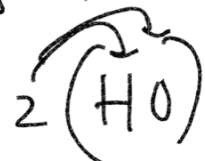
Compound contains 5.9265% H Empirical Formula
94.0735% O

molar mass of compound 34.01468 g/mol Molecular formula

$$\text{H } \frac{5.9265}{1.008} = 5.88 \quad \frac{94.0735}{15.999} = 5.88$$

$$\frac{5.88}{5.88} = 1 \quad \frac{5.88}{5.88} = 1$$

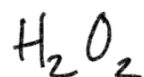
Empirical = HO



HO \rightarrow HOHO

$$\begin{array}{r} \text{H} : 1 * 1.008 = 1.008 \\ \text{O} : 1 * 15.999 = 15.999 \\ \hline 17.007 \end{array}$$

$$\frac{34.01468}{17.007} \approx 2$$



2 slices of bread (toasted)

5 pickles

1 lettuce

12 Lay's potato chips

3 HBH

2 squirts hot!

5 sandwiches \rightleftharpoons

10 slices + 25 pickles

5 lettuce + 60 Lay's

15 HBH + 10 squirts hot

Stoichiometry
reactants

products

