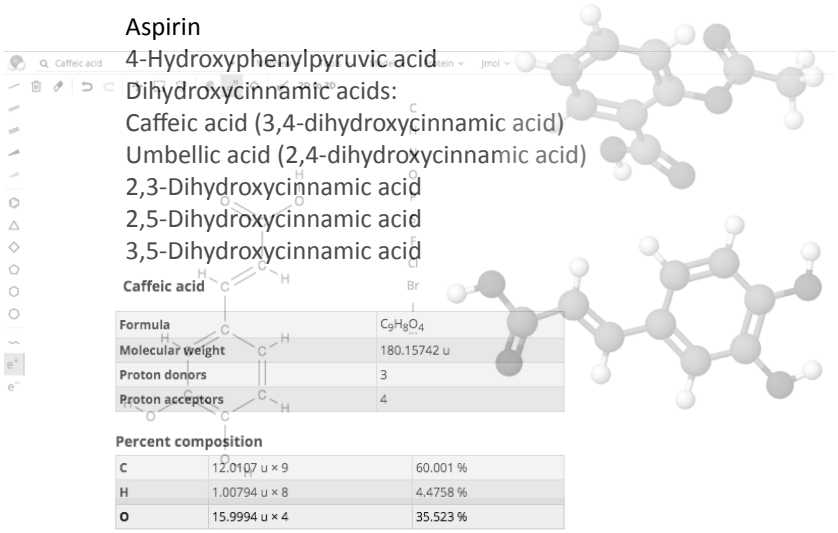
What's My Formula?

Post Lab: Compounds with the Same Formula

[eg. $C_9H_8O_4$]

Aspirin
4-Hydroxyphenylpyruvic acid
Dihydroxycinnamic acids:
Caffeic acid (3,4-dihydroxycinnamic acid)
Umbellic acid (2,4-dihydroxycinnamic acid)
2,3-Dihydroxycinnamic acid
2,5-Dihydroxycinnamic acid
3,5-Dihydroxycinnamic acid



Caffeic acid

Formula	$C_9H_8O_4$
Molecular weight	180.15742 u
Proton donors	3
Proton acceptors	4

Percent composition

C	12.0107 u × 9	60.001 %
H	1.00794 u × 8	4.4758 %
O	15.9994 u × 4	35.523 %

Post Lab: Compounds with the Same Formula

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Molar Comparisons of Analgesics

Calculate Moles : Doses (mmol/dose)

Which analgesic has the most biologically active ingredient based on millimoles per dose (*mmol/dose*)?

5.0 g of each would produce the following number of doses:

	Formula	*Doses*	*mmol/dose*
Aspirin	$C_9H_8O_4$	15.	*28 mmol*
Ibuprofen	$C_{13}H_{18}O_2$	25	
Naproxen Sodium	$C_{14}H_{13}O_3Na$	22.7	
Acetaminophen	$C_8H_9NO_2$	5	

Molar Mass Aspirin = 180.1 g/mol
5.0 g */ 180.1 g/mol = 0.028 mol = 28 mmol*