Empirical and Molecular Formula
Chemistry

Name _____

1 **For the following compounds whose molecular formulas are given, indicate what the compound is (function or common description), and the empirical formula:**

Name	What is it?	Molecular Formula	Empirical Formula
glucose		$C_6H_{12}O_6$	
octane		C_8H_{18}	
lactic acid		$C_3H_6O_3$	
TCDD		$C_{12}H_4Cl_4O_2$	

For each of the following compounds:

a) Find the empirical and the molecular formulas.

b) Draw the Lewis structure.

c) Identify the compound.

2 A compound with an empirical formula of C_2H_4O and a molar mass of 88 grams per mole.
Empirical formula is given here!

3 A sweet-smelling compound has a composition of 7.7% hydrogen, and the rest is carbon. Its molar mass is 78g/mol.

4 A depressant is found to have a composition of 52.14%C, 13.12%H, and 34.73%O, with a molar mass of 46.02g/mol.

5 A stimulant is composed of 49.48% C, 5.15% H, 28.87% N, and 16.49% O by mass. It has a molecular weight of 194.2g/mol.

6 A very sweet solid has a composition of 42.1%C, 6.5%H, and 51.4%O, with a molar mass of 342.3g/mol.

7 An ingredient in a cough syrup has a composition of 4.9%N, 7.1%H, 16.8%O, and 71.3%C. Its empirical formula is the same as its molecular formula.