**Percent Composition and Empirical Formula Worksheet**

**(answer questions in a separate sheet of paper)**

I. Determine the percent composition of the following compounds and molecules:

1. Calcium Oxide, CaO

2. Lithium sulfite, Li2SO3

3. Ammonium phosphate (NH4)3PO4

4. Phosphorus trichloride, PCl3

5. Cobalt (II) nitrate, Co(NO3)2

II. Determine the empirical formula of the compounds or molecules in the following problems:

1. A sample contains 16.00 grams of O and 6.00 grams of C.

2. A sample contains 7.10 grams of Cl, 2.40 grams of C and .603 grams of H.

3. A sample of cisplatin is 65.02% platinum, 9.34% nitrogen, 2.02% hydrogen and 23.63% carbon.

III. Determine the molecular formula of the following:

1. A sample contains a material with the empirical formula of CHO and a molar mass between 135 and 155 g/mol.

2. A sample is 40.00% C, 6.713% H and 53.28% O on a mass basis and a molar mass of approximately 180 g/mol.

IV. For each hydrate complete the chart:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Formula for Hydrate | Hydrate Name | Molar Mass of Hydrate | Formula for Anhydrate | Molar Mass of Anhydrate | % Water |
| MgSO4•7H2O |  |  |  |  |  |
| CuSO4 •4H2O |  |  |  |  |  |
| Na2CO3•10H2O |  |  |  |  |  |