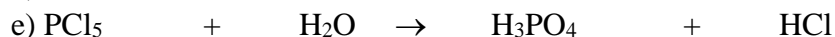
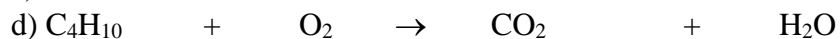
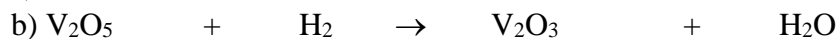
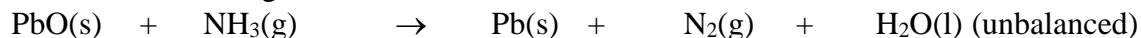


Chem 1104-2018 Summer Problem Set #3

1. Balance the following equations.



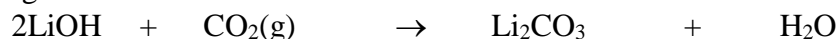
2. Consider the following reaction.



a) How many grams of NH_3 are consumed in the reaction of 75.0 g of PbO(s) ?

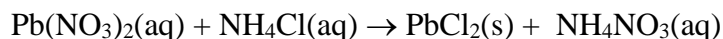
b) If 56.4 g of Pb(s) are produced in this reaction, how many grams of N_2 are also formed?

3. In the following reaction 0.150 mol LiOH is reacted with 0.080 mol CO_2 .



Determine the limiting reagent and the number of moles of Li_2CO_3 formed.

4. Write balanced and complete ionic equations and the net ionic equation for the following reaction:



5. A 10.0 mL sample solution of Ca(OH)_2 requires 25.0 mL of a 0.125M solution of HCl for complete reaction. What is the molarity of the original Ca(OH)_2 solution?

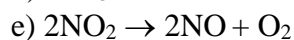
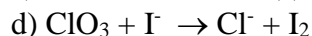
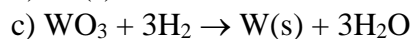
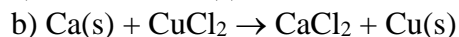
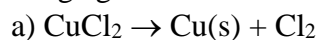


6. a) State whether the following is a Bronsted acid, Bronsted base, or both.



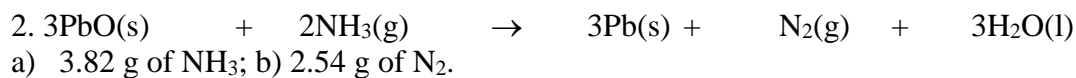
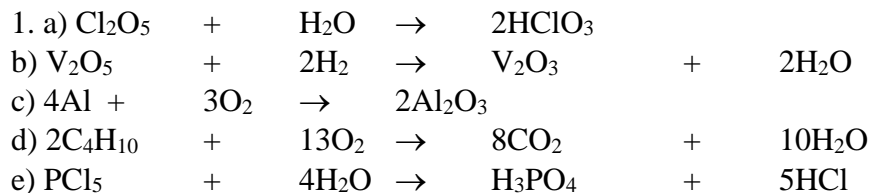
b) Write the corresponding ionic and net ionic equations for the neutralization of NaHCO_3 with NaOH(aq) .

7. For each of the following reactions determine the oxidation number for each atom in each substance and identify the substances oxidized, the substances reduced, the oxidizing agent and the reducing agent.

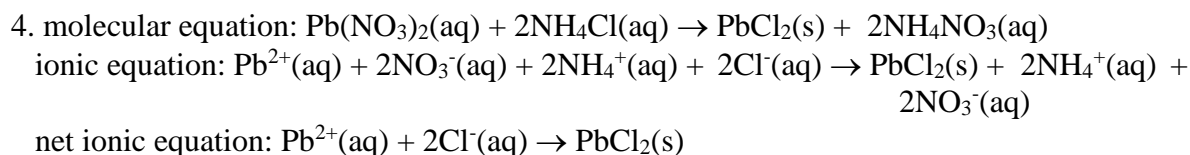


Note: If the oxidation number of an element increases, it is oxidized. If the oxidation number decreases, it is reduced.

Answer Set for Chem 1104-2018 Summer Problem Set #3



3. Limiting reagent: LiOH , 0.0750 mol Li_2CO_3 formed.



5. 0.156 M $\text{Ca}(\text{OH})_2$

6. a) I. HCl : bronsted acid II. NH_4Cl : bronsted acid III. H_3PO_4 : bronsted acid
IV. H_2PO_4^- : bronsted acid & bronsted base V. NH_3 : bronsted base

