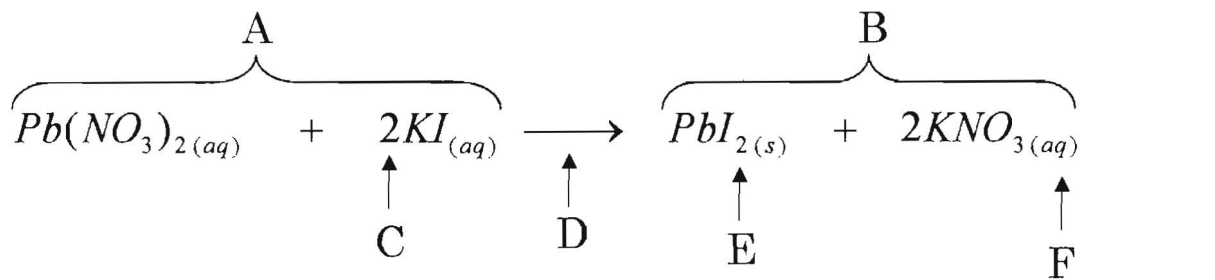


Chemistry – Unit 6 Review

1. Parts of a chemical equation. Label all parts of the following chemical equation



A: Reactants

B: Products

C: Coefficient

D: yield

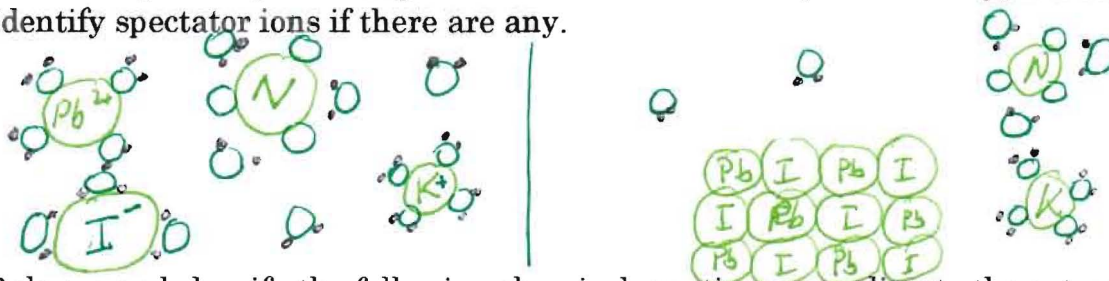
E: Subscript (ratio)

F: state subscript

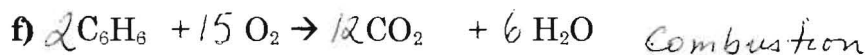
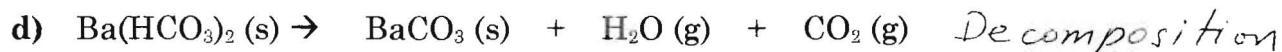
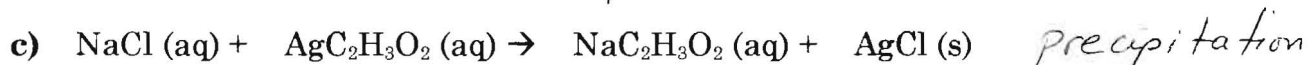
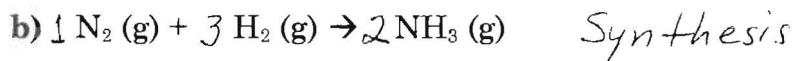
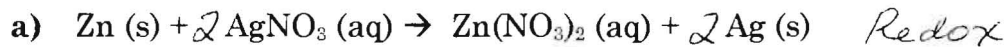
a. Explain the meaning of the subscript (aq) and why do some reactants must be in this state in order to react:

(aq) = aqueous = dissolved in water. Reactants need to be free to move and away from the oppositely charged ions

b. Draw a diagram representing the reaction above and explain what type of reaction it is. Identify spectator ions if there are any.



2. Balance and classify the following chemical reactions according to the categories discussed in class. (precipitation, combustion, redox, decomposition, synthesis)

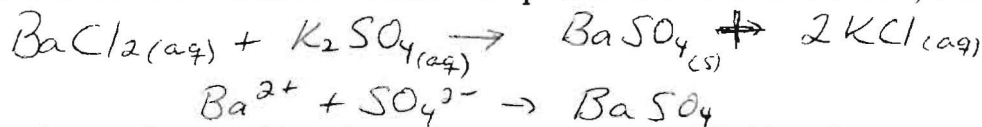


3. Write and balance the full equation (reactants and products) for the following reactions:

a) Toluene, C_7H_8 , combusts releasing heat.



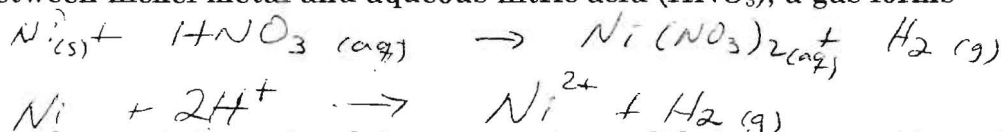
b) Barium chloride solution reacts with potassium sulfate solution, a solid forms



c) Synthesis of zinc sulfide from elemental Zinc and Sulfur, S_8



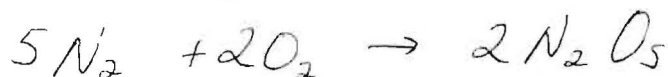
d) Reaction between nickel metal and aqueous nitric acid (HNO_3), a gas forms



e) Aluminum carbonate is heated and decomposes into solid aluminum oxide and carbon dioxide



f) Synthesis of dinitrogen pentoxide from its elemental gases



4. Sketch the energy bar graph that represents the E_k and E_{ch} and energy transfers at various stages in reactions "a" and "e" of the previous sections.

