

AP Chem
Quiz: Ch 3 & 4
Version G (40 pts)

Name:

Date:

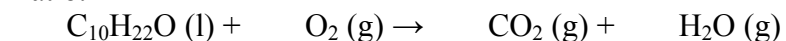
Period:

Show your work for all questions; answer all parts of all questions. No work = no credit.

1. (20 pts) Isodecanol ($C_{10}H_{22}O$), is a fuel.
- a. (4 pts) Calculate the percent composition by mass of carbon in isodecanol.

Ans = _____

- b. (4 pts) Combustion of isodeanol produces carbon dioxide and water according to the equation below. Balance the equation and reduce coefficients to the smallest whole number ratio.



In one particular reaction, 10.00 g isodecanol burns with 30.00 g of oxygen gas.

- c. (4 pts) Determine the limiting reactant.

Ans = _____

- d. (4 pts) What mass of the excess reactant remains when the reaction is complete?

Ans = _____

- e. (4 pts) If the reaction is 800.0% percent efficient, what mass of carbon dioxide would be produced?

Ans = _____

2. (8 pts)

a. (4 pts) Describe how 200.0 mL of 0.200 M ammonium phosphate can be from 2000.0 mL of a 2.00 M solution.

b. (4 pts) Will the solution conduct electricity? Why or why not?

3. (12 pts) Give the formulas to show the reactants and the products for the following chemical reactions. Each of the reactions occurs in aqueous solution unless otherwise indicated. Represent substances in solution as ions if the substance is extensively ionized. Omit formulas for any ions or molecules that are unchanged by the reaction. In all cases a reaction occurs. You need not balance or include states of matter.

a. A solution of silver acetate is mixed with a solution of calcium bromide.

b. A solution of rubidium carbonate is mixed with a solution of strontium iodide.

c. A solution of sodium phosphate is mixed with a solution of mercury (I) perchlorate.