

Non Sibi High School

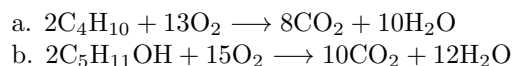
Andover's Chem 300: Accelerated/Honors Chemistry

Chapter 10, Review Quiz 1 Answers

1

Write a balanced equation for the combustion of each compound below using the smallest possible whole-number coefficients:

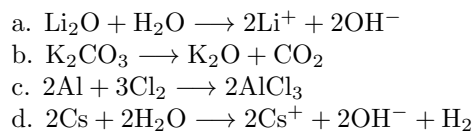
- a. butane
- b. pentanol



2

Write a balanced equation for each reaction described below using the smallest possible whole-number coefficients:

- a. lithium oxide reacts with water
- b. potassium carbonate decomposes upon heating
- c. aluminum metal reacts with chlorine gas
- d. cesium metal reacts with water



3

What is the molarity of each ion in the following solutions?

- a. 0.032 M CrCl_3
- b. 0.12 M $(\text{NH}_4)_2\text{SO}_4$

- a. 0.032 M Cr^{3+} and 0.096 M Cl^-
 b. 0.24 M NH_4^+ and 0.12 M SO_4^{2-}

4

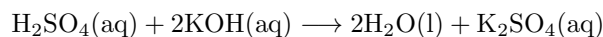
Only one of the following two solution mixtures will react to form a precipitate. Indicate which combination yields no reaction and also write a balanced net ionic equation, including states of matter, for the combination that does yield a precipitate:

- a. $\text{Cu}(\text{NO}_3)_2(\text{aq}) + \text{K}_3\text{PO}_4(\text{aq})$
 b. aqueous lithium chloride + aqueous ammonium bromide

- a. $3\text{Cu}^{2+}(\text{aq}) + 2\text{PO}_4^{3-}(\text{aq}) \longrightarrow \text{Cu}_3(\text{PO}_4)_2(\text{s})$
 b. no reaction

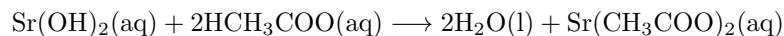
5

Write a balanced molecular equation, including states of matter, for the reaction between solutions of sulfuric acid and potassium hydroxide.



6

How many milliliters of 0.117 M strontium hydroxide are required to titrate 32.5 mL of 0.146 M acetic acid?



$$0.0325 \text{ L} \left(\frac{0.146 \text{ mol HCH}_3\text{COO}}{1 \text{ L}} \right) \left(\frac{1 \text{ mol Sr}(\text{OH})_2}{2 \text{ mol HCH}_3\text{COO}} \right) \left(\frac{1 \text{ L}}{0.117 \text{ mol HCH}_3\text{COO}} \right) \left(\frac{1000 \text{ mL}}{1 \text{ L}} \right) = 20.3 \text{ mL}$$



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