

Key

CP Chemistry: Unit 5 Review

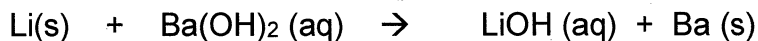
1. Select the correct name and chemical formula for the precipitate that forms when the following reactants are mixed.



- a. calcium phosphate, $\text{Ca}_3(\text{PO}_4)_2$
b. calcium (II) phosphate, $\text{Ca}_3(\text{PO}_4)_2$
c. tricalcium monophosphate, $\text{Ca}_3(\text{PO}_4)_2$
d. cesium chlorate, CsClO_3
e. cesium (I) chlorate, CsClO_3

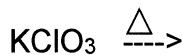
← this means (solid)
= check charges!

2. Classify the following reaction.



- a. Combustion
b. Single replacement
c. Double replacement
d. Synthesis
e. Decomposition

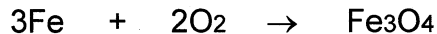
3. Predict the product(s) for the following reaction.



- a. $\text{KCl} + \text{CO}_2$
b. $\text{K}_2\text{O} + \text{O}_2$
c. $\text{KCl} + \text{O}_2$
d. $\text{K} + \text{Cl}_2 + \text{O}_2$
e. No reaction occurs

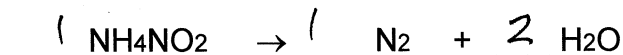
*practice the major
3 classes:
• carbonates ($\text{K}_2\text{CO}_3 \rightarrow ?$)
• chlorates ($\text{Ca}(\text{ClO}_3)_2 \rightarrow ?$)
• hydroxides ($\text{NaOH} \rightarrow ?$)

4. Classify the following reaction.



- a. Combustion
b. Single replacement
c. Double replacement
d. Synthesis
e. Decomposition

5. Balance the following reaction:

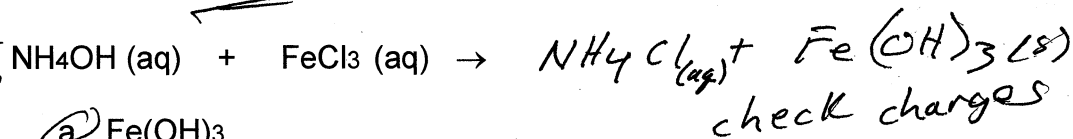


What is the coefficient for N₂?

- a. 1
- b. 2
- c. 3
- d. 4
- e. 5

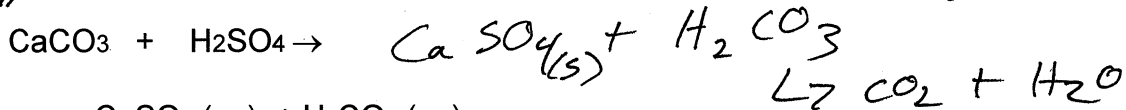
- a solid

6. Select the precipitate that forms when the following reactants are mixed.



- a. Fe(OH)₃
- b. FeCl₃
- c. NCl₃
- d. NH₄Cl
- e. All of the products are aqueous

Predict the products for the following reaction.



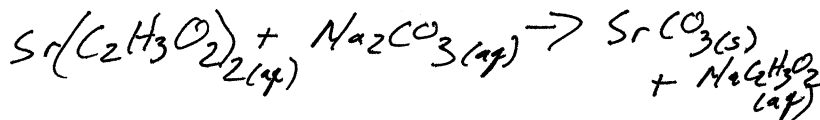
- a. CaSO₄ (aq) + H₂CO₃ (aq)
- b. Ca (s) + SO₃ (g) + H₂CO₃ (aq)
- c. CaSO₄ (s) + H₂CO₃ (aq)
- d. CaSO₄ (s) + H₂CO₃ (s)
- e. CaSO₄ (s) + H₂O (l) + CO₂ (g)

- solid

8. Select the precipitate that forms when aqueous strontium acetate reacts with aqueous sodium carbonate.

check charges!

- a. SrC₂H₃O₂
- b. SrCO₃
- c. Sr₂CO₃
- d. NaC₂H₃O₂
- e. Na₂C₂H₃O₂

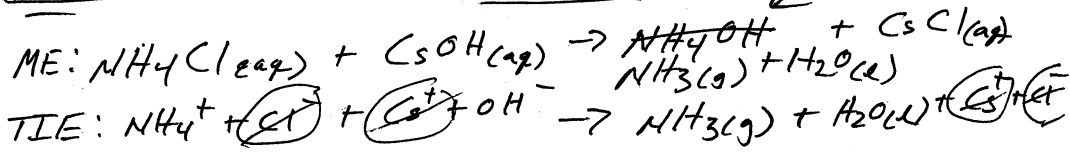


Must draw the NIE to answer this

spont. decomp.

9. What would be the spectator ions in the reaction between ammonium chloride and cesium hydroxide?

- (A) NH_4^+ and Cs^+
- (B) NH_4^+ and OH^-
- (C) Cs^+ and Cl^-
- (D) Cs^+ and OH^-
- (E) There are no spectator ions in this reaction.



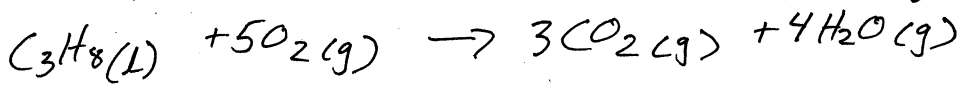
Unit 5 Review: Free response section

Read all directions

For each of the following statements, write a chemical equation. Be sure to:

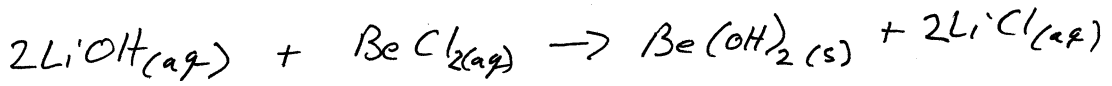
- Write neutral formulas ✓
- Check for diatomic elements ✓
- Write state symbols such as (s), (l), (g), or (aq) ✓
- Balance the equation. ✓

1. When liquid propane (C_3H_8) is burned in oxygen, significant amounts of heat and light result, along with carbon dioxide and water vapor.



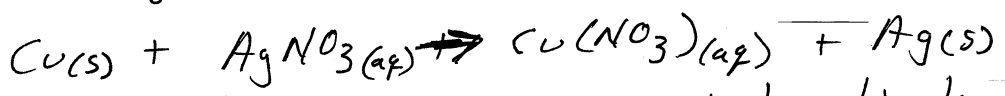
Classify the type of reaction in question 1: combustion

2. Aqueous lithium hydroxide is added to a solution of beryllium chloride to yield aqueous lithium chloride and solid beryllium hydroxide.



Classify the type of reaction in question 2: Double displacement

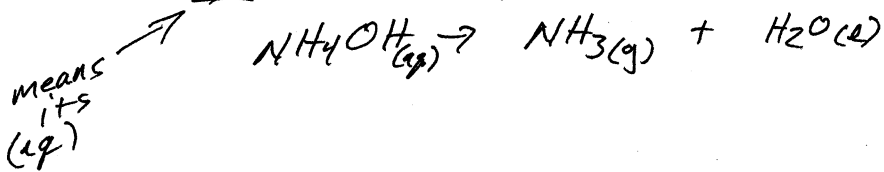
3. If a copper coil is placed into a solution of silver nitrate, silver crystals form on the surface of the copper. Additionally, dissolved copper (I) nitrate is generated.



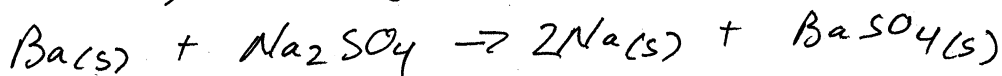
Classify the type of reaction in question 3: single displacement

Directions: Predict the products and balance the following reactions. Use abbreviations to indicate the phase of reactants and products where possible (s, l, g, aq). Remember to check solubility rules for all products.

4. A solution of ammonium hydroxide decomposes.

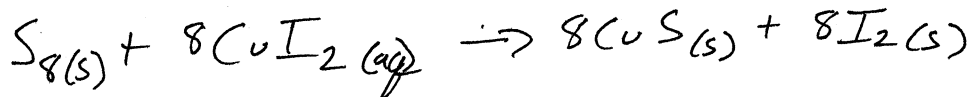


5. A piece of barium metal is added to a solution of sodium sulfate.

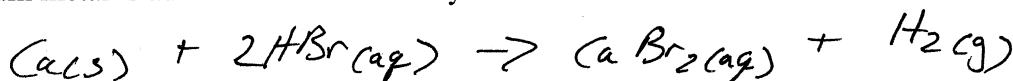


Remember:
S₈ and
P₄

6. Solid sulfur is dropped into a solution of copper (II) iodide.

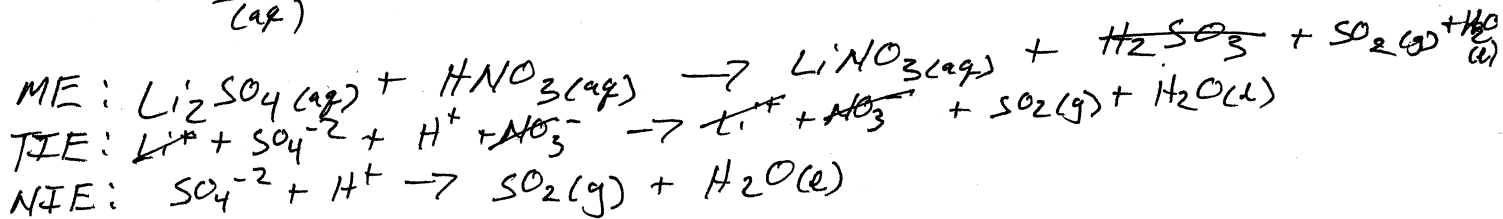


7. Calcium metal is added to a solution of hydrobromic acid.

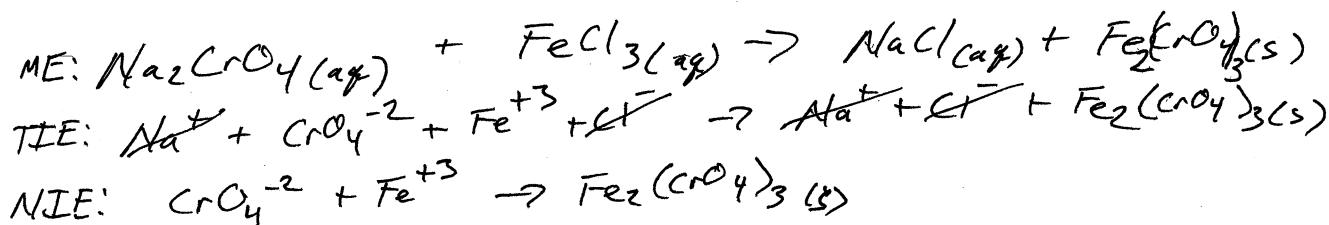


Directions: Write the **net-ionic equation** for each of the following reactions.

8. Solutions of lithium sulfite and nitric acid are mixed.



9. Solutions of sodium chromate and iron (III) chloride are mixed.



Did you have charges?!