Assignment 4

**Question 1**: The intensity of red components is off in the graph's lines due to a displayed error in the calculation.

- **Answer**: Use the graph's error correction feature or consult the error message for troubleshooting.

**Question 2**: Which of the following chemical reactions include a single replacement reaction?

A. **Answer**: All of the above.

**Question 3**: What is the formula for the substance formed when two molecules of water react with each other in a 2:1 ratio?

- **Answer**: **H₂O₂**

**Question 4**: Which of the following conditions are necessary for a titration to be successful?

A. **Answer**: All of the above.

**Question 5**: If the molar mass of a compound is 120 g/mol and 0.500 moles of the compound are mixed, what is the number of grams of the compound?

- **Answer**: **60.0 g**

**Question 6**: The entropy of a system is affected by which of the following factors?

A. **Answer**: All of the above.

**Question 7**: Which of the following sentences correctly identifies the conversion of water to steam as a physical change?

- **Answer**: The water changes from a liquid to a gas without a change in chemical composition.

**Question 8**: What is the formula for the compound formed when two molecules of carbon dioxide are mixed?

- **Answer**: **H₂C₂O₄**

**Question 9**: What is the formula for the compound formed when two molecules of hydrogen sulfide are mixed?

- **Answer**: **H₂S₂**

**Question 10**: Which of the following statements are true about the chemical reaction between sodium and hydrochloric acid?

A. **Answer**: All of the above.

**Question 11**: Given the same amount of a substance, how many moles of a substance can be obtained per mole of another substance?

- **Answer**: **1**

**Question 12**: The concentration of a solution is given by which of the following formulas?

- **Answer**: **C = m/V**

**Question 13**: What is the chemical shift of an atom in a molecule?

- **Answer**: The chemical shift is a measure of the magnetization of the atom in a nucleus.

**Question 14**: Which of the following statements are true about the chemical reaction between sodium and hydrochloric acid?

A. **Answer**: All of the above.

**Question 15**: If the concentration of a solute is the same in both solutions, which solution will have the higher osmotic pressure?

- **Answer**: The solution with the higher molarity.

**Question 16**: What is the formula for the compound formed when two molecules of calcium carbonate are mixed?

- **Answer**: **CaCO₃**

**Question 17**: What is the formula for the compound formed when two molecules of carbon dioxide are mixed?

- **Answer**: **CaCO₃**

**Question 18**: Which of the following statements are true about the chemical reaction between sodium and hydrochloric acid?

A. **Answer**: All of the above.

**Question 19**: What is the formula for the compound formed when two molecules of hydrogen sulfide are mixed?

- **Answer**: **H₂S₂**

**Question 20**: Which of the following statements are true about the chemical reaction between sodium and hydrochloric acid?

A. **Answer**: All of the above.