Make the following aqueous solutions. When finished, pour the solutions into the designated containers.

Solution A. 100. mL of 0.10 M CaCl2

Solution B. 50. g of 1.0% CaCl2 by mass

1. Write a short summary of your procedure, including the amounts. Include sketches to show what glassware you used.

2. a. What particles are in the solution?

b. What is the principal type of solute-solvent interaction?

c. Make a particle level drawing to illustrate the solute-solvent interactions.

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**For part a use the following relationship: the greater the number of dissolved particles, the higher the boiling point.**



Answer the questions below that relate to the five aqueous solutions at 25°C shown above.

(a) Which solution has the highest boiling point? Explain.

(b) Which solution has the highest pH? Explain.

(c) Identify a pair of the solutions that would produce a precipitate when mixed together. Write the formula of the precipitate.

(d) Which solution could be used to oxidize the Cl–*(aq)* ion? Identify the product of the oxidation.

(e) Which solution would be the least effective conductor of electricity? Explain.