**The Ksp of Calcium Hydroxide**

**Purpose**

* to determine the Ksp for limewater, aqueous calcium hydroxide

Substances are considered **insoluble** if they cannot be dissolved to form a solution of ≥

\_\_\_\_\_\_\_\_\_\_\_\_ concentration.

**Formula of calcium hydroxide:** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Ms. Purcell and Ms. Wardrop have prepared a saturated soln of calcium hydroxide.

Label the sketch of what this would look like:



What does the saturated calcium hydroxide soln at the front bench in the burets look like?

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Why? What did they do?

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**Materials:**

* buret with calcium hydroxide at the front bench
* ring stand
* buret clamp
* buret
* hydrochloric acid--concentration \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* Erlenmeyer
* BTB (bromothymol blue) dropper bottle
* white square of paper

**Procedure:**

* obtain 10.00 mL of unknown concentration of calcium hydroxide saturated soln in Erlenmeyer
* add 5 drops of BTB--dropping--no touching!
* add hydrochloric acid to the buret at your bench
* place Erlenmeyer under buret
* place paper under Erlenmeyer
* add HCl with 2 hands on stopcock
* swirl Erlenmeyer after each addition
* titrate solution until a shade of white zinfandel

**BCE for the reaction taking place in the Erlenmeyer**

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What is the point of doing the titration?

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**Observations:**

**Calculations:**

**Ionic dissociation equation for calcium hydroxide:**

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**Ksp Expression:**

**Ksp = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Conclusion:** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Questions**

**1)** What is the difference between an endpoint and an equivalence point?

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**2)** Is calcium hydroxide soluble? How do you know? Explain.

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