Chemistry 20

Lesson 29 – Titration Activity

Problem:
Determine the concentration of a hydrochloric acid solution by titration using a strong base.

Materials:

hydrochloric acid (10.0 mL/trial)	2 buret tubes - clean
0.10 mol/L sodium hydroxide solution	buret clamp
phenolphthalein (2 drops/trial)	buret brush
Erlenmeyer flask	retort stand
beakers	funnel
white paper	

Prelab work:

1. Background Information:
   Define the following terms *in your own words*:
   - titrant
   - endpoint
   - equivalence point

2. Experimental design - a) manipulated variable
   b) responding variable

Lab work:

1. Procedure - read pages 328 to 338 and page 804.
   - After the instructor demonstrates doing a titration, write a point form procedure *in your own words*.

2. Observations - data chart (rough + 3 trials)

3. Analysis.
   The main assumptions are:
   1. The reaction was complete.
   2. The endpoint occurred at equivalence point.
   3. The chemicals were uncontaminated.

   Briefly discuss the significance of each assumption.

4. Conclusion:
   A. Show your calculation for the concentration of hydrochloric acid.

   B. Answer questions 1 to 7 on page 339 of the text.

One write-up per person.