

## 11 Titration Lab (1749877)

Question

[1](#) [2](#) [3](#) [4](#) [5](#) [6](#) [7](#) [8](#) [9](#)**Instructions**

Materials: Buret, 125 mL Erlenmeyer (conical) flask, 100 mL beaker, 10mL volumetric pipette, pipette bulb, standard base solution, 2 unknown acid solutions, phenolphthalein, magnifying glass, index card, model parts: one silver atom center, one green atom center, two white hydrogen atom centers, one red oxygen atom center, two short single bonds.

Objective: To determine the concentration of 2 HCl solutions.

Procedure:

1. Rinse a buret with a few mL of a known concentration of NaOH. Fill the buret with the known concentration of the base (NaOH).
2. Obtain about 80 mL of unknown concentration HCl (X) in a 100 mL beaker.
3. Pipet 10.00 mL of unknown concentration HCl (X) from the beaker into a 125 mL erlenmeyer flask.
4. Add 2 drops phenolphthalein to the acid in the flask.
5. Make a rapid titration by adding the base from the buret to the flask until a light pink color persists. (use an index card to help you see.) Record this trial as an approximate amount. Discard the pink liquid into the sink. Rinse the flask with water and shake it out.
6. Repeat steps 3 and 4. Now do a trial with care to determine the exact amount of base needed to neutralize the acid.
7. Repeat step 6 to obtain a second trial and record your data. If the difference between trials 1 & 2 is  $>0.2$  mL, do another trial.
8. Repeat steps 1 - 7 with unknown concentration HCl (Y). Rinse the pipet with HCl (Y) before using it.

---

1. Question Details

Lab Partners [1837468]

Enter the name(s) of your lab partner(s). (If you worked by yourself, enter "none").

## 2. Question Details

Titration Lab [1729974]

Molarity of the NaOH: 4.0 ✓  M**Unknown X:**Trial 1: Initial buret reading: 4.0 ✓  mLTrial 1: Final buret reading: 4.0 ✓  mLTrial 1: Volume of base used: 4.0 ✓  mLTrial 2: Initial buret reading: 4.0 ✓  mLTrial 2: Final buret reading: 4.0 ✓  mLTrial 2: Volume of base used: 4.0 ✓  mLAverage Volume of base used: 4.0 ✓  mLConcentration of Acid X: 4.0 ✓  M**Unknown Y:**Trial 1: Initial buret reading: 4.0 ✓  mLTrial 1: Final buret reading: 4.0 ✓  mLTrial 1: Volume of base used: 4.0 ✓  mLTrial 2: Initial buret reading: 4.0 ✓  mLTrial 2: Final buret reading: 4.0 ✓  mLTrial 2: Volume of base used: 4.0 ✓  mLAverage Volume of base used: 4.0 ✓  mLConcentration of Acid Y: 4.0 ✓  M

## 3. Question Details

Titration Lab Question 1 [1730060]

Write the balanced chemical equation that took place in this titration. (Use the lowest possible coefficients. Omit states-of-matter in your answer.)

Write the net ionic equation that took place in this titration. (Use the lowest possible coefficients. Omit states-of-matter in your answer.)

## 4. Question Details

Upload Stop Motion Video Titration [3893741]

Download the app "Stop Motion Studio" (free) either on your iPad or phone. Clamp the phone or iPad on a ring stand with a test tube clamp to keep it steady. Create a Stop Motion Video of the reaction using the paper template with a buret and flask image as the background. The silver atom center represents a sodium ion; the red atom center represents oxygen; the white atom center represents hydrogen and the green atom center represents a chloride ion. Save the movie to your photos. Upload the Stop Motion video. If you can not get the video to upload, send a copy of it to the instructor by email.

 no file selected

It must be less than 10 MB in size.

## 5. Question Details

Titration Lab Question 2 [1730061]

What is the purpose for doing a rapid trial? (select all that apply)

- to check accuracy
- to get a rough estimate of how much base is needed
- to save time
- to check precision

## 6. Question Details

Titration Lab Question 3 [1730062]

What is the purpose for doing at least two trials? (select all that apply)

- to check precision
- to check accuracy
- to get a rough estimate of how much base is needed
- to save time

## 7. Question Details

Titration Lab Question 4 [1730063]

Phenolphthalein is an , a compound that changes color based on a reaction with an acid or base.

## 8. Question Details

Titration Lab Question 5 [1730064]

What is the name of this piece of equipment? (2 words)



## 9. Question Details

Titration Lab Question 6 [1730065]



What is the name of this piece of equipment? (1 word)

## Assignment Details

Name (AID): **11 Titration Lab (1749877)**

Submissions Allowed: **5**

Category: **Homework**

Code:

Locked: **Yes**

Author: **Ryan, Matt** ( [mryan@allsaintsschool.org](mailto:mryan@allsaintsschool.org) )

Last Saved: **Apr 18, 2018 11:09 AM CDT**

Group: **Coronado High School**

Randomization: **Person**

Which graded: **Last**

**Feedback Settings**

Before due date

Question Score

Assignment Score

Publish Essay Scores

Question Part Score

Mark

Add Practice Button

Help/Hints

Response

Save Work

After due date

Question Score

Assignment Score

Publish Essay Scores

Key

Question Part Score

Solution

Mark

Add Practice Button

Help/Hints

Response