

Virtual Titration Lab

Determination of the Molarity of an Acid or Base Solution

Be sure that you are using Google Chrome as your browser and that you have Adobe Flash enabled before going to the following link:

https://pages.uoregon.edu/tgreenbo/acid_base.html

(If you have problems with the adobe flash watch this video:

https://www.youtube.com/watch?v=nrzcIr_3yeQ as it explains how to fix adobe flash player blocked in Google Chrome)

PART 1: STRONG ACID vs. STRONG BASE TITRATION

Step 1: Select Type of Reaction: click on ***Strong Acid vs Strong Base***

Step2: Fill the Burette with: ***Base***

Step 3: Select the Acid and Base: ***H₂SO with NaOH***

(note that when you do this the Molarity and the Volume of the acid are provided)

Step 4: Select the Indicator: ***Methyl Orange***

Step 5: Push Slider Up to Add a Volume of Base (be sure to record this)

Stop titrating as soon as the colour change is observed:

Messed up? No worries! Click "Reset" and start again.

Step 6: After a "successful" Titration, Calculate and Enter the Molarity of Base: enter your calculated value for NaOH and hit "OK".

Step 8: Take a screen shot of your successful titration!

Step 9: Type up an explanation for Part 1 of this activity. Be sure to include the screen shot, the balanced chemical equation, why you chose "methyl orange" instead of "phenolphthalein", the knowns and the unknowns (volume and concentration of acid and base). Indicate the volume of NaOH at the point where the colour of the solution in the Erlenmeyer changed. What did the colour change to? Show the calculation step-by-step that you used to determine the concentration of the unknown H₂SO₄.

PART 2: Weak ACID vs. STRONG BASE TITRATION

Step 1: Select Type of Reaction: click on ***Weak Acid vs Strong Base***

Step 2: Fill the Burette with: ***Base***

Step 3: Select the Acid and Base: ***CH₃COOH with NaOH***
(note that when you do this the Molarity and the volume of the acid are provided)

Step 4: Select the Indicator: ***Phenolphthalein***

Step 5: Push Slider Up to Add a Volume of Base (be sure to record this)

Stop titrating as soon as the colour change is observed:
Messed up? No worries! Click "Reset" and start again.

Step 6: After a "successful" Titration, Calculate and Enter the Molarity of Base: enter your calculated value for NaOH and hit "OK".

Step 8: Take a screen shot of your successful titration!

Step 9: Type up an explanation for Part 2 of this activity. Be sure to include the screen shot, the balanced chemical equation, why you chose "phenolphthalein" instead of "methyl orange", the knowns and the unknowns (volume and concentration of acid and base). Indicate the volume of NaOH at the point where the colour of the solution in the Erlenmeyer changed. What did the colour change to? Show the calculation step-by-step that you used to determine the concentration of the unknown CH₃COOH.