

Chem. 116 Experiment 5

The Determination of Copper by Atomic Absorption Spectrophotometry

Notes to accompany Lab Manual. (I'll bring a paper copy of this page to class for you)

Read the lab manual

In this lab you use a buret and a pipet. There are instructions for using pipets on the website. I'll show you in class, but you might benefit by printing the instructions and bringing them.

This lab is unusual because it never mentions moles.

Like the Ni lab, you will make up a series of standard (of known concentration) solutions and make a *calibration curve* (it's an odd name, because you hope it's a straight line)

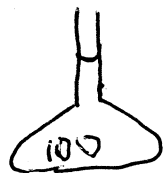
The big problem in this lab is that you don't know what to use for the blank. The sample might be heavily contaminated with things that can alter the absorbance. There is a sneaky trick to get round this. It's called 'Standard Addition'

The conclusion will be: Sample number xxx contains yyy mg copper.

Standard
~ 1.5g Cu (4 places)
↓ 100 mL vol flask
+ ~20 mL 6 mol/L HNO₃
leave 'til dissolved

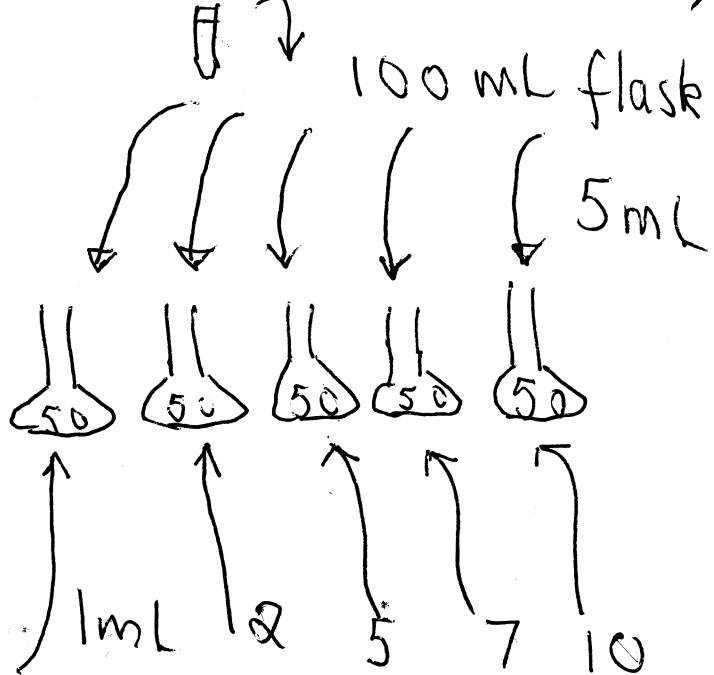
↓ 10 mL into
100 mL flask

↓ 10 mL into
100 mL flask.



this is
the standard
Cu sol'n.

Sample (unknown)



I'VE LEFT OUT
" MAKE UP TO THE
MARK WITH WATER
SHAKE.