

Flame Test Lab Expectations and Grading (**Due Feb 24, 2022**)

Chem 112000-2: Section-33

February 21, 2022

1 General Remarks

This must be typed. Any portion that is handwritten will not be graded. Furthermore, please use the equation editor for any mathematical equations that you use! Points will be deducted for messy equations and sample calculations. Make sure your lab partner's name is on the report as well as my name. All figures and tables should have a caption explaining what they contain. Lastly, do not plagiarize the lab manual! Ensure you cite where necessary, and all citations follow ACS style (see Journal of the American Chemical Society for examples of what this looks like in publications). Note this assignment is due Thursday **Feb 24, 2021** at 5:30 pm.

If something still doesn't make sense, please email me!

2 Pre-Lab Questions (20 points)

Already submitted, but will be worth 20 points.

3 Introduction (0 points)

Maybe something brief here, but it doesn't have to be very long. Just put something.

4 Experimental Procedure (0 points)

Normal section. Only report deviations from the lab manual.

5 Data Analysis (60 points)

You need a single table that contains the following information: Solution number, Flame Color and Intensity, and Identification of Ions. That is

Solution	Flame Color	Identification
1	Red-orange, strong	Ca
2
...		

If you cannot make a definitive conclusion on a solution, either **write all possible compounds or write ‘inconclusive’**. Note this differs slightly from what I said during lab time. **Also, include a caption for the table. This will be worth 4 points!**

6 Discussion (20 points)

No need to summarize the data from the lab. You only need to answer the following 4 questions (each being worth 5 points):

- List the ions with observed colors from the higher energy to lower energy.
- List the ions from high to low frequency of observed light.
- List the ions from the shorter wavelength to the longer wavelength of observed light.
- State the relationship between energy, wavelength, and frequency.