

BIG LAB REPORT This report is on Lab 5 – Determining the Properties of an Enzyme v1.1

Lab sheets and your hand-done graphs will be due as normal in lab the following week (week of 10/9 or 10/11/18). These sheets will count as a normal lab grade, and will be returned to you after quad break, so you can refer to the data in writing your report.

First Draft is due, submitted to your lab section of Bb (electronically) on or before Friday 11/2/18 11:59 PM. This is a Friday 2 weeks after quad break, nothing is stopping you from doing it before this due date!

First draft comments will be provided to you through Bb. A rubric will be used (shown below). The paper will not be exhaustively graded, but helpful comments will be provided on areas for improvement, which should be taken into account when composing your final big lab report. Based on the rubric you will get a grade for the first draft which will be a part of your final grade for the assignment. (25%)

Final paper must be printed out and handed in on Friday, 11/30/18, in class (Drs Z and S will sort them). This is the week after Thanksgiving break. Note, you are to hand in a printed copy in class on FRIDAY. If this does not work, you must make alternate arrangements (which does not involve your professor printing it). The final draft will be 75% of your final grade for the assignment.

A complete report must include the following. Read carefully.
Also refer to the lab manual Appendix pages for formatting and other writing tips.

Your Lab Section and Name note that labs on Tues are L1, L2, L3 and on Thurs are L4, L5

Succinct Title: Less than about 10 words. Straightforward and simple. Contains important keywords.

Abstract: State the purpose of the experiment and give a brief introduction to the nature of the project. You can give a bit of background on the experiment, and also briefly state the overall result. ~100 words

Introduction: In several paragraphs, answer the questions: Why was the study done? What information already exists on the topic? What is the expected outcome? (and similar questions.) This section defines the overall purpose of the report. Note on usage of passive voice. In general, the active voice (“I, we did this”) should be minimized, however too much passive voice (“this and that was done”) can make the report sound awkward. The use of “we” can be effective if used sparingly and is fairly acceptable in scientific reports. Please do take care to seek out and remove “clunky-sounding” grammatical constructions. Your report should read smoothly and sound natural. If you take the time to try reading it aloud, you will find these clunkers, and a list of common ones can be found in the appendix of the manual.

Materials and Methods: Any reagents and supplies that were used should be described, not just listed. Use complete sentences and good grammar throughout. Describe in sufficient detail the actual procedures *you* followed that may vary from the lab manual. Do not use the phrase “see lab manual.” The report should stand on its own and *provide sufficient information so that someone could repeat your work.*

Results: Include your data here. If it can be represented graphically, or in a table, please do so in such a way that it makes it easy to understand. (No extra points for “fancy” graphs (3-D effects, color usually don’t help make the data any clearer)). Use Excel (or the equivalent) for creating graphs. Digitally cut and paste graphical elements into the middle of your document and resize the graph to an appropriate size. Use “Format:Picture:Layout” (right click on it: Layout) to get it to proper position in your document. Take care to avoid the temptation to *discuss* the possible interpretations of your data in this section; only describe the actual results (Tell what happened, not why it happened). Do not just have a list of numbers or charts alone in this section. Remember, it’s a report, and all sections should have sentences describing the various elements (pictures, tables, etc.) Titles for tables appear above, and legends for figures appear below, as a general rule.

Discussion: This is the place to comment upon and interpret the results in light of your hypothesis and expectations. Explain reasons for the results you found. Something can always be learned from your result whether it is the expected one or not. Suggest future experiments.

Literature Cited: Find and include at least three relevant references. Use the *Author, Date* style within the report. Like: (Jones 2004). There are lots of important suggestions in the Appendix of your lab manual. Stick to what is said there regarding WWW references. Importantly, all references you use should list an author! Some web information may not have an attributed author, and this kind of material is to be avoided. Primary journal articles would be good sources, or other reference works and possibly other textbooks (some of these are in Jenks). Be sure you refer specifically to the references in the text of your report. If you get started early enough you will have time to request volumes through interlibrary loan, which is a free service for obtaining journals and books from other libraries. Try it!

Do not wait to the last minute to work on this assignment. Do a little every day until it’s done. When it’s “done” let it sit a few days and re-edit it for clarity. You will be surprised that it still needs work. Writing is really never done and always can be improved. Writing with clarity is harder than most people think it is.

Rubric for Grading:

Writing/Grammar (10)	_____	
Conceptual understanding (10)	_____	
Data Presentation (10)	_____	
Mechanics* (70)	_____	Total score _____

Anything Submitted Late -5

Only one draft -20

Partially done -10

Poor overall aesthetic appeal in final product -5

*See Evaluation Factors on next page. The below items fall under “Mechanics”

Bb Rubric:	Novice	Competent	Proficient
Writing/Grammar	Points: 5 (5%)	Points: 7 (7%)	Points: 10 (10%)
Conceptual	Points: 5 (5%)	Points: 7 (7%)	Points: 10 (10%)
Data Presentation	Points: 5 (5%)	Points: 7 (7%)	Points: 10 (10%)
Mechanics	Points: 50 (50%)	Points: 60 (60%)	Points: 70 (70%)

Here are the factors that will be used to evaluate your work.

Introduction:

Does the introduction provide enough background information?
 Are appropriate sources referenced, particularly for major statements?
 Were specific hypotheses or objectives stated?

Materials and Methods:

Does this section provide enough information to allow repeatability of the research?
 Are standard techniques used?
 Are the methods inappropriately listed like a cookbook or appropriately written out?

Results:

Are the results presented in a progression that makes sense?
 Are the graphs and tables easy to understand? Can they stand alone?
 Are the graphs labeled properly?

Discussion/Conclusions:

Do the conclusions follow from the results?
 Were the objectives from the introduction met and addressed?

Literature Cited:

Were all references included in the literature cited section?
 Was the appropriate form used for citations?

Entire Paper:

Was the paper well-written?
 Was the paper written concisely without excluding important details?
 Was the paper well organized?
 Was proper grammar used throughout, including an active voice?
 Mechanically, was the paper properly written?