

Reports Format

All Reports should be developed on a computer.

Failure to conform to these instructions may lead to rejection of your report.

Lab Report Format

| | |
|--|-----------------|
| Title Name Date of expt. Lab section day Partners' name | 5 points |
|--|-----------------|

I. PURPOSE: 1-3 sentences (5 points)

State the general purpose of the experiment. (the Why/What question). If there were several parts in the lab, state concisely what has been studied (the How question). Write as a scientist = be concise but precise!

DATA & CALCULATIONS total (30-50 pts.)

II. DATA

In table form when possible. You should include all raw data, pertinent observations, and computed values. Always show **units**. Each table should be numbered (Table 1) and have a descriptive title. Rows and columns should be labeled. The **DATA** part concerns mainly the observations. If there are any calculations, the points are taken into account in the calculation part. This may be the most important section in any lab report. Do not forget anything!

Example of a table

Table 2. Values of activation energies and frequency factors for the extraction of carvone and limonene in control and ultrasound procedures

| Compound | Activation energy E^{\ddagger} (kJ/mol) | | Frequency factor A (s^{-1}) | |
|----------|--|------------|--------------------------------------|------------|
| | Control | Ultrasound | Control | Ultrasound |
| Carvone | 14 | 4.1 | 15.6 | 0.5 |
| Limonene | 12 | 17.5 | 7.2 | 7.1 |

III. CALCULATIONS

Always provide a detailed sample calculation for each type of calculation.

You may not be involved directly in every experiment; thus you will not always be graded directly on the raw data. The values are important, BUT, the calculations will usually be considered more important with regard to grading. *You have to be able to master the calculation of a mean value, a standard deviation and its meaning, same for a best fit curve using the method of the least squares (for an expected straight line), intercept, slope, etc.*

If an equation is given for any calculation, be sure you understand it. Wrong results due to the misuse of an equation or to an error in calculating cost points.

GRAPHS

The presentation of a graph is important (usually 1/4 the total point value).

Title: Be sure your title is complete.

X/Y axes labeling: the physical parameters which you are measuring, **AND** their units.

Example of a graph

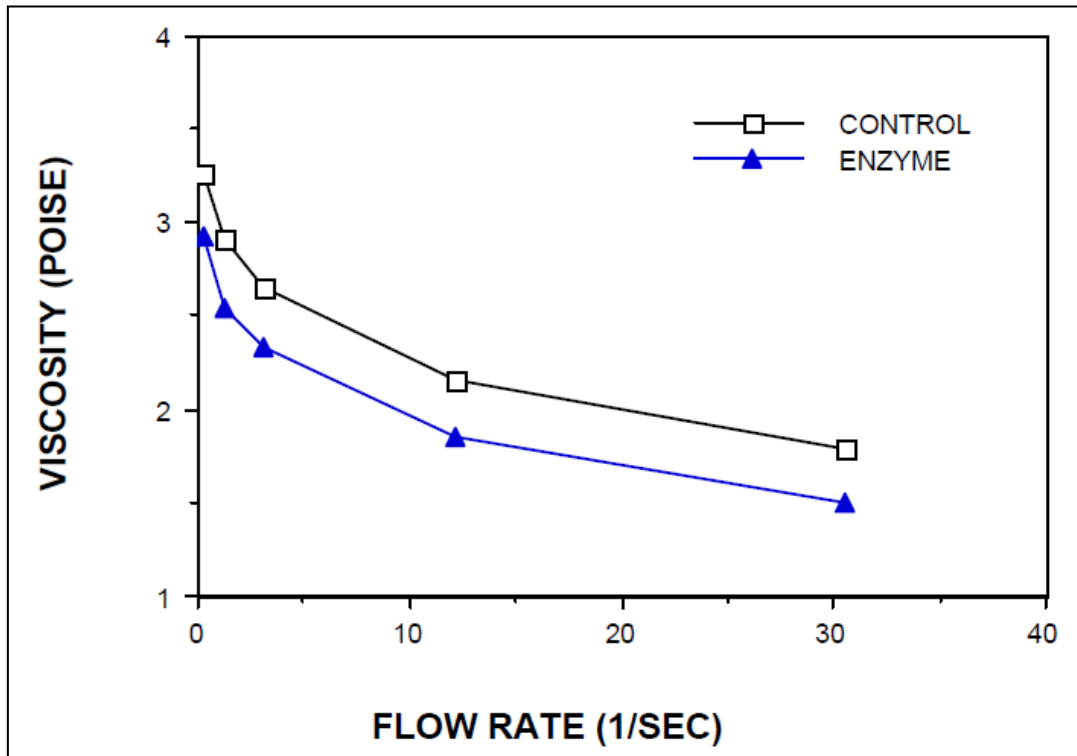


Figure 1. The effect of an enzyme treatment on the viscosity of tomato paste

- A title to the graph should be included, and the graph should be numbered.
- Both axis are labeled with units and titles.
- Each symbol represents a raw or measured data point.
- Each symbol is defined.
- The data points are normally connected, a straight line or curve is drawn through the points. You will learn how to do this using a spreadsheet. Normally each graph will be placed on a separate page.

IV. DISCUSSIONS total (20-40 pts.)

Discuss the results that you have reported. This is important. What have **you** learned from the experiments?

V. CONCLUSIONS total (usually 10-20 pts.)

OTHER: total (usually 5 pts.)

- Includes overall format, title, and grammar
- **Must be typed.** It is your responsibility to make your report readable; not the grader's responsibility **to decode** your report.
- Staple all pages together.
- Each report is due at the **beginning** of the next lab session.
- There is a 10% late penalty for the first day, .and 5% for every day thereafter.
- All reports are to be individual efforts. While experiments frequently require sharing of data, the presentation of this information in report form must be unique.