Oral Presentation for Chem 201:

# Title of Lab Goes Here

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Presentation date: 4/1/2008



## Introduction

- The INTRODUCTION *introduces* the talk
- Include in your Introduction
  - The problem you addressed
  - Your experimental approach to the problem
  - The significance of your work

- **Other ground rules:**
  - Bullet points are best
    - Bullet points should be just that
    - Say full sentences; don't write them
  - Don't use too many colors
  - Don't put too much material on one "slide"
    - Use more slides than less slides
    - Make sure that everything you present is legible.
    - Use 14-point type or bigger
  - Leave white space as a border around every slide!

## Details of the Experiment

- Because you can only put one topic/thought per slide, you will need several slides to fill in critical details.
- The slides that come after the *Introduction* will be the equivalent of the *Experimental* section
  - Provide any theory required that is critical to the calculations and results you will obtain
  - Provide an *overview* of the instrumentation used and *any details* about instrumentation *that are critical* to the data you obtained
  - Describe the experiments you have performed
  - Present the critical equations for your calculations of data
  - Present any other critical details



## Details – Cont.

- State logically (in stepwise fashion) the experimental details and what you did
- Give big strokes—not tedious details. Examples:
  - Prepared solutions of dimuglioglugtane (DMGG) at concentrations of 0.01, 0.1, and 1 M in $CDCl_3$.
  - Acquired $^1$H-NMR spectra
    - If the number of spectra or other acquisition parameters are *important*, include as sub-points.
- Tell how you transformed the raw data into meaningful results
- Make sure you keep everyone focused on the purpose of the experiment
- *Discuss* the importance of your findings *after you present your results*.

## Other Points

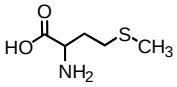
- Cite sources of information in your presentation. Including:
  - Articles used in your "overview" etc.
  - All figures that you present that are not your own
  - Sources of information
- Citations are best placed at the bottom of the slide
- Pictures are always better than words
  - Present the pictures; say the words
  - Data tables:
    - Avoid where possible. Use bar graphs, etc. instead of data tables
    - Keep the tables simple and small

Here is a good place to put any citations you need on any page.

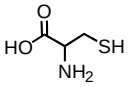


### Example of Introduction Using Both Graphical Info and Bullet Points:

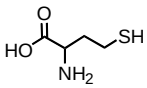
## Sulfur Amino Acids (SAA)




**Methionine (Met)**




**Cysteine (Cys)**

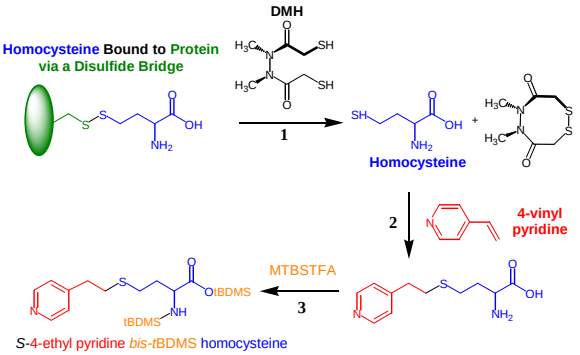



**Homocysteine (Hcy)**

- Methionine
  - An essential amino acid
- Cysteine
  - Nonessential amino acid
  - Synthesis dependent methionine
- Homocysteine
  - Produced from methionine metabolism
  - Contributes S for cysteine synthesis
- Elevated homocysteine levels correlate with cardiovascular disease risk

## Example of an Experimental Procedure in Graphical Terms:

# Method to Reduce and Modify Protein-bound Homocysteine for Measurement by GCMS

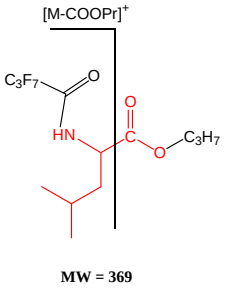



*From* MacCoss et al., Anal. Chem. 1999



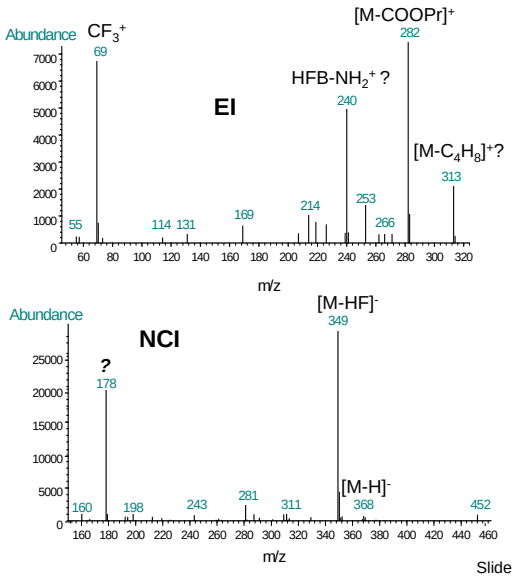
## Graphical Example of Results:

# EI & NCI Mass Spectra of Leucine as the HFBPr Derivative




**MW = 369**

**HFB** = heptafluorobutyryl
**Pr** = *n*-propyl ester



## Presenting Results & Discussion

- Don't give ALL the data and ALL the results you have obtained
- Determine what you believe are the key results, and present them
- Organize your talk around the *Discussion*
  - Figure out what results are required to support the points you want to discuss. Those are the results that you need to present.
- Some data may need to be presented just to confirm that you correctly collected the results that you think you collected *Examples:*
  - Data that demonstrate the instrumentation being used is working
  - Data that demonstrate the experimental conditions are being met



### Graphical Example of an Almost Too Busy Table:

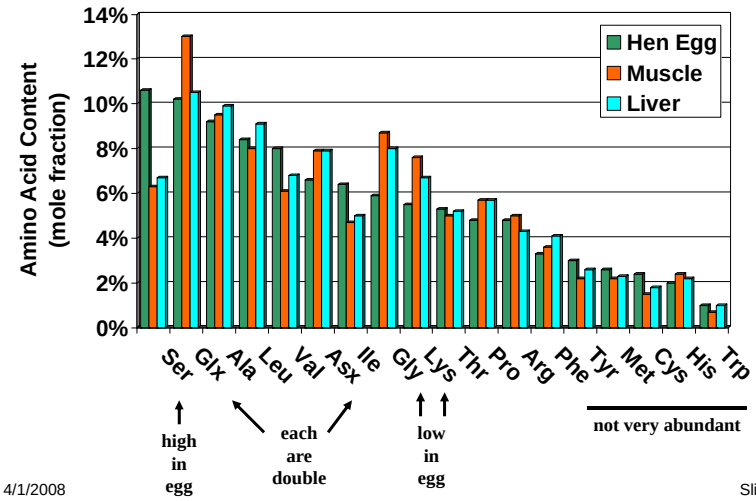
## Amino Acid Composition of Select Protein Sources

| Amino Acid | | Hen Egg | Muscle | Liver |
|---|---|---|---|---|
| | | mole % | | |
| Alanine | Ala | 9.2 | 9.5 | 9.9 |
| Arginine | Arg | 4.8 | 5.0 | 4.3 |
| Aspartate + Asparagine | Asx | 6.6 | 7.9 | 7.9 |
| Cysteine | Cys | 2.4 | 1.5 | 1.8 |
| Glutamate + Glutamine | Glx | 10.2 | 13.0 | 10.5 |
| Glycine | Gly | 5.9 | 8.7 | 8.0 |
| Histidine | His | 2.0 | 2.4 | 2.2 |
| Isoleucine | Ile | 6.4 | 4.7 | 5.0 |
| Leucine | Leu | 8.4 | 8.0 | 9.1 |
| Lysine | Lys | 5.5 | 7.6 | 6.7 |

| Amino Acid | | Hen Egg | Muscle | Liver |
|---|---|---|---|---|
| | | mole % | | |
| Methionine | Met | 2.6 | 2.2 | 2.3 |
| Phenylalanine | Phe | 3.3 | 3.6 | 4.1 |
| Proline | Pro | 4.8 | 5.7 | 5.7 |
| Serine | Ser | 10.6 | 6.3 | 6.7 |
| Threonine | Thr | 5.3 | 0.5 | 5.2 |
| Tryptophan | Trp | 1.0 | 0.7 | 1.0 |
| Tyrosine | Tyr | 3.0 | 2.2 | 2.6 |
| Valine | Val | 8.0 | 6.1 | 6.8 |

Graphical Example of the Table Data as an Almost Too Busy Bargraph:

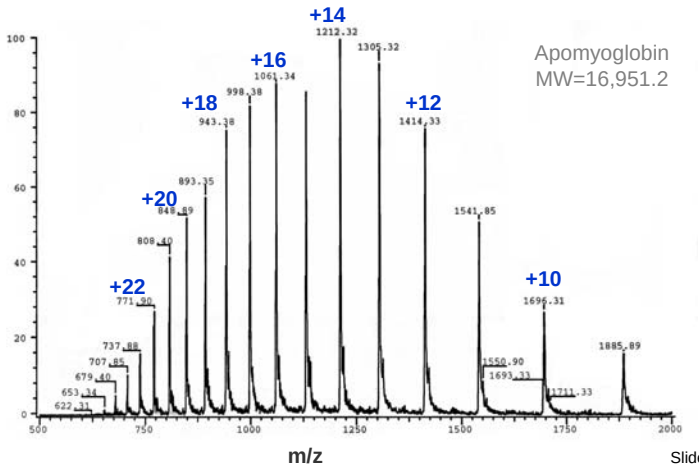
## Amino Acid Composition of Select Protein Sources






Example of an Annotated, Scanned Figure:

## ESI-MS Spectrum of Horse Apomyoglobin



## Conclusions

- You must have one or more *Conclusions* slides
- The *Conclusions*
  - Reiterate the key points of what you have accomplished
  - State (for the last time) what is important about what you have done



## Additional Constraints

***At the time of your oral presentation, you need to:***

1. Distribute a 1-page abstract of your talk to the class, TA's and instructor
2. Distribute copies of the slides or overheads that you will use to your TA's & instructor
3. Give an annotated ***appendix*** of all figures, tables, data, etc. to your TA.
   - This ***appendix*** is the same as you would prepare for a regular written laboratory.

# Final Points

- Plan on speaking for **30** (25-35) min with 10 min at the end for questions
- **Practice** your talk before you actually give it!
- Be on time and be ready to go
  - Technical problems will cost you valuable speaking time
- You can use for your presentation
  - Overheads
  - Slides displayed from a computer projection device
    - Angell B203 has a PC w/ USB port (not a Mac)
  - Blackboard (as supplemental)
- You get up to 20 points (your presentation is worth 50 points) for participating in asking questions and discussing the presentations
  - If you not ask questions or contribute to the discussion of the talks, you don't get any points
  - Generally one question per talk for 4-5 talks will get you the 20 points