Introduction to Giving a Seminar

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Outline

- **Suggestions for Presenting a Seminar**

    - Seminar Organization

    - Slide Layout

    - Speaking

Seminar Organization

- First Slide is the "title slide" and should contain:

    - Your title

    - Your name

    - Your institution

    - Your department

    - Your research advisor

    - Image or images of key to the talk

Seminar Organization - Outline

- The second slide is often an "outline" slide

  - Summarizes the organization of your talk

  - Can sometimes be incorporated into your title slide, but I often advise young speakers to separate the two slides

  - It is a good idea to refer back to your outline slide during the talk, if your talk is long (e.g. 40 minutes or longer) - not necessary for short talks

Seminar Organization - Background

• The next 1-2 slides are background slides. They should include the following items:

  • Background references on the material you are covering

  • State the importance of the subject matter

  • Acknowledge other researchers in the field

  • Make sure to be polite and humble, but it is important to point out what is "missing" from the previous researchers' work

    • For example: Smith, Jones and Tanaka have all worked towards the total synthesis of tokushimamycin, but no total syntheses of this molecule have been reported.

Seminar Organization - Analysis

• The next 1-2 slides are often your analysis of the problem that you have identified. What is often included in this section is:

  • Retrosynthetic analysis

  • Strategic thinking about a specific problem

  • Precedent for your research plan

Seminar Organization - Your Science

• The middle of your talk should focus on talking about your science. General suggestions to follow include:

  • Do not just report the "data;" make sure to tell a good story

  • Your talk may be structured in chronological order (meaning: by date), but it is ok to moves items around if it makes the story more clear

  • It is ok to talk about negative results, but make sure there is a good reason to discuss them (meaning: you learned something from the experiments)

Seminar Organization - Conclusion

• At the end of your talk, you should have a conclusion slide. This slide should:

- Summarize the accomplishments of your work

- Give the audience a good idea of the future impact (or directions) of the work

- Graphical conclusion slides tend to be more powerful than text only conclusion slides.

Seminar Organization - Acknowledgements

• Your last slide should be an acknowledgement slide. This slide should mention the following:

- Your advisor

- Your fellow researchers on the project

- Any collaborators or scientific assistance your received during the work

- The funding organization(s) that supported the research

Outline

- Research Program at Oregon State University

    - Natural Product Synthesis

    - Reaction Development

- Suggestions for Presenting Seminar

    - Seminar Organization

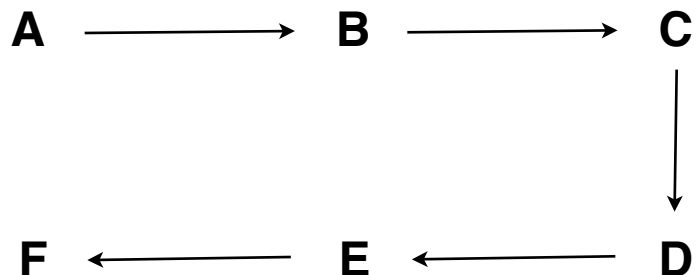   - **Slide Layout**

    - Speaking

Slide Layout - Spacing and Title

• Be very careful about the layout of your slides. Here are some key suggestions to follow

  • Avoid putting more than **SIX** chemical structures on a single slide

    • Draw structures in Chem Draw ACS format - scale to 125% in Powerpoint (or Keynote) (do NOT scale in Chem Draw)

• Do not use too much animation or color

    • Color and animation should ONLY be used to emphasize the key point on a slide or to help the audience follow a complicated slide

    • Excessive animation or color can be very distracting and look unprofessional

• Make sure to have a title at the top of each slide that correctly represents the content of the slide
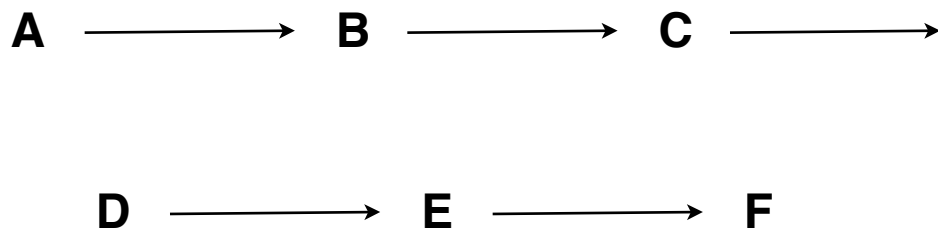
Slide Layout - Reaction Sequence Arrows

- Two major style choices exist for creating reaction sequence arrows:

  - Roadmap style (preferred)

$$A \longrightarrow B \longrightarrow C$$
$$\downarrow$$
$$F \longleftarrow E \longleftarrow D$$

  - Paragraph style

$$A \longrightarrow B \longrightarrow C \longrightarrow$$

$$D \longrightarrow E \longrightarrow F$$

- *Roadmap style tends to be far easier on an audience to follow as their eyes do not have to look on opposite sides of the screen for C-->D*
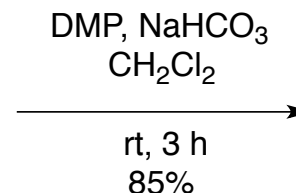
Slide Layout - Reaction Sequence Arrows

• When writing reagents over an arrow for a reaction, here are some helpful hints in Chem Draw:

    • Use a single text box for all the text over a reaction arrow.
    • Use an extra [return] to provide the space above and below the arrows
    • Do not use commas at end of line
    • Use even (balanced) spacing between above and below arrow

What you would type in Chem Draw:

DMP, NaHCO$_3$ [return]
CH$_2$Cl$_2$ [return]
[return]
rt, 3 h [return]
85% [return]

How it would look:

DMP, NaHCO$_3$
CH$_2$Cl$_2$

———————————————▶

rt, 3 h
85%

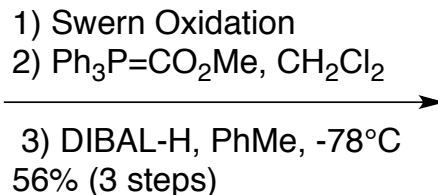*Note: 10 pt Helvetica font drawn in Chem Draw (ACS format) and and then enlarged to 125% in the presentation program (Powerpoint or Keynote)*
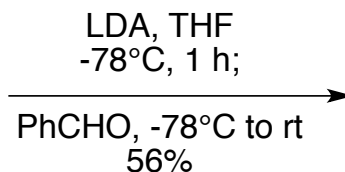
Slide Layout - Reaction Sequence Arrows

• When placing multiple steps over the same reaction arrow, use numbering as shown below:

1) Swern Oxidation
2) $Ph_3P=CO_2Me$, CH_2Cl_2

—————————————————————→

3) DIBAL-H, PhMe, -78°C
56% (3 steps)

Note: 10 pt Helvetica font drawn in Chem Draw (ACS format) and and then enlarged to 125% in the presentation program (Powerpoint or Keynote)

• When showing order of addition of reagents for a single reaction, use semi-colons:
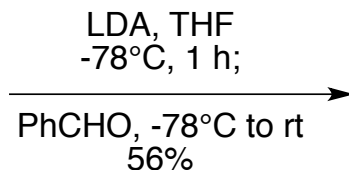
LDA, THF
-78°C, 1 h;

—————————————————————→

PhCHO, -78°C to rt
56%

Note: 10 pt Helvetica font drawn in Chem Draw (ACS format) and and then enlarged to 125% in the presentation program (Powerpoint or Keynote)

Slide Layout - Reaction Sequence Arrows

• Arrows should always be longer than the reaction arrow text:

Good:

LDA, THF
-78°C, 1 h;
————————————————→
PhCHO, -78°C to rt
56%

Bad:

LDA, THF
-78°C, 1 h;
————————→
PhCHO, -78°C to rt
56%

Note: 10 pt Helvetica font drawn in Chem Draw (ACS format) and and then enlarged to 125% in the presentation program (Powerpoint or Keynote)
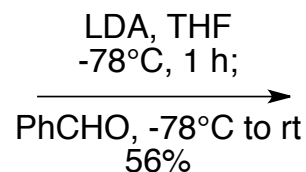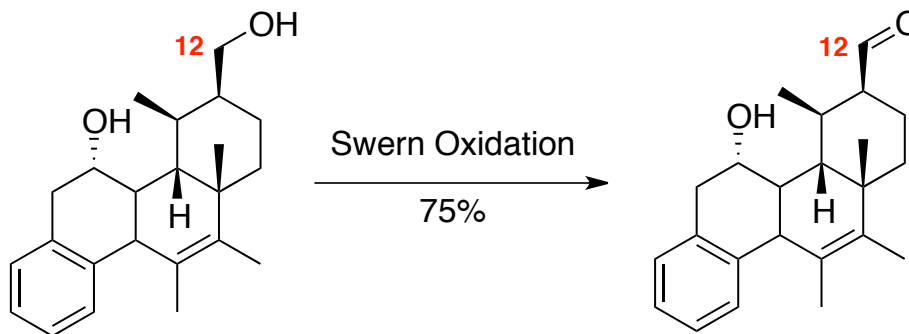
• Use carbon numbers to indicate which part of the molecule is undergoing "reaction" in complicated structures or sequences (carbon numbers should be drawn in 8 pt font using bold and red).

Swern Oxidation

75%

Note drawing is done in ACS format and then enlarged to 125% in the presentation program (Powerpoint or Keynote)

Slide Layout - Color and Formatting

• Use traditional color schemes for slides:

  • White background with black text and drawings (red and blue color can be used for emphasis)

• Make sure you test out your slides and animation on a powerpoint projector prior to giving the lecture

  • Computer screens often do not give you a good idea how slides look - especially unusual color choices (which should be avoided)

• Make sure to number slides in the lower left or right hand corner

• Make sure to include references at bottom of slide for key work that your audience may want to know

Outline

- Research Program at Oregon State University

    - Natural Product Synthesis

    - Reaction Development

- Suggestions for Presenting a Seminar

    - Seminar Organization

    - Slide Layout

    - **Speaking**

Speaking Tips

• Make sure that you have prepared what you plan to say for at least the first 3-4 slides of your talk

   • Practice saying your entire talk using a powerpoint projector many times

   • Do NOT read from notes or a pre-written script

   • Make sure to ask your peers and advisor to listen to your practice talks

• Make sure to have worked out transitions between slides (meaning: key sentences to help the audience know how the one slide relates to the next slide)

• Personal stories about conducting the experiments are very good as they help to engage the audience, but these stories should be used only occasionally.

Speaking Tips

• Each slide should cover between 1-2 minutes of material.

    • If you are regularly talking for longer than 2 minutes on a slide, there is too much material and the slide should be split into multiple slides.

    • If you are regularly talking for less than 1 minute on a slide, you may be speaking too fast.

• Remote control for advancing slides are useful, but they can make you speak too fast and can lead to problems in a lecture.

    • Make sure you practice many times using them before using in an actual lecture.

    • Not using a remote control and standing several feet away from your computer is a good way to slow your pace down.

Last Minute Things to Remember

• Make sure you have a glass of water to drink.

• Empty your pockets and shut off your phone before your lecture.

• Always hold a laser pointer with two hands and be very deliberate in your movements with it.

• Practice, practice, practice!