

Oral Presentations
Advanced Organic Chemistry: Synthesis (CHE-311/511)
Fall 2009

Oct. 29, 2009

There will be four different groups presenting over the four days of presentations. Topics will be chosen from the following selection:

Topic 1: Himgaline and GB 13 syntheses (choose 2 or 3)

Sarpong: <http://pubs.acs.org/doi/abs/10.1021/ja9063487>

Mander: <http://pubs.acs.org/doi/abs/10.1021/ja029725o>

Evans: <http://pubs.acs.org/doi/abs/10.1021/ja0684996>

Movassaghi: <http://pubs.acs.org/doi/abs/10.1021/ja0626180>

Chackalamanni: <http://pubs.acs.org/doi/abs/10.1021/ja065198n>

Topic 2: Trost's Ushikulide synthesis

<http://pubs.acs.org/doi/abs/10.1021/ja906056v>

Topic 3: Miyashita's Norzoanthamine synthesis

<http://www.sciencemag.org/cgi/content/abstract/305/5683/495>

Topic 4: Bryostatin syntheses (choose 1 or 2)

Trost: <http://www.nature.com/nature/journal/v456/n7221/abs/nature07543.html>

Masamune: <http://pubs.acs.org/doi/abs/10.1021/ja00176a058>

Evans: <http://pubs.acs.org/doi/abs/10.1021/ja990860j>

Yamamura: <http://www3.interscience.wiley.com/journal/72509951/abstract>

Manaviar: <http://pubs.acs.org/doi/abs/10.1021/ol061626i>

Topic 5: Minfiensine syntheses (choose 2 or 3)

MacMillan: <http://pubs.acs.org/doi/abs/10.1021/ja906472m>

Overman: <http://pubs.acs.org/doi/abs/10.1021/ja0533895>

Qin: <http://pubs.acs.org/doi/abs/10.1021/ja901219v>

Topic 6: Macrocyclic natural product syntheses (choose 2 or 3)

Smith's (+)-Sorangicin A: <http://pubs.acs.org/doi/abs/10.1021/ja906115a>

Nevado's Iriomoteolide 3a: <http://www3.interscience.wiley.com/journal/122626662/abstract>

Roush's (+)-Superstolide A: <http://pubs.acs.org/doi/abs/10.1021/ja710238h>

Topic 7: Zaragozaic acid syntheses (choose 2 or 3)

Johnson: <http://pubs.acs.org/doi/abs/10.1021/ja808347q>

Rizzacasa: <http://www3.interscience.wiley.com/journal/112774148/abstract>

Carreira: <http://pubs.acs.org/doi/abs/10.1021/ja00136a008>

Nicolaou: <http://www3.interscience.wiley.com/journal/106589347/abstract>

Evans: <http://pubs.acs.org/doi/abs/10.1021/ja00105a085>

Tomooka: <http://www3.interscience.wiley.com/journal/76503097/abstract>

Topic 8: Fawcettimine syntheses (choose 2 or 3)

Toste: <http://www3.interscience.wiley.com/journal/116310186/abstract>

Heathcock: <http://pubs.acs.org/doi/abs/10.1021/jo00268a015>

Inubushi:

<http://www.journalarchive.jst.go.jp/english/jnlto en.php?cdjournal=cpb1958&cdvol=28&noissue=8>
(p. 2394-2402)

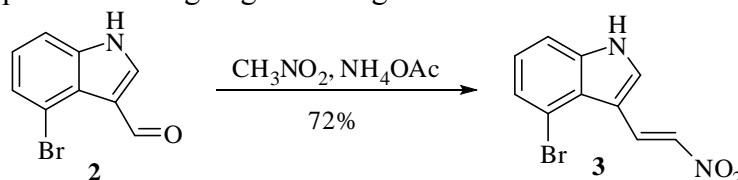
<i>Presentation Day</i>	<i>Presenters</i>	<i>Topic Choice</i>
Dec. 1	Justin, Kaylee, and Maria	<u>Topic 2: Trost's Ushikulide synthesis</u> http://pubs.acs.org/doi/abs/10.1021/ja906056v
Dec. 3	June, Liz and Yuan	<u>Topic 4: Bryostatin syntheses</u> Trost: http://www.nature.com/nature/journal/v456/n7221/abs/nature07543.html
Dec. 8	Amanda, Ben and Lucy	<u>Topic 6: Macrocyclic natural product syntheses</u> Smith's (+)-Sorangicin A: http://pubs.acs.org/doi/abs/10.1021/ja906115a Nevado's Iriomoteolide 3a: http://www3.interscience.wiley.com/journal/122626662/abstract
Dec. 10	Anna, Steph, Katherine and Sarah	<u>Topic 5: Minfiensine syntheses</u> MacMillan: http://pubs.acs.org/doi/abs/10.1021/ja906472m Overman: http://pubs.acs.org/doi/abs/10.1021/ja0533895

Guidelines:

- Groups chosen randomly in class. Group must decide on which article to present.
- One topic per period, so each group will have approximately 80 minutes to present. You should plan on a 60 minute talk (20 minutes per student) and leave 20 minutes for questions/discussion and A-V equipment disasters.
- Each group needs to decide how to divide the topic for presentation.
- Each group needs to provide a handout of all the steps in the syntheses. The handout should include a list of abbreviations and reagent structures, especially if these are new to our class discussion.
- Each presenter should:
 - Choose five reactions in your sequence and present the entire mechanism for these five reactions. You should understand the mechanism of all the reactions in your presentation so that you are ready for questions from the audience.
 - Highlight the key methods, reactions or synthetic innovations used in the synthesis.
 - Include all intermediates in each total synthesis. Many times articles will couple several reactions together over one reaction arrow. Please show the intermediates

so we can all understand the entire process.

- Understand and present the rationale for the choice in reagents and synthetic approaches. You will often find this information described in the text or in references.
- Discuss problems encountered in the synthesis and how the researchers overcame the problems.
- Tips for presentations:
 - Use PowerPoint and ChemDraw
 - Highlight or color the portion of the structure that is undergoing reaction to make the transformation clearer to the audience.
 - Use correct chemical descriptions of reagents and reactions. When describing a reaction of a complex molecule focus the audience attention on the functional group that is undergoing the change or is involved in the reaction. For example,...



“Nitromethane adds to the aldehyde of **2** in 72% yield to provide the nitroalkene **3**. This is an example of a Henry or a nitro-aldol reaction followed by dehydration to the alkene.”

- You will be graded on four categories: Speaking/Presentation, Organization/Clarity, Visuals/Handouts, and Audience Questions.
- All students should read all the articles being presented and be ready to discuss the articles.
- And if that doesn't motivate you to pay attention, then perhaps this will: approximately 25-40% of the final exam will come from material in these articles and presentations.