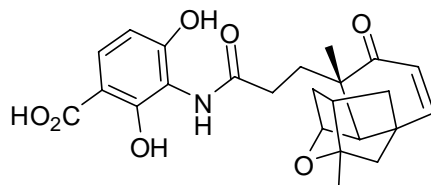


Oral Presentations
Advanced Organic Chemistry: Synthesis (CHE-311/511)
Fall 2007

Nov. 8, 2007

We will review four different articles reporting synthetic approaches to the same target: platensimycin. As a new antibiotic with a novel mode of action and a unique, complex structure, platensimycin has rapidly captured the interest of a large segment of the synthetic chemistry community. By reviewing four articles to the same structure, we will get an opportunity to compare and contrast the different approaches.



Platensimycin

Your choices for articles are:

K. C. Nicolaou et al. *Angew. Chem. Int. Ed.* **2006**, *45*, 7086 (first, total synthesis; racemic)

K. C. Nicolaou et al. *Angew. Chem. Int. Ed.* **2007**, *46*, 3942 (enantioselective, formal)

B. B. Snider et al. *Org. Lett.* **2007**, *9*, 1825 (racemic, formal)

Kalpainnin et al. *Org. Lett.* **2007**, *9*, 2417 (enantioselective, formal)

A. K. Ghosh et al. *Org. Lett.* **2007**, *9*, 4013 (enantioselective, formal)

E. J. Corey et al. *Org. Lett.* **2007**, *9*, 4921 (enantioselective, formal)

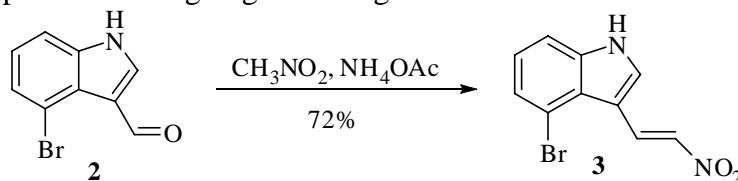
H. Yamamoto et al. *JACS* **2007**, *129*, 9534 (enantioselective, formal)

J. Mulzer et al. *Angew. Chem. Int. Ed.* **2007**, *46*, 8074 (racemic, formal)

Presentation Day	Presenters	Article Citation	Author
Dec. 11, 11:40 AM	Julia Lewis Nicki Zelenski	Angew. Chem. Int. Ed. 2006 , <i>45</i> , 7086 (first, total synthesis; racemic)	K. C. Nicolaou et al.
Dec. 11, 12:20 PM	Andrea Goldstein Iva Yonova	JACS 2007 , <i>129</i> , 9534 . (enantioselective, formal)	H. Yamamoto et al.
Dec. 13, 11:40 AM	Meghan Molloy Natalee Smith	Angew. Chem. Int. Ed. 2007 , <i>46</i> , 3942 . (enantioselective, formal)	K. C. Nicolaou et al.
Dec. 13, 12:20 PM	Marisa Winkler Ellen Sakell	Org. Lett. 2007 , <i>9</i> , 4013 . (enantioselective , formal)	A. K. Ghosh et al.

Guidelines:

- Groups chosen randomly in class. Group must decide on which article to present.
- Two articles per period, so each group will have approximately 40 minutes. You should plan on a 30 minute talk (15 minutes per student) and leave 10 minutes for questions/discussion and A-V equipment disasters.
- Each group needs to decide how to divide the synthesis for presentation.
- Each group needs to provide a handout of all the steps in the synthesis. The handout should include a list of abbreviations and reagent structures, especially if these are new to our class discussion.
- Each presenter should:
 - Choose three reactions in your sequence and present the entire mechanism for these three reactions. You should understand the mechanism of all the reactions in your presentation in the event of questions from the audience.
 - Highlight the key methods, reactions or synthetic innovations used in the synthesis.
 - Include all intermediates in their 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.