March 14, 2017

To: Chemistry 852 class
From: Professor Maleczka
RE: Instructions/Suggestions for your total synthesis assignment

Each of you has been assigned a natural product for which you are to design a synthesis (see the list below). Each synthesis should be asymmetric and stereocontrolled. Assume the absolute stereochemistry shown in the paper, even if it has not been firmly established. In cases were the relative stereochemistry is not fully determined, you may design a synthesis for any diastereomer provided the your approach is selective for that enantiomer.

You are to describe your synthesis in a written report and in an oral presentation to the class. Your synthesis will be graded on the basis of your presentation, how you respond to questions, chemical soundness, creativity, thoroughness, and the clarity of your final report.

We will first meet on April 17th at which time you should plan on presenting a 10 minute retrosynthesis of your molecule highlighting what you view will be the key points of your proposed synthesis. I will expect a hard copies everyone's retrosyntheses at this time. Then on April 26–27 we will meet for your full 30 minute (maximum!) presentation. You should bring handouts of your presentation for the entire audience.

This written report should be no longer that 10 pages including all Schemes but excluding references. *Your written report should conform to the ACS guidelines for authors*. ALL written reports are due April 26.

To the best of my knowledge, none of these molecules have been synthesized to date. Should that change before April 11th, I will give you another target compound or you can continue with your assigned molecules. If you continue, be aware that creativity is a part of your grade, so you will have to distinguish your synthesis from that published. (Note: Putative biosyntheses have been published for some of the assigned molecules. You may propose a biomimetic synthesis, but such a synthesis must be grounded in viable chemical (non-biological) transformations.)

Some Suggestions:

1. Feel free to solicit me for advice and suggestions, concerning your ideas.
2. In planning your final oral presentation, time your talk to be about 30 minutes in length. We have four talks each night, so if you go too long I will have to stop you, and that will result in a lower grade.
3. In preparing your presentation make sure it can be read from the back the room. Use of the chalk board or props such as molecular models etc. is also strongly encouraged. Obviously, you want your presentation and written report to look good (see attachment). Avoid cluttering your slides with too much information, especially in the form of tables, formulas, and text. Be consistent in terms of fonts, bond lengths, bond thickness, etc. If you are using tables or drawings directly from published material make sure you label them as such. Make sure your audience has ample time to read your slides. (In other words do not move to the next slide before you are done talking about your current slide.)
4. Try to make your seminar instructional. For example, if the research you are presenting required interesting or less than obvious experimental methods, tell us about them.
5. Be prepared for questions. "I don't know" is really not a good answer to any question. (Although at

times it is an unavoidable response.) Give us your explanation; tell us what experiments you believe might address the question, etc. Also, when answering questions, don't be afraid to go to the board.

6. Don't wait too long before you start working on your synthesis.

7. **Every synthesis must be asymmetric!**

Name	Molecule	Reference
Ryan Fornwald	perforalactone A	*Angew. Chem. Int. Ed.* **2015**, *54*, 5592–5595.
Dhwani Kansal	roussoellatide	*Org. Lett.* **2015**, *17*, 5152–5155.
Katarina Keel	grisemycin	*Org. Lett.* **2016**, *18*, 1402–1405.
Seokjoo Lee	mannolide A	*Org. Lett.* **2016**, *18*, 1880–1883.
Soham Maity	spirotrichilin A	*Org. Lett.* **2016**, *18*, 1924–1927.
Md Shafaat Al Mehedi	pepluacetal	*Org. Lett.* **2016**, *18*, 2166–2169.
Mehdi Moemene	hapmnioide A	*Org. Lett.* **2016**, *18*, 4274–4276.
Pepe Montero	neophleghenrine A	*Org. Lett.* **2016**, *18*, 4498–4501.
Monique Noel	frutescone A	*J. Org. Chem.* **2017**, *82*, 1448–1457.
Mengxia Sun	dicarabrol A	*RSC Adv.* **2017**, *7*, 4639–4644.
Zibin Tan	fortunoid A	*Org. Lett.* **2017**, *19*, 734–737.
Kio Tanemura	spiroschincarin A	*Org. Lett.* **2017**, *19*, 1196–1199.
Yuting Zhou	sinomontadine	*Tetrahedron Lett.* **2017**, doi: http://dx.doi.org/10.1016/j.tetlet.2017.03.013

Total Synthesis Schedule:

First Oral Report (10 pts): To be presented Monday April 17 starting at 6 pm in room 581W.

Written Report: (40 pts): ALL reports are due 7 pm Wednesday April 26 (2nd drafts handed in after 4/26 will NOT be graded).

Final Oral Report (50 pts): To be presented April 26–27 (581W). The presentation order will be determined at random.