Paper #1 – "Diastereoselective Diels-Alder Reactions of a Novel Cyclopropenyl-Containing Chiral Auxiliary" by J.R. Henderson et al., *Org. Lett.*, **2007**, *9(25)*, 5167-5170 (DOI 10.1021/ol702280q).

One of the main goals of this course is to learn how to read chemical research papers in organic chemistry. I expect to achieve this goal incrementally, but I would like to show you right away what level of comprehension I am aiming for. The following questions expose you to many of the things that go through a scientist's mind when reading research literature. I don't expect that we will cover all of these items during our discussion, but please spend at least two hours with the paper and these questions before our discussion.

Questions for discussion:

1. Do you understand the scientific vocabulary and statements inside the paper?

   I have marked 26 separate words and phrases in the paper (online version only) using a yellow highlighter that strike me as potentially unfamiliar expressions. Note unfamiliar items as you read, resolve them if you can, and bring your notes to class.

2. Do you understand the main scientific issues and findings described by the authors?

   I have marked 7 separate issues in the paper (online version only) using blue comment balloons. *Click on each balloon* as you read in order to see questions that I ask regarding each issue. Make any notes that might help and bring them to class.

3. Supporting information. The final paragraph refers to "supporting information". Please download this file and look at its contents. What does this information add to a reader's understanding of the paper?

4. Take-home lesson(s). What is most memorable to you about the science in this paper? How do you think the authors would have answered this question?

5. Some philosophers of science have asserted that organic chemistry is dominated by *data*-driven research (sometimes called *discovery*-driven research) rather than *hypothesis*-driven research. What do you think these terms mean? In which category would you place this paper? Could it be placed in both categories? Try to make your reasoning concrete. If you believe this is data/discovery-driven research, what data/discoveries have these scientists pursued? If you believe this is hypothesis-driven, what hypothesis have they tested?