SCHEPARTZ LAB
What I know about the Organic Candidacy Exam

Revised April 2009

Several of you have asked me what I know about the Organic Candidacy Exam, so here it is!

1. The report you submit should be about 10 pages long excluding figures. I suggest allocating three pages for the introduction, five to six pages for results, and one for future experiments. References should be organized using EndNote and formatted as per ACS style. When you submit your document to me, please submit the .doc file as well as the .enl file.

2. Your introduction should cover (1) a concise but complete review of the literature on and precedent for your project: The problem are you studying, why is it interesting, and which critical results (obtained in this lab and others) make your project feasible (about 2 pages); and (2) the objectives of your research: What you are trying to do; what question(s) you are asking (1 page). This section is important, because it communicates scholarship. Do not give skimp on discussing the work of competing labs…you should be able to state with clear and concise prose precisely how your work builds on but advances the field.

3. You may choose to include an "experimental design" subsection describing how you will meet the objectives laid-out in the previous section (especially if it is complicated or especially interesting). Again, amply cite precedent.

4. The Results section includes just that, RESULTS! What you did, how you did it (the facts), and, most importantly, what you learned. I strongly urge you to organize your results section into smaller sections that you can tackle one-at-a-time. Each little section corresponds to a result (whether the result is a successful synthetic scheme, a successful cloning step, or over-expression of a mutant) and should be accompanied by a figure, which should be neat and well-labeled—publication quality. In general, more figures are better. Remember, always state the methods first, then the facts, and finally your interpretation of the facts. Think about how you would explain your results to a first year graduate student – this is how you should explain them to your committee. And remember, no non-words (like "speed-vacced") allowed! You may choose to lump your conclusions (what you learned) into a single section or place them individually after the appropriate results. The former is more appropriate when there is one single answer

that must be interpreted in the context of other data, whereas the latter is more appropriate when early results form the foundation for later ones. Also-results are not "good or bad", "exciting or disappointing" but rather "expected" or unexpected" and perhaps "surprisingly exciting".

 5. The future directions section is where you tell what you are going to do next, whether it is related to what you did or not. Be specific...show that you really understand what the "key" questions are. Make a list and prioritize it so the committee sees that you can think critically about data (and your efforts!)

6. Finally: The text you submit for this report as well as your anti-theses must be entirely devoid of typographical errors and represent the absolute best writing of which you are capable. Most students find it useful to have one or two sympathetic senior group members read the document before you let me see it.