C344 Final Lab notebook Exam

Format: 100 points, multiple choice, short answer, short essay

What to bring: Your lab notebook, with attached spectra and data. **NO extra papers! NO calculators! NO lab handouts taped into the lab notebook!** Any failure to comply will result in your notebook being taken away for the exam.

Example questions:

1. Questions concerning the experimental procedure

In the experiment "Phenylalanine Substitution," what was the concentration of the $NaNO_2$ solution you used?

What was the theoretical yield of the multicomponent coupling reaction, the Biginelli Reaction? Show your calculations.

2. Questions concerning the results and observations of an experiment:

In the Suzuki coupling experiment, the key result was a particular peak in the proton NMR. What was the chemical shift of the peak?

In the first week of the Benzil Reduction experiment, you produced meso hydrobenzoin. What is the literature melting point for this compound?

3. Questions concerning the comments/discussion of the experiment:

In the Elimination of Tosylates Experiment, you used data to determine the most likely mechanism of elimination of a tosylate. Draw this elimination mechanism.

In the Kinetic Isotope Effects lab, you used KIE data to distinguish between a specific acid catalyzed mechanism and a general acid catalyzed mechanism. What KIE did you determine, and was it consistent with General or Specific Acid catalysis? Draw the mechanism that is more consistent.