

## Maintaining a research notebook

### Notebook

Your notebook is a permanent record of your results, which will have to speak for you after you are no longer here. It should be written so that anyone can sit down and determine how you carried out a reaction and what the results were.

- a) You should use a brown composition book available at the stockroom as your notebook.
- b) The first several pages of a notebook should be reserved for a table of contents (10 is usually sufficient).
- c) All entries in your notebook should be made in blue or black pen with permanent ink. Any mistakes should be crossed out. Do not use whiteout. Write clearly. If someone else can't read it, your notebook is useless. Each experiment should be signed by you and cosigned by a coworker who has read the experiment. This is necessary if we ever need to patent your work.
- d) Each experiment should start on a new page. Your entry should include the date, a reaction scheme, a chart showing which and how much (Mw, amount, mmol) of each reactant or solvent was used, and a complete description of the reaction procedure.
- e) While it is OK to use a scratch pad to right down amounts of chemicals etc as you are setting up an experiment, all data should be transferred to your notebook as soon as possible. In general, you should write up the initial experimental details as soon as you have finished setting up the reaction. In this way, if something goes wrong with you reaction when you are not there, other people will know contents of your reaction. It is not acceptable to let your notebook fall behind your experiments. You are likely to forget details if you do not write up experiments as soon as you have completed them.
- f) Characterization of products. Each compound that you prepare should be characterized spectroscopically. If the compound is new, it should be fully characterized (NMR, IR, MS, elemental analysis, etc). Each new compound should have a publishable elemental analysis (within 0.4 % for C, H, or N). All spectral data should be kept in a notebook and referenced to the appropriate notebook page (i.e., KHS - I- 23).
- g) Your notebook and all related spectra remain the property of Dr. Shaughnessy and The University of Alabama. You must return them to Dr. Shaughnessy when you leave the group.