Lab report preparation guidelines assignment

ASSIGN BUSTER

In the case of a specific chemical test (Toeless, etc) the relevant balanced reaction equation(s), as well as the result (“ positive for’, “ negative for” with supporting observations) must be included here. Results Here is where the actual reporting of data gathered, in support of an identity to be defended/justified in “ Discussion” need to be properly recorded. In no particular order, and in context, that is to say complete sentences except where noted below, summarize briefly such things as: 1).

Boiling point range, and comment on observed differences based on the later proposed identity of the unknown compound. 2). Refractive Index, with shown correction to ICC, and a brief comparison to a proposed unknown. 3). Infra-red pectoral data, with the major bands reported as A TABLE with this format: Frequency (CMµl) Assignment Characteristic 1770-1740 CACM C= O stretch s, BRB 3200-3000 CACM C-H aromatic SSH, m Data should be included for every structurally relevant band. Overtones, harmonics, and “ ghost peaks” should not be included in such a table.). Relative densities and/or solubility relative to water are usually done, and the result should be reported here also in no more than a sentence. 5). If any chemical tests were performed, a simple summary of which one(s), and owe they turned out, should be placed here in as many sentences as necessary. (Not needed for 315): 6). NOR spectral data should, as with IR spectral data, be reported here in tabular format. Here is a sample of what such a table should look like: Frequency (0) Multiplicity Assignment 1. 6 pomp -CHI 2. 75 pomp -CHI 7-7. 75 pomp melodramatic H Each distinct, individual, unique proton type should be reported in this table. A person examining such a table should be able to build, from individual pieces, the entire molecule you are about to propose

as your unknown in the upcoming “ Discussion. (approximately 20 points) Discussion Here, in a flowing narrative, examining each piece of ‘ evidence’ one at a time, the complete case for what your unknown is should be outlined.

By outlined, it simply means that you should offer every piece of data in the results section, piece by piece, and thereby prove that your unknown is what you say it is. The more detail you provide, the better. At the minimum, every analytical tool used and mentioned in the “ Results” section should be reviewed, verified by comparison to the identity you propose, to make the most compelling case possible. Here, you MUST provide reference spectra (IR and when necessary NOR, from verifiable sources) to support your argument.

The spectra you obtain in the lab should be almost identical, in every important aspect, to the references you provide. Stop and think: if a given unknown is what you say it is, why would any reference spectrum look different in any way? Fifth reference spectra do not look like the ones you obtained in lab, the compounds are not the same and that’s that. This will get you an instant h deduction, as well as not not including these reference spectra with the final report. Any chemical tests should give results that are in general agreement with the type of compound being tested for.

In other words, if you run a test specific for a methyl ketene, and the result indicates your unknown is NOT a methyl ketene; but your references and other data prove otherwise, you should explain this. Tests should give results consistent with the type of compound they test for, and if not, you should

explain why not. The successful case, suitably referenced, will get almost all of the points possible without much further inspection. (approximately 30 points) Conclusion A short one (you may simply remind me “… He unknown was (compound X)_ as outlined above) of no more than two sentences. If you cannot properly identify your unknown, here is where you make your “ best guess” based on the proper delineation of all the gathered evidence and test results. It is not necessarily the case that an improper identification means you get a failing grade.