

Qualitative Organic Analysis

Tips:

Avoid contaminating stock chemicals.

- *Add chemicals from reagent bottles to the test tubes without touching the dropper to the side of the test tube. Hold the dropper slightly above the test tube when dropping reagent into the test tube.*

Avoid contaminating your unknowns.

- *Carry your unknown vials in two small beakers. Dispense your unknown compound directly from the vial with a dropper. Use one dropper per unknown, and keep that dropper in the small beaker with the unknown sample at all times. Keep the lids on the vials containing your unknowns unless you're removing the unknown compound from them.*
- *Use a new test tube for each test.*
- *Do not clean your test tubes before you use them.*

Keep the lab healthy.

- *Leave anything that has come into contact with any chemical in the fumehood. Remove your beakers/vials/droppers from the fumehoods *only* when you're transferring them to another fumehood.*
- *Work in the fumehoods. You may not do any tests on the bench tops.*

Clean up properly.

- *Rinse your test tubes with **acetone** immediately following completion of each test unless instructed otherwise (Note special instructions for Na metal test and Tollen's test).*
- *Place rinsed test tubes in the red bags provided.*
- *Place smelly gloves in the plastic bucket provided.*
- *Once your unknowns have been marked, discard any leftover unknown in the waste containers provided and rinse your vials with acetone. After you've rinsed your vials, place them in the designated waste container.*
- *All waste goes in the designated waste containers. Nothing goes in the sink or in the normal garbage cans.*
- *Leave the fumehoods as you found them (CLEAN).*

Help yourself figure it out as smoothly as possible.

- *Test a compound that you know will give a positive result. For example, if a test identifies acids, try the test on something you know contains an acid functional group. This will help you to see what a positive test looks like and to confirm that the test is working properly.*
- *Test a compound that you know will give a negative result. It's just as important to know what a negative result for any given test will look like. Hexane (which has no functional groups) is a good chemical to use for this purpose.*
- *Check to make sure your negative test and your positive test are giving different results. If they both appear to give identical results, the test is not working properly and the results would not be useful.*
- *Test your unknown compounds. Comparing your observations for both the negative and positive tests with what you observed for your unknowns will tell you something about your unknowns. If you are uncertain about what conclusion to draw from the tests you've done, you may want to continue testing for other functional groups.*
- *Once you have positively identified an unknown, you do not need to perform any more tests on it.*