**Getting Started!**

Welcome to the Garner Group! The following step-wise orientation primer will assist you in getting up to speed in the lab.

**1. Obtaining Keys**

See Debbie Arrasmith (Chemistry Office 305D, phone 5-9116) and ask for keys Q866 (Fulmer Synthesis 464, 466 and 470) and Q858 (Fulmer Synthesis access).

**2. Group Web Page**

Contact Roger Crawford (Chemistry Office 301B, phone 5-5864) to obtain access to the secure links on our Group Web Page.

**3. Setting up Your Desk**

Unless you have stated a preference, you will be assigned a desk and bench. You may organize your desk area as you see fit. Remember, the lab and office will be your home away from home, so keep it neat and organized. Office supplies can be obtained at the stockroom or ordered commercially online.

**4. Stocking Your Bench**

We prefer to follow the German model, which begins and ends with a healthy dose of “Ordnungsliebe” (ie. love of order). Start by cleaning out your bench drawers, cabinets, top, and hood.

Now you may stock your bench with the following items. (This is only a guide for new researchers based on what PG thinks is the minimum requirement.)

• 1-Neck round bottom flasks

 14/20: 6 x 25 mL, 2 x 50 mL, 2 x 100 mL, 1 x 250 mL, 1 x 500 mL

 24/40: 2 x 50 mL, 4 x 100 mL, 3 x 250 mL, 2 x 500 mL, 1 x 1000 mL

• 2- or 3-Neck round bottom flasks

 14/20: 6 x 25 mL, 2 x 50 mL, 2 x 100 mL, 1 x 250 mL, 1 x 500 mL

 24/40: 2 x 250 mL, 1 x 500 mL, 1 x 1000 mL

• Erlenmeyer flasks

 20 x 25 mL, 10 x 50 mL, 6 x 125 mL. 4 x 500 mL, 1 x 1000 mL

• Test tubes

 80 x 25 mL + two racks

• Filter flasks

 2 x 50 mL, 2 x 125 mL, 1 x 500 mL, 1 x 1000 mL

• Fritted glass filters

 3 x 60 mL (medium frit), 1 x 60 mL (fine frit), 1 x 150 mL (medium frit)

• Gas/vacuum adapters

 14/20: 4 x 1-way, 2 x 2-way, 2 x 3-way

 24/40: 4 x 1-way, 2 x 2-way, 2 x 3-way

• Graduated cylinders

 2 x 10 mL, 2 x 50 mL, 1 x 250 mL, 1 x 500 mL, 1 x 1000 mL

• Glass funnels (large and small)

• TLC chambers (2)

• Rotovap bump traps (14/20 and 24/40)

• Vacuum manifold and trap

• Aqueous solutions for extractions

 brine (sat. NaCl), sat. NaHCO3, 1 N HCl, 1 N NaOH (plastic!)

• Organic solvents (in labeled dropping or plastic squeeze bottles)

 Et2O, DCM, CHCl3, EtOAc, hexanes, MeOH, and HOAc

• Syringes

 Ground glass: 2 x 10 mL, 2 x 25 mL, 1 x 50 mL

 Airtight: 2 x 500 L, 2 x 1 mL

• Double-ended needle (cannula) (2)

• Needle-tubing connector + 2” Luer hub needle (2)

• Teflon-coated stir bars (assortment of 6)

• Stirring hot plate (1) and stirring motor (1)

• Miscellaneous items (metal spatulas, metal forceps, glass rods, wooden applicators, aluminum foil, cotton, filter paper, disposable pipettes & rubber bulbs, Bunsen burner, copper wire, parafilm, scissors)

• Plastic wash bottles (soap, acetone)

NOTE: IT IS IMPORTANT THAT YOU DEVELOP THE HABIT OF CLEANING YOUR HOOD AND BENCH EACH DAY BEFORE YOU LEAVE SO THAT YOU START WORK FRESH THE NEXT DAY!

**5. Manifold Maintenance**

Disassemble and clean the entire apparatus. Reassemble it replacing all vacuum

tubing. Clean the bubbler and replace the oil. Clean the vacuum trap and Dewar flask.

**6. Vacuum Pump Maintenance**

First, change the oil! (Treat used oil as chemical waste.) Turn on the pump and check the vacuum with a manometer. If pressure reading at the manifold is greater than 0.1 mm, check oil level and manifold + tubing for leaks. Begin a pump maintenance log (date, action, pressure, comment).

**7. Rotovap Maintenance**

Check pressure at the aspirator and rotovap. If aspirator pressure is > 20 mm, the aspirator may need to be replaced. If the rotovap pressure is > 100 mm, track down and eliminate the leak in the rotovap system (consult manual, if necessary).