Solvent Purification System Standard Operating Procedure (SOP)

Prior to using the solvent purification system (Fig. 1) you must obtain training from one of the instrumentation managers.

Current Instrumentation managers: Dr. Wes Chalifoux and Michael Walley

**NOTE** If you are using the solvent system to obtain solvent in the glove box, skip to section 2 - Glove Box SOP Step 1.

Step 1 - Check the nitrogen pressure. If the tanks are low, inform the solvent system manager.

Step 2 - Turn on vacuum pump.

Step 3 - Place the braided line for the required solvent into the reaction vessel. Note: If using a 14/20 flask, use the provided 24/40 to 14/20 adapter.

Step 4 - Turn the main valve counterclockwise to EVACUATE. Allow the pressure to go down until the pressure stays steady on the pressure gauge (located on the right side of bottom manifold). Turn the main valve clockwise to REFILL. Turn the main valve counterclockwise to EVACUATE. Repeat the evacuation/refill procedure a total of 3 times leaving the flask evacuated.

Step 5 - Turn the main valve counterclockwise to DISPENSE.

Step 6 - Slowly open the solvent metering valve to dispense the required volume of solvent then close the valve finger tight only. DO NOT OVERTIGHTEN THIS VALVE!

**NOTE** If no solvent is being dispensed then check the top valve (Fig. 1); see section 2 - Glove Box SOP (step 3) to see procedure for switching this over.

Step 7 - Turn the main valve clockwise to REFILL to allow the flask to be filled with nitrogen and to clear the line of solvent. Be careful that the line does not come out of the reaction flask due to the high nitrogen pressure. This can be done by either holding both the line and the flask together with your hand or by using a keck clip.

Step 8 - Turn the main valve to CLOSED.

Step 9 - Remove the line and place a septum on the reaction flask as soon as possible.

Step 10 - Turn off the vacuum.
**Figure 1.** Solvent purification system. Valves at the top (red circle) to switch between dispensing from the solvent system braided lines or the glove box bulkhead.
Glove Box Solvent SOP

If you have not received training for the Glove box do not set up the solvent system to dispense to the glove box.

Step 1 - Check the nitrogen pressure prior to using the solvent purification system. If the tanks are low, inform the solvent system manager.

Step 2 - Turn the valve on top of the front solvent purification column with the point going towards the line to the glove box (see Fig. 1). Note: You can easily check this by looking at the stainless steel line and seeing if it goes into the back of the glove box.

Step 3 - See glove box SOP for dispensation of solvents in the glove box.

Step 4 - Once finished using the glove box and solvent system, turn the top valve back to the correct position to allow for the normal use of the solvent system.