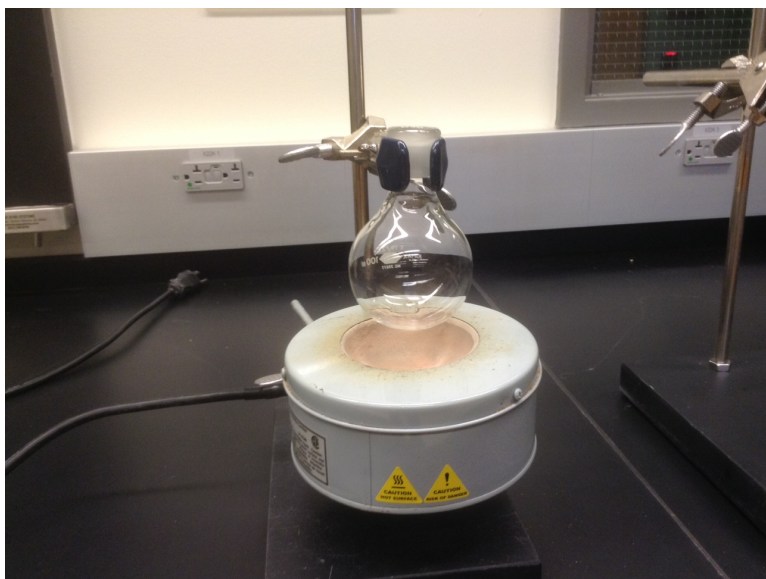


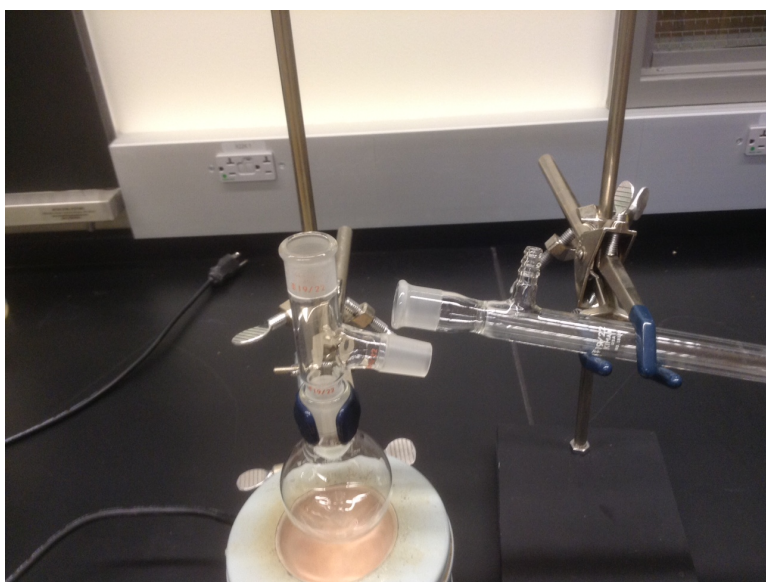
Chem 268. Distillation on a larger scale, using ground glass equipment.

It is important to put the apparatus together in the right order. Getting all connections just right is a bit of a challenge, so care should be taken.

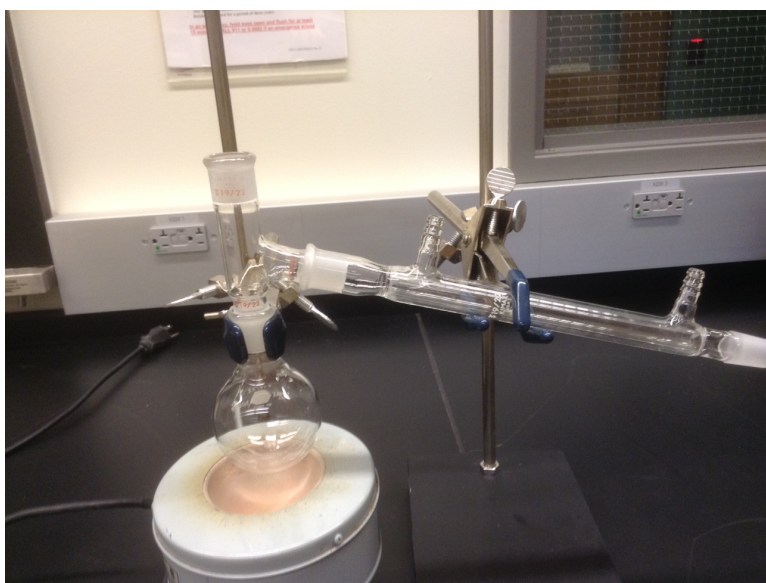
1. Add the dried ether/ester extract to the RB flask, along with a few boiling chips. Clamp it securely to a ring stand with the bottom of the flask about 4" from the base of the stand. Clamp a ring onto the stand, below the flask and place the heating mantle (no sand) onto the ring.



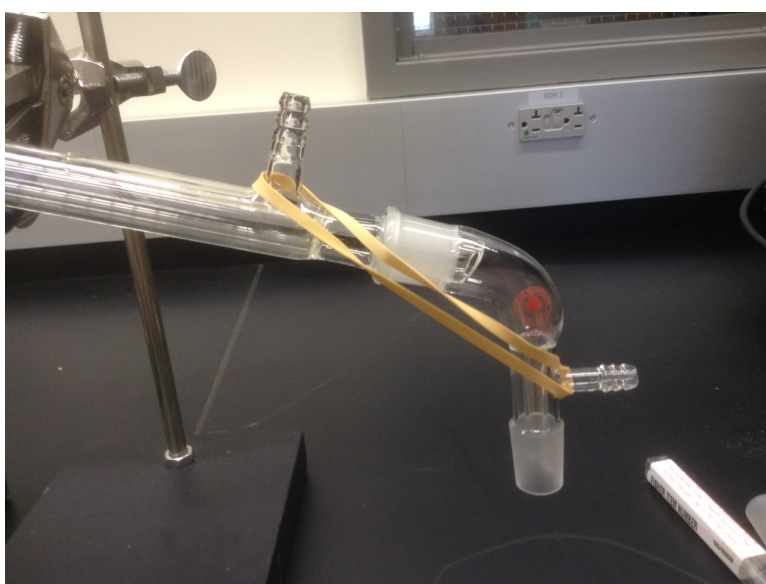
2. Clamp a large three-pronged clamp onto a second ring stand and loosely place a condenser into the clamp. Adjust the clamp so that the condenser is at the same angle as the distillation adaptor to which it will be connected. The angle of the condenser has to be exactly the same as the angle on the adaptor so that a secure connection may be made.



3. With the three pronged clamp open enough, move the condenser up to the adaptor and make the connection, again making sure that no strain is being placed on the connection. Slowly close the bottom of the clamp until it just touches the condenser, making sure that both parts of the clamp touch the condenser. Close the upper part of the clamp until it just touches the condenser. If this was done carefully, the clamp should be securely holding the condenser at the correct angle. If the angle is not correct, the connection of the adaptor to the flask will open. You need to adjust everything to be sure that all connections are tight, without trying to force anything.



4. Attach a condenser adaptor to the end of the condenser and hold it on with an elastic band. Connect rubber tubing to the condenser and attach the lower connection to the water source and the upper one to the drain. Start a slow flow of water through the condenser.



5. Carefully place a thermometer into the thermometer adaptor and set it into the apparatus. Place a receiving flask under the condenser adaptor to collect the distillate. Move the ring and heating mantle up to the flask to make contact. Have your TA check things out then do the distillation.

