

SP037

Operation of the RotoVap

Materials and Reagents:

1. Brinkman Rotavapor R110 (note 1).
2. Pyrex Round Bottom Flask (250ml, 500ml, or 1L)
3. 1 – 2 Green taper clamps (VWR 21734-862)
4. 1L Glass beaker

Protocol:

1. _____ Place sample in a Pyrex round bottom flask of appropriate size (note 2).
2. _____ At the RotoVap, turn on the water bath heat to 40°C.
3. _____ Turn the water on to cool the condenser (note 3).
4. _____ Place Pyrex round bottom flask onto RotoVap and secure with green taper clamp.
5. _____ Turn the vacuum release valve, located on the top of the condenser, to the side.
6. _____ Turn the water on to create a vacuum (note 3).
7. _____ Lower the flask into the heated water bath (note 4).
8. _____ Begin rotation of flask (note 5).
9. _____ Watch sample for a few minutes to ensure it does not bubble over into the bump trap (note 6)
10. _____ Once solvent is completely evaporated, remove sample flask and any waste from condenser trap and empty into glass beaker for disposal (note 7).

Notes:

1. The Brinkman Rotavapor R110 is located in room B330 and is the property of the Crick laboratory. Please be courteous and ask for permission to use any equipment in B330.
2. Sample should be suspended in organic solvents (most commonly: chloroform, methanol, acetone etc.). Total volume of sample in the flask should not exceed 1/2 of the max volume of the flask (i.e. max volume in 250ml flask should be no greater than 125ml).
3. In B330 there are two faucets dedicated to the operation of the RotoVap. The faucet on the right cools the condenser, and should be turned on for medium flow. The faucet on the left controls the vacuum and should be turned on for a medium to high flow.
4. To lower the flask into the water bath, loosen the quick action jack handle and raise it until the flask is submerged approximately ½ way into the water. Once in position, tighten the jack handle.
5. The RotoVap turns on when the dial on the front of the machine is turned passed the setting of zero. This setting controls the speed of rotation. A setting of 3 is usually sufficient.
6. With the vacuum and the temperature of the water bath, it is common for there to be bubbling of the solvent. If there is too much bubbling, and the sample begins to escape the flask, reduce the vacuum until bubbling is controlled.
7. The waste beaker can be placed inside the chemical fume hood in C210 to evaporate the solvent or be placed in the appropriate satellite accumulation area if hazardous. Make sure to clearly label the beaker with its contents, date and responsible user.