Dehydration of Cyclohexanol Procedure

1. Set up the fractional distillation apparatus (use a 25 mL round-bottom flask as the distillation flask and use a 10 mL round-bottom-flask as the receiving flask). **Make sure that the receiving flask is in an ice-water bath.**
2. To the 25 mL round bottom, add a one-inch stir bar and 5 mL of cyclohexanol.
3. Carefully add 2.5 mL of 9 M sulfuric acid to the cyclohexanol.
4. Attach the round bottom flask to the distillation apparatus. Begin stirring and heating. The hot plate should be turned up to about 250 ºC).
5. Collect everything that distills up to 80-85 °C range or no more product is being collected in the receiving flask. Turn off the heating and stirring and lower the hotplate.
6. Carefully remove the receiving flask. Add a few spatulas of potassium carbonate to remove any water that may have been distilled.
7. Remove the potassium carbonate by filtration using your glass funnel, record the mass of the liquid product to calculate your % yield, obtain an IR spectrum, and perform the bromine test on the product.

Bromine Test

1. Add 1-2 drops of the cyclohexene to a test tube containing 1 mL of dichloromethane.
2. Add a few drops of the 0.1 M bromine solution. If the red color disappears, that is a positive test for unsaturation.