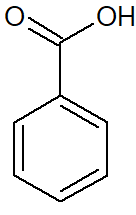
**CH 245: ORGANIC CHEMISTRY 1 LABORATORY (Fall 2019)**

**Title:**

1. **Purpose: (1 point)**

The purpose of this lab is to understand the process of recrystallizing a solid organic compound, in this case, benzoic acid using water. It also introduces some special chemical lab techniques such as gravity filtration and vacuum filtration.

1. **Drawing of structure of the main compound or balanced chemical equation if synthesis is performed: (1 point)**

**** Benzoic Acid

**3. Reagents and the major product (up to 6 points)**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Name** | **M.W.**  (0.5 pts) | **Density**  (0.5 pts) | **Amount (grams/mL)**  (0.5 pts) | **Moles**  (0.5 pts) | **Hazards/Precautions**  **(MSDS data) and melting point or boiling point** (2 pts) | **Waste Disposal**  **(aqueous or organic)** (2 pts) |
| Benzoic Acid | 122.12 g/mol | 1.2659 g/cm3 | 0.5g | 0.004 | Skin, eye irritation, M.P. 122.41 °C | Organic |
| Water | 18.01 g/mol | 1 g/cm3 | 15 mL | 0.833 | B.P. 100 °C at 760 mmHg | Aqueous |

**4. Procedure (up to 2 points)**

|  |  |
| --- | --- |
| **Procedure** | **Observations and Lab Data** |
| A summary of the procedure done with bullet points) | Color changes, exothermic or endothermic reactions, gas generation, etc.; tare weights for flasks, etc. |
| * Accurately weigh out 0.5g of benzoic acid and transfer it to a 50 mL Erlenmeyer flask. * Add 12 mL of deionized water. * Add two pieces of boiling stones to the flask. * Place flask on hot stirring plate and heat until benzoic acid dissolves. Occasionally swirl the flask. * While the benzoic acid is dissolving, prepare a fluted filter paper and place it in a warmed funnel. (Warm funnel!) * Place funnel over a beaker when ready to filter. * Hot filter the benzoic acid. * After solution is filtered, cover mouth of beaker containing hot filtrate solution with a watch glass and allow it to cool at room temp. for 10 minutes. * Cool the mixture in an ice bath for 5 minutes. * Filter the mixture using Buchner finnel and vacuum. * Wash the crystals with cold water and press dry with spatula. * Spread crystals on watch glass and allow them to dry. * Weigh the crystals the following week.   Image result for vacuum filtration diagram |  |

**5.** Results; include actual yield in grams and % yield.

**Results (need to get signed by instructor or TA):**