## Extraction of a Neutral Compound - Part I

**Reading**        Experiment 4 in Pavia, 5th edition (Part D only).  Also see all of the Required Reading for this experiment.  This includes Techniques 10 and 12.  Also, for acid/base chemistry of carboxylic acids, see Pavia, Technique 10.2B and Klein, Sections 3.4, 21.3, and 23.2  A guide to preparing a separation scheme is the **Separation Schemes – Tips and Notes** (handout at website)

### Overview

This is a technique experiment.  The purpose of this experiment is to use extraction as a means to separate a mixture of organic compounds – in this case a carboxylic acid ($R-CO_2H$) and a neutral compound (R-H) (Part D). You will learn to use a semi-microscale separatory funnel to separate immiscible liquids, how to perform extractions, how to wash solutions, and some of the fundamentals about drying agents.  In Part II of this experiment you will learn how to use a large-scale separatory funnel.

### Prelab

Include your **Name**, the **Date**, a **Title**, the **Purpose**, and an **Outline** of the procedure for Part D.  Additionally, you will need to show a **Separation Scheme** for Part D (for examples of this, see: Pavia p. 594 and Technique 12.12 on p. 717, plus the handout mentioned above). In this case, show a generalized separation of only a carboxylic acid ($R-CO_2H$) and a neutral compound (R-H). (Note the examples in Pavia also show an amine in the mixture, $R-NH_2$, *but you will not have one in your mixture.*) You should definitely review fundamental acid/base chemistry and understand the role of the drying agent for both parts.

### Procedure

Follow the procedure for Part D of the experiment. Of the neutral compounds shown in the table on p. 41 of Pavia, only three are possible in our experiment:  fluorene, fluorenone and triphenylmethanol.

### To Complete the Experiment – Template Report

Determine the mp of your isolated neutral compound.  Identify the neutral compound that was present in your original mixture by its mp.  From the weight of your isolated neutral compound, calculate the percentage by weight (wt %) of the material in the original mixture, (mass of neutral compound)/(mass of original mixture) x 100 (use the amount you actually weighed out, which should be ~ 0.15 g).  Download the template from the class website and type in the required data from your notebook and for your conclusion, summarize all of your findings for Part D in the **Abstract** field of the template.  Also, in the report template, answer Question 1a – 1c on p. 42 for Experiment 4D.