

PRELAB FOR EXPERIMENT #2: EXTRACTION

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Name of TA
Lab Section

Title: Experiment #2: Extraction

PURPOSE: In this lab we will partition materials between various solvents based upon their acid/base properties.

REAGENTS

Name of Reagent	M.W.	M.P.	density	hazards
Biphenyl	154	70		toxic
Benzoic Acid	122	122		contact hazard
p-nitroaniline	138	146		poison
Methylene chloride	85	b.p. 39.8	1.32	Possible carcinogen, toxic
3 M HCl	36.5			Corrosive, toxic
3 M NaOH				Corrosive, toxic
6 M NaOH				Corrosive, toxic
6 M HCl				Corrosive, toxic

Procedure:

Weigh out 3.00 grams of chemical mixture

Dissolve dry chemicals in 30 ml CH_2Cl_2 with gentle heating.

Pour solution into separatory funnel

Add 10 ml CH_2Cl_2 to initial flask to rinse and pour solution into separatory funnel

Add 15 ml 3 M HCl and mix gently and vent

Allow layers to separate and determine which one is organic

Place lower layer into separatory funnel and re-extract with 15 ml 3 M HCl.

Combined aqueous layers in flask A

Re-extract CH_2Cl_2 layer with 15 ml 3 M NaOH

Label upper layer in flask "B" for base extract

Re-extract organic layer with 15 ml 3M NaOH

Combined base extracted materials in flask "B"

Dry organic layer with sodium sulfate until free flowing salt is observed (about 3 grams)

Filter the organic solution into a tared 100 ml round-bottom flask and remove methylene chloride with the rotary evaporator.

[This is the complete prelab for experiment 2. There are no prelab questions for this experiment, so if you were to show up for lab with this level of detail, you would be good to go!]