Chemistry 132 Prelab Assignment #5a

due Wednesday February 20th at the beginning of class **Preparation page**

Dr. Fantini February 18, 2013

Nar	me:
	YOU MAY WORK WITH OTHER PEOPLE. You can use textbooks, notes, and resources on the internet.
1.	Pick one of the acidic chemical site candidates and draw the structure below. (HINT: There are three to choose from.) List the functional groups present in the compound. Next draw the electron pushing mechanism for what happens to the acidic organic compound when it reacts with 2 M NaOH. How does this acid-base reaction affect the solubility of the organic compound?
2.	Pick one of the basic chemical site candidates and draw the structure below. (HINT: There are three to choose from.) List the functional groups present in the compound. Then draw the electron pushing mechanism for what happens to the basic organic compound when it reacts with 2 M HCl. How does this acid-base reaction affect the solubility of the organic compound?
3.	Now look at the neutral chemical site candidates. (HINT: There are five neutral candidates.) Does a neutral compound by definition make it nonpolar? Explain.

4. Complete this table from the Lab Handout:

Name	Structure	Information	Acid, Base or Neutral?
Acetanilide	° N C	Precursor in synthesis of penicillin and other pharmaceuticals	
Benzocaine	H_2N	Local anesthetic	
Benzoic Acid	ОН	Common food preservative; common reagent in many organic syntheses	
Benzophenone		Photo-initiator in inks; Building block for organic molecules	
Biphenyl		Prevents growth of fungus and molds	
<i>p</i> -Dimethylamino benzaldehyde	N H	Used to quantitatively detect hydrazine and urobilinogen	
Fluorenone		Used to make anti-malarial drugs	
Ibuprofen	ОН	Nonsteroidal anti-inflammatory drug; blood-thinner	
Naproxen	OH O	Nonsteroidal anti-inflammatory drug; Commonly used to reduce pain from arthritis, kidney stones, tendinitis, etc.	
Nicotinamide	N NH ₂	Part of vitamin B group; used in acne medication	
Phenacetin	H ✓O	Once widely used analgesic	