

EXP. NUMBER 5	EXPERIMENT/SUBJECT Organic Chemistry - 2	DATE [redacted]
NAME [redacted]	LAB PARTNER	LOCKER/DESK NO. COURSE & SECTION NO. Chem 1AA3

## Prelab Questions

1. Melting Point of Aspirin:  $135^{\circ}\text{C}$   
 Source: Haynes, W., Lide, D. *Handbook of Chemistry and Physics*,  
 90th ed. Florida:  
 CRC Press, 2009. (3-8)

### Purpose:

The purpose of this experiment is to perform several experiments utilizing the aspirin product obtained from experiment # 4.

### Procedure

The experiment was carried out as described in the 2011/2012 Chem 1403 / 1AA3 Lab Manual, organic chemistry - 2.

### OBSERVATIONS

6. Percent yield calculation

$$\% \text{ yield} = \frac{\text{Actual}}{\text{Theoretical}} \times 100$$

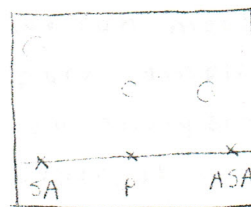
$$= \frac{0.8797 \text{ g}}{2.609 \text{ g}} \times 100 = 33.7\%$$

6. See discussion for explanation.

Melting Point:  $124-126^{\circ}\text{C}$ .

6. See discussion for explanation.

## 2. Thin Layer chromatograph (TLC). TA Demonstration



SA = ~~target~~ salicylic acid  
 (starting material)

P = product

ASA = Aspirin.

6. See Discussion for explanation

### Reactions of Aspirin

4 b) Observations (Qualitative)

Test tube 1: Aspirin and  $\text{NaHCO}_3$   
 Observation: Bubbles formed on top of solution and almost all aspirin crystals dissolved. Leaves a clear, water-like solution.

Test tube 2: salicylic Acid and  $\text{NaHCO}_3$   
 Observation: Thick layer of bubbles formed immediately followed by the formation of a white precipitate which remained in solution.

Test Tube 3: Benzyl Alcohol and  $\text{NaHCO}_3$ .

Observation: No chemical reaction occurred. Remained separate from test tube one solution floated on top of the other.

6. See discussion for analysis of individual reactions.

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