

Name: _____

Section: _____

Data

Weight of salicylic acid added _____

Volume of acetic anhydride _____

Density of acetic anhydride _____

Molecular Weight of acetic anhydride _____

Molecular Weight of salicylic acid _____

Theoretical Yield of aspirin _____

Actual Yield of crude aspirin _____

Actual Yield of recrystallized aspirin _____

Percent Yield of recrystallized aspirin _____

Melting Point of pure aspirin (literature) _____

Melting Point of recrystallized aspirin _____

Discussion Questions:

1. Determine the percentage yield of your crude product.

2. As in many organic reactions, the synthesis in this experiment is an equilibrium reaction. What steps could you take to improve the yield of aspirin in this particular experiment?

3. If the aspirin crystals were not completely dried before the melting point was determined, what effect would this have on the observed melting point?

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4. (*Optional*) Discuss the purity of your final product. How pure (or impure) is your aspirin based on literature values? Comment on how your IR spectrum parallels the spectrum of pure acetylsalicylic acid, making certain to LABEL and discuss all characteristic absorption peaks. You should turn in the labeled IR spectrum of your product with this report.

5. Consider the reaction shown below. Predict the product(s) of this reaction.



