Chemistry 1210
Spectrophotometric Determination of Acetylsalicylic Acid

Name: _____   **Partner:** _____

OBJECTIVE: To quantitatively analyze a commercial aspirin tablet for ASA content by spectrophotometric means.

PROCEDURE: As in the chemistry 1210 lab manual, pages 27-29.

OBSERVATIONS:

DATA:

Mass of empty weigh boat	
Mass of weigh boat and ASA	
Mass of reagent grade ASA	

λ_{max}	

(attach data sheet)

Measure both absorbance and % transmittance

Volume	Abs	%T	Abs	%T	Average Absorbance
1.00					
2.00					
3.00					
4.00					
5.00					

	Abs	%T	Abs	%T	Abs	%T	Average Absorbance
ASA Tablet							

Mass of commercial tablet	
Company's claimed ASA amount in tablet	

GRAPH: Attach Beer's Law Plot

CALCULATIONS: Sample calculation for concentration of standards

Standard Solution	Concentration
1.00	
2.00	
3.00	
4.00	
5.00	

Calculation of ASA concentration of final unknown ASA solution

Mass of ASA in tablet

% by Mass ASA in the tablet

RESULTS:

λ_{max}	Slope	Intercept	Calculated [ASA] (from graph)	Mass ASA	% ASA (by mass)

*DISCUSSION***:**

Suggest a source of error and explain how it would lead to the observed difference (higher or lower) between the experimentally determined mass of ASA in the tablet and the manufacturer's claimed amount.

CONCLUSION:

QUESTIONS:

1. If the ASA used to prepare the standard solution was impure (i.e. wet), how would the experimentally determined mass of ASA in the tablet be affected?

2. Why was the buffered Fe^{3+} solution used to zero the Spectronic 20?