Chemistry 30B **Experiment 15**

Lab Instructor:_____ Name:_____

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Part 1 – Solubility of Vitamins

Vitamin	**Soluble in CH_2Cl_2? Record observations.**	**Soluble in water? Record observations.**	**Water-soluble or fat-soluble?**

Part 2 – Standardization of an Iodine Solution by Titration with Vitamin C

Quantity	Result (include units)
Mass of Vitamin C (from label)	
Initial Buret Reading (1)	
Final Buret Reading (1)	
Initial Buret Reading (2) (If needed)	
Final Buret Reading (2)	
Initial Buret Reading (3) (If needed)	
Final Buret Reading (3)	
Total volume of iodine solution used	

Calculations (show calculation setups)	Result (include units)
Mass of Vitamin C that reacts with 1 mL of iodine solution	

Part 3 – Analysis of Vitamin C in Fruit Juices and Fruit Drinks

Data (include units)	Sample 1	Sample 2
Type of juice, drink, or vegetable		
Amount of juice, drink or vegetable used		
Initial buret reading		
Final buret reading		
Volume of iodine solution used		

Calculations (show calculation setups)	Result (include units)
Number of milligrams of vitamin C in Sample 1	
Number of milligrams of vitamin C in Sample 2	

Part 4 – Heat Destruction of Vitamin C

Data (include units)	Heated 10 minutes	Heated 30 minutes
Type of juice, drink, or Vegetable (same for both trials)		
Amount of juice, drink or vegetable used		
Initial buret reading		
Final buret reading		
Volume of iodine solution used		

Calculations (show calculation setups)	Result (include units)
Number of milligrams of vitamin C in sample after heating for 10 minutes:	

Number of milligrams of vitamin C **destroyed** after heating for 10 minutes:	
Number of milligrams of vitamin C in sample after heating for 30 minutes:	
Number of milligrams of vitamin C **destroyed** after heating for 30 minutes:	

Questions

1. Which of the vitamins you tested were water-soluble? Which were fat-soluble?

2. Which vitamins would be excreted daily?

3. Which of the juices that you analyzed had the highest vitamin C content?

4. If the daily requirement of vitamin C is 75 mg, how many milliliters (or grams) of each sample would you need to consume to get 75 mg? Show your calculations.

5. How does heating affect the vitamin C content of a fruit juice?

6. If vitamin C tablets are stored in a warm, humid bathroom cabinet, what might happen to the vitamin C content after a while?

7. If you wanted to keep most of the vitamin C content of your vegetables, how would you prepare them for dinner?