

Chem 222

Exp. 13: Iodometric Titration of Vitamin C

Name: _____

Date: _____

TA's Name: _____

Unknown #: _____

Standardization of Thiosulfate Solution

| | Trial 1 | Trial 2 | Trial 3 |
|-------------------------------------------------------------------------|---------|---------|---------|
| Na ₂ S ₂ O ₃ ·5H ₂ O weight | | | |
| KIO ₃ concentration | | | |
| KIO ₃ volume | | | |
| S ₂ O ₃ ²⁻ titration volume | | | |
| Number of S ₂ O ₃ ²⁻ moles | | | |
| Na ₂ S ₂ O ₃ concentration | | | |
| Average Na ₂ S ₂ O ₃ concentration | | | |

Analysis of Vitamin C

| | Trial 1 | Trial 2 | Trial 3 |
|------------------------------------------------------------------------------------------------------------------------------------------------|---------|---------|---------|
| KIO ₃ concentration | | | |
| KIO ₃ volume | | | |
| Number of I ₃ ⁻ moles formed (I ₃ ⁻ _{tot}) | | | |
| S ₂ O ₃ ²⁻ titration volume | | | |
| Moles of I ₃ ⁻ reacted with S ₂ O ₃ ²⁻ (I ₃ ⁻ _{excess}) | | | |
| Moles of ascorbic acid (I ₃ ⁻ _{rxn}) | | | |
| Ascorbic acid (g) per tablet | | | |
| Average ascorbic acid (g) per tablet | | | |

Grading Results (Don't Write anything here – for grader use only!)

| | |
|-----------------------------------|------------|
| Real ascorbic acid (g) per tablet | g / tablet |
| Experimental Error | |
| Lab Report Grade | /100 |