



Thermo

ELECTRON CORPORATION

Potentiometric Titration Application Notes

Applications Log # 527

Overview The concentration of ascorbic acid (vitamin C) in tomato juice, vegetable juice and tomato soup was determined by the first derivative technique utilizing 2,6-dichloroindophenol as the titrant. The Orion 960 Titrator PLUS determines the endpoint and calculates the sample concentration.

Industry	Food and Beverage
Species Measured	Ascorbic Acid
Sample	Tomato Juice
Sample Size	5.0ml
Typical Concentration	6.0mg/100g
Technique #	First Derivative
Electrode	Ross Combination redox 967800
Solutions	0.01M 2,6 dichloroindophenol; 1% oxalic acid; HPO3-HOAC solution; electrode fill 900001
Sample Prep	Dilute sample 50:50 w/ oxalic acid, add HPO3-HOAC solution and deionized water to sample volume.

Statistics

# of Trials	5	Mean	6.091mg/100g	%CV	0.94
Analysis Time	2.8minute(s)				
Comments	Rinse the electrodes, stirrer, and dispenser probe between measurements with deionized water.				

Method Parameters

Sample Volume/Weight	5.00 g	Timed or Stability Readings	5.0 sec timed
Constant Increment	0.292 mL	Number of Endpoints	1
Max Titrant Volume	3.50 mL	Desired Units	mg/100g
Molecular weight	176.12 g	Predose	0.500 mL
Prestir	60.0 sec	Additional Parameters	
Reaction Ratio	1.00		