

## DETERMINATION OF ASCORBIC ACID BY SPECTROPHOTOMETRIC AND TITRIMETRIC METHOD

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### ABSTRACT

Among all vitamins, vitamin C plays a crucial role in maintaining good health. In present study five types of fruits were analysed to compare ascorbic acid level in different fruits. The fruits were collected from local market of Amravati. The ascorbic acid content of some fruits namely ripen lemon, unripen lemon, orange, ripen guava and unripen guava was determined by Spectrophotometric and titrimetric method using Potassium permanganate as a chromogenic agent. The absorbance was measured at 340 nm. Titrimetric method was carried out by iodimetric blank titration. The amount of Ascorbic acid present in Ripen Lemon, Unripen Lemon, Orange, Ripen Guava and Unripen Guava by Spectrophotometric method is found to be higher as compare to Trimetric Method. Spectrophotometric method of determination of Ascorbic acid is found to be simple.

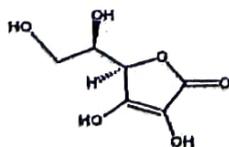
**Keywords** - Ascorbic Acid, Spectrophotometric method, Trimetric method, Ripen Lemon, Unripen Lemon, Orange, Ripen Guava and Unripen Guava

### Introduction

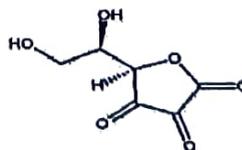
Vitamins helps the human to maintain a healthy diet. Vitamin C is known as ascorbic acid. It is important antioxidant for human body. It is soluble in water. [1] Ascorbic acid occurs in living tissues, fruits, vegetables, meat, etc. It is used in processed foodstuffs as an antioxidant. [2] Ascorbic acid helps in biosynthesis of collagen and protein metabolism. It is also required for neurotransmitters. It is also important for immune functions. [3] Low level of vitamin C in body causes scurvy. Vitamin improves absorption of inorganic iron, reduction of plasma cholesterol and reduce cardiovascular diseases and some form of cancer. [4] Vitamin C converts the inactivate form of folic acid to active form i.e. folonic acid which helps in calcium metabolism. [5] It is used in treatment of some diseases such as scurvy, anemia,

hemorrhagic disorder, wound healing, infertility, etc. [6] Vitamin C is present in fruits such as lemon, orange, guava, grapefruit, watermelon, etc. and vegetables. [7]

The determination of ascorbic acid is important. For this there are numerous analytical methods are developed. These method include Titrimetric method, Spectrophotometric method [8-9], Chromatography, voltmeter, fluorometry, potentiometry [10], electrochemical method, polarographic method [11], HPLC [12]. Similarly, liquid chromatography [13], capillary electrophoresis [14] and gas Chromatography [15] were also used for determination of vitamin C. Some aspects of Polarographic wave of Ascorbic Acid and its determination from some synthetic and medicinal samples by Calibration and Standard Addition method was done. [16-19]



(Reduced form)



(Oxidized form)

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content of some fruits namely ripen lemon, unripen lemon, orange, ripen guava and unripen guava was determined by Spectrophotometric and titrimetric method