

## Method Validation for Quantitative Analysis of Ascorbic Acid Using UV-Visible Spectroscopic Technique

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### Abstract

Ascorbic acid (Vitamin C) is the important one type of acid for people because of its quality at suitable content such as increasing the production of collagen, and preventing the scurvy. Therefore it is necessary to analyze the concentration of ascorbic acid. Nowadays there is a lot of quantitative analysis to detect ascorbic acid in example electrochemistry, and high performance liquid chromatography with UV-Visible detector (or other detector). These techniques are selective, less time consuming and worldwide. In this work UV-visible spectroscopy was applied as another choice to study the amount of ascorbic acid because of its simple, less time consuming, and inexpensive. Method validation of quantitative analysis for ascorbic acid using UV-visible spectroscopy was reported such as linearity range, precision, and detection limit. These results were shown that the linearity range was in the range of 0.1-50  $\mu\text{M}$ , %RSD was 0-10%, and detection limit is 0.02  $\mu\text{M}$  at 265 nm. Moreover the limitation of analysis time was proposed in this work. The result was presented that the 0-360 minutes analysis time provided the reliable data. At higher 360 minutes analysis time the absorbance of ascorbic acid was uncertainly.

**Keywords:** Ascorbic acid, UV-visible spectroscopy, method validation