

## Kinetic study of ascorbic acid degradation from grapes

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**Abstract** The aim of this study was to investigate the effect of storage at  $-4^{\circ}\text{C}$  on the ascorbic acid (vitamin C) content of grapes (*Vitis vinifera*) for 1, 2, 5 and 8 months. A sensitive UV-VIS spectrometric method based on Prussian Blue reaction was applied for vitamin C determination and some kinetic calculations were presented. The varieties of red and white grapes used were from Murfatlar vineyard: Mamaia, Cristina and Columna. Fresh samples before storage and samples after one, two, five and nine month of storage in the freezer were investigated. The half time values of ascorbic acid degradation are between 160.78 and 232.23 hours, respectively between  $2.9 \times 10^{-3} \text{ hours}^{-1}$  and  $4.3 \times 10^{-3} \text{ hours}^{-1}$  for constant rate. It was observed that the concentration of ascorbic acid from studied grapes decreases with the increase of the storage time.

**Keywords:** kinetic study, ascorbic acid, grapes, Murfatlar vineyard, Prussian Blue reaction

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