**KAJIAN KINETIKA PENENTUAN PERSAMAAN LAJU REAKSI DARI PENETAPAN KADAR VITAMIN C DAUN PEPAYA (*Carica papaya* L*.)* DENGAN METODE TITRASI TITRIMETRI**

**ABSTRAK**

**RANISA**

**162114194**

Pepaya merupakan tanaman serbaguna, pepaya kaya akan antioksidan, β-karoten, vitamin C dan flavanoid. Vitamin C mudah rusak ketika dimasak dan diolah serta terkena udara dan cahaya. Metode studi kinetika reaksi oksidasi vitamin C dapat dilakukan melalui literature value, distribution turn over, distribution abuse test, consumer complaints, dan accelerated shelf-life testing. Tujuan penelitian ini untuk mengetahui kadar vitamin C daun pepaya (*Carica papaya* L.) ditinjau menggunakan kajian kinetika mengikuti persamaan orde reaksi.

Metode penelitian ini merupakan deskriptif analitik dengan menggunakan metode *cross sectional* yaitu melakukan pengamatan dengan pengambilan data yang sudah berlangsung dan melakukan telaah hasil dari penelitian yang telah berlangsung. Pengambilan data dilakukan secara prospektif melalui pengambilan data sekunder berupa hasil penelitian yang telah dilakukan oleh peneliti lainnya.

Hasil penelitian menunjukkan kadar vitamin C pada pelarut air dengan perlakuan direbus selama 5 menit menggunakan tanah memiliki kadar vitamin C yang paling tinggi sebesar 3,923 mg. Sedangkan pada pelarut etanol menunjukkan kadar vitamin C pada pelarut etanol dengan perlakuan direbus selama 5 menit menggunakan tanah memiliki kadar vitamin C yang paling tinggi yaitu sebesar 10,828 mg.

Kesimpulan dari penelitian ini adalah kadar vitamin C daun pepaya dapat ditinjau menggunakan kajian kinetika mengikuti persamaan orde reaksi nol, satu dan dua dimana nilai r2 orde nol pada pelarut air sebesar 0,94, nilai r2 orde satu pada pelarut air sebesar 0,9198 dan nilai r2 orde dua pada pelarut air sebesar 0,8969 sedangkan persamaan orde reaksi nol, satu dan dua dimana nilai r2 orde nol pada pelarut etanol sebesar 0,9985, nilai r2 orde satu pada pelarut etanol sebesar 0,9976 dan nilai r2 orde dua pada pelarut etanol sebesar 0,9963.

**Kata kunci:** *Kajian Kinetika, kadar vitamin C, Orde reaksi, Daun Pepaya*

**KINETIC STUDY OF DETERMINING OTHER REACTION EQUATION FROM VITAMIN C CONTENTS OF PAPAYA LEAVES (Carica papaya L.) USING TITRIMETRY TITRATION METHOD**

**ABSTRACT**

**RANISA**

**162114194**

Papaya is a versatile plant, papaya is rich in antioxidants, β-carotene, vitamin C and flavonoids. Vitamin C breaks down easily when cooked and processed and is exposed to air and light. Methods of studying the kinetics of the vitamin C oxidation reaction can be carried out through literature values, distribution turnover, distribution abuse tests, consumer complaints, and accelerated shelf-life testing. The purpose of this study was to determine the levels of vitamin C in papaya leaves (Carica papaya L.) in terms of using kinetics studies following the equation of the reaction order.

This research methodis a descriptive analytic using cross sectional method, namely making observations with taking data that has been taking place and analyzing the results of the research that has been taking place. Data was collected prospectively through secondary data collection in the form of research results that have been conducted by other researchers.

Research result showed that vitamin C levels in water solvent treated with boiling for 5 minutes using soil had the highest vitamin C content of 3.923 mg. Meanwhile, the ethanol solvent shows that the vitamin C content in ethanol solvent with boiling treatment for 5 minutes using soil has the highest vitamin C content, which is 10.828 mg.

The conclusion of this study is that the vitamin C content of papaya leaves can be reviewed using a kinetics study following the equation of the zero, one and two order reactions where the zero order r2 value in water solvent is 0.94, the first order r2 value in water solvent is 0.9198 and the value r2 second order in water solvent is 0.8969 while the equation of the reaction order is zero, one and two where the zero order r2 value in ethanol solvent is 0.9985, the first order r2 value in ethanol solvent is 0.9976 and the second order r2 value in the solvent ethanol of 0.9963.

**Keywords:** *Kinetics studies, vitamin C levels, reaction order, Papaya leaves*