**Lampiran 1.** Hasil Determinasi Tanaman Kubis Putih

KEMENTERIAN RISET, TEKNOLOGI DAN PENDIDIKAN TINGGI
UNIVERSITAS DIPONEGORO
FAKULTAS SAINS DAN MATEMATIKA
LABORATORIUM EKOLOGI DAN BIOSISTEMATIK DEPARTEMEN BIOLOGI
Jl. Prof. H. Soedarto SH Tembalang Semarang, 024 7474754. 024 76480923

## HASIL DETERMINASI / IDENTIFIKASI

KLASIFIKASI

| | |
|---|---|
| Kingdom | : Plantae |
| Divisi | : Spermatophyta |
| Sub Divisi | : Angiospremae |
| Class | : Dicotyledoneae |
| Ordo | : Brassicales |
| Famili | : Brassicaceae / Crusiferae |
| Genus | : *Brassica* |
| Species | : *Brassica oleracea var. capitata alba*. (Kubis Cuciwis) |

DESKRIPSI

1b, 2b, 3b, 4b, 12b, 13b, 14b, 17b, 18b, 19b, 20b, 21b, 22b, 23b, 24b, 25b, 26b, 27b, 799b, 800b, 801b, 802a, 803b, 804b, 805c, 806b, 807b, 809b, 810b, 811a, 812b, 815b, 816b, 818b, 820b, 821b, 822b, 824b, 825b, 826b, 829b, 830b, 831b, 832b, 833b, 834a, 835a, 836a, 837c, 851a, 852b, 853b, 854a, 855c, 856b, 857a, 858a, 859c, 860b, 872b, 874b, 875b, 876b, 877c, 916a, 917a, 918b, 919b, ..... Famili 32 : Brassicaceae ..... 1b, 6b, 7b, 10a, .....Genus 3. *Brassica*. ..... 1b .... Species : *Brassica olerarcea* L. var *capitata alba* (Kubis Cuciwis).

DESKRIPSI

Cuciwis merupakan varian dari Kubis atau kol, merupakan tanaman sayur famili Brassicaceae berupa tumbuhan berbatang lunak yang dikenal sejak lama dan merupakan tanaman yang dikenal di masyarakat umum. Mulanya kubis merupakan tanaman pengganggu (gulma) yang tumbuh liar disepanjang pantai laut Tengah, di karang-karang pantai Inggris, Denmark dan pantai Barat Prancis sebelah Utara. Kubis mulai ditanam di kebun-kebun Eropa kira-kira abad ke 9 dan dibawa ke Amerika oleh emigran Eropa serta ke Indonesia abad ke 16 atau 17.

PUSTAKA :

Backer and van den Brink (1968) Flora of Java, Vol. I – III, Wolters – Noordhoff NV – Groningen – The Netherlands.

Van Steenis, CGGJ. (1985) Flora untuk sekolah di Indonesia, terjemahan Moesa Suryowinoto, dkk) PT. Pradnya Paramita Jakarta Pusat.

**Lampiran 1.** Lanjutan...

KEMENTERIAN RISET, TEKNOLOGI DAN PENDIDIKAN TINGGI
UNIVERSITAS DIPONEGORO
FAKULTAS SAINS DAN MATEMATIKA
LABORATORIUM EKOLOGI DAN BIOSISTEMATIK DEPARTEMEN BIOLOGI
Jl. Prof. H. Soedarto SH Tembalang Semarang, 024 7474754. 024 76480923

**Lampiran 1.** Lanjutan...

KEMENTERIAN RISET, TEKNOLOGI DAN PENDIDIKAN TINGGI
UNIVERSITAS DIPONEGORO
**FAKULTAS SAINS DAN MATEMATIKA**
LABORATORIUM EKOLOGI DAN BIOSISTEMATIK DEPARTEMEN BIOLOGI
Jl. Prof. H. Soedarto SH Tembalang Semarang, 024 7474754. 024 76480923

## SURAT KETERANGAN

Yang bertanda tangan dibawah ini, menyatakan bahwa mahasiswa sbb :

| | |
|---|---|
| Nama | : ELSA SETYASIH |
| NIM | : 135010947 |
| Fakultas / Prodi | : FARMASI |
| Perguruan Tinggi | : UNIVERSITAS WAHID HASYIM SEMARANG |
| Judul Skripsi | : "Pengaruh Suhu dan Lama Penyimpanan terhadap Kadar Flavonoid dalam Ekstak *Brassica oleracea* Var. *capitata alba* dan Aktivitas Antioksidannya dengan Metode DPPH" |
| Pembimbing | : - |

Telah melakukan determinasi / identifikasi sampel tumbuhan (satu jenis) di Laboratorium Ekologi dan Biosistematik Departemen Biologi Fakultas Sains dan Matematika Universitas Diponegoro. Hasil determinasi / identifikasi terlampir.

Demikian Surat Keterangan ini dibuat untuk dapat digunakan seperlunya.

Semarang, Juli 2017
Laboratorium Ekologi Dan Biosistematik
Kepala

UNIVERSITAS DIPONEGORO • LABORATORIUM BIOLOGI • FAKULTAS MIPA

Dr. Mochamad Hadi, M.Si.
NIP. 196001081987031002

**Lampiran 2.** Surat Keterangan telah Melakukan Penelitian di Laboratorium Kimia Fakultas Farmasi Universitas Wahid Hasyim Semarang

UNIVERSITAS WAHID HASYIM
**FAKULTAS FARMASI**
BAGIAN KIMIA FARMASI
Jl. Menoreh Tengah X / 22 Sampangan – Semarang 50236 Telp. (024) 8505680 – 8505681 fax. (024) 8505680

**SURAT KETERANGAN**
No. 0.01 / C.05/UWH/I/ 2018

Assalamu'alaikum Wr. Wb.

Yang bertanda tangan dibawah ini, Kepala Bagian Kimia Farmasi Fakultas Farmasi Universitas Wahid Hasyim Semarang menerangkan bahwa :

Nama : Elsa Setyasih
NIM : 135010947
Fak/ Univ/ Sekolah : Farmasi / Universitas Wahid Hasyim

Telah melakukan Penelitian menggunakan Spektrofotometer UV-Vis di Laboratorium Kimia Analisa, Fakultas Farmasi Universitas Wahid Hasyim Semarang, dengan judul penelitian : "Pengaruh Suhu dan Lama Penyimpanan Terhadap Kadar Flavonoid Total dan Aktivitas Antioksidan Ekstrak Etanol Kubis Putih (*Brassica oleracea* var. Capitata alba)"

Demikian surat keterangan ini dibuat untuk dipergunakan semestinya.

Wassalamu'alaikum Wr. Wb.

Semarang, Januari 2018
Ka.Bag Kimia Farmasi

Maria Ulfah, M.Sc, Apt

**Lampiran 3.** Surat Keterangan telah Melakukan Penelitian di Laboratorium Teknologi Pangan Fakultas Teknologi Pertanian Universitas Katholik Soegijapranata

**Fakultas Teknologi Pertanian**
**Program Studi Teknologi Pangan**
Jl. Pawiyatan Luhur IV/1 Bendan Duwur Semarang 50234
Telp. (024) 8441555 ,8505003(hunting) Fax.(024) 8415429 - 8445265
e-mail:unika@unika.ac.id http://www.unika.ac.id

Unika SOEGIJAPRANATA

Nomor : 67/ /H.5/FTP-CFA/IX/2017 6 September 2017

Lampiran : 1 lembar

Perihal : Hasil analisa

Kepada Yth.

Dekan

Fakultas Farmasi

Universitas Wahid Hasyim

Di Semarang

Dengan hormat,

Bersama surat ini kami beritahukan bahwa Mahasiswa atas nama Elsa Setyasih (NIM : 135010947) telah melakukan proses ekstraksi dengan menggunakan *rotary evaporator* pada sampel Kubis Putih di Laboratorium Ilmu Pangan Universitas Katolik Soegijapranata Semarang.

Demikian pemberitahuan kami, atas perhatian dan kerjasamanya kami ucapkan terima kasih.

Hormat kami,

Ka. Balai Penelitian Mutu dan Keamanan Pangan

Dr. Probo Y. Nugrahedi , STP, MSc

**Lampiran 4 .** Perhitungan Rendemen Ekstrak Kubis Putih

$$\text{Rendemen} = \frac{\text{Berat ekstrak kental}}{\text{Berat kubis putih}} \times 100\%$$

Keterangan :

Berat kubis putih : 100 gram

| Perlakuan | Hari | Berat Ekstrak (g) | Rendemen (%) |
|---|---|---|---|
| Kontrol | 0 | 6,12 | 6,12 |
| Suhu Dingin (0-5°C) | 3 | 4,20 | 4,20 |
| | 6 | 3,78 | 3,78 |
| | 9 | 4,65 | 4,65 |
| Suhu sejuk (5-15°C) | 3 | 4,25 | 4,25 |
| | 6 | 2,77 | 2,77 |
| | 9 | 4,50 | 4,50 |
| Suhu Kamar (15-30°C) | 3 | 4,20 | 4,20 |
| | 6 | 3,90 | 3,90 |
| | 9 | 7,38 | 7,38 |

**Lampiran 5.** Perhitungan Identifikasi Flavonoid dengan KLT

1. Perhitungan Fase Gerak

   Fase Gerak = Butanol : Asam Asetat : Aquadest (7:1:2)

   Volume chamber = 40 mL

   Butanol $= \frac{7\ mL}{10\ mL}$ x 40 mL = 28 mL

   Asam asetat $= \frac{1\ mL}{10\ mL}$ x 40 mL = 4 mL

   Aquadest $= \frac{2\ mL}{10\ mL}$ x 40 mL = 8 mL

2. Perhitungan Rf

   $$Rf = \frac{\text{Jarak yang ditempuh senyawa terlarut}}{\text{jarak yang ditempuh pelarut}}$$

   Rf Rutin $= \frac{4,5}{8} = 0,56$

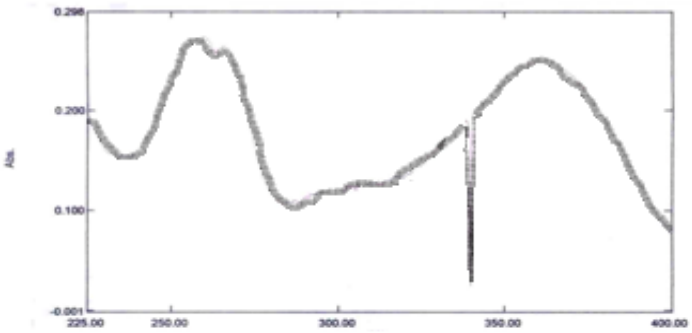
   Rf sampel $= \frac{4,8}{8} = 0,6$

**Lampiran 6.** Hasil Penentuan Panjang Gelombang Maksimal Rutin

1. Perhitungan Larutan Stok

   50 mg Rutin ad 10 mL = 5 mg/mL, diambil 2 mL→ 10 mg ad 100 mL = 100 mcg/mL = 100 ppm

2. Penentuan Panjang Gelombang Maksimal




| No. | P/V | Wavelength | Abs. | Description |
|---|---|---|---|---|
| 1 | | 372.80 | 0.225 | |
| 2 | | 366.50 | 0.245 | |
| 3 | | 364.70 | 0.248 | |
| 4 | | 362.70 | 0.251 | |
| 5 | | 359.70 | 0.249 | |
| 6 | | 357.70 | 0.247 | |
| 7 | | 355.30 | 0.244 | |
| 8 | | 350.30 | 0.234 | |
| 9 | | 338.60 | 0.189 | |
| 10 | | 337.90 | 0.190 | |
| 11 | | 336.70 | 0.185 | |
| 12 | | 329.70 | 0.162 | |
| 13 | | 323.70 | 0.145 | |
| 14 | | 320.90 | 0.137 | |
| 15 | | 320.10 | 0.134 | |
| 16 | | 317.70 | 0.135 | |
| 17 | | 314.20 | 0.129 | |
| 18 | | 311.10 | 0.128 | |
| 19 | | 305.90 | 0.127 | |
| 20 | | 304.60 | 0.124 | |
| 21 | | 303.10 | 0.125 | |
| 22 | | 299.80 | 0.122 | |
| 23 | | 297.90 | 0.121 | |
| 24 | | 294.10 | 0.118 | |

| No. | P/V | Wavelength | Abs. | Description |
|---|---|---|---|---|
| 25 | | 292.10 | 0.116 | |
| 26 | | 290.50 | 0.114 | |
| 27 | | 287.30 | 0.110 | |
| 28 | | 265.70 | 0.264 | |
| 29 | | 260.10 | 0.273 | |
| 30 | | 255.10 | 0.266 | |
| 31 | | 242.60 | 0.174 | |
| 32 | | 372.30 | 0.225 | |
| 33 | | 364.20 | 0.247 | |
| 34 | | 361.30 | 0.248 | |
| 35 | | 358.10 | 0.247 | |
| 36 | | 355.90 | 0.242 | |
| 37 | | 352.70 | 0.236 | |
| 38 | | 350.80 | 0.233 | |
| 39 | | 348.50 | 0.223 | |
| 40 | | 339.70 | 0.024 | |
| 41 | | 338.40 | 0.188 | |
| 42 | | 336.90 | 0.184 | |
| 43 | | 335.80 | 0.180 | |
| 44 | | 329.10 | 0.157 | |
| 45 | | 321.40 | 0.136 | |
| 46 | | 319.10 | 0.130 | |
| 47 | | 309.80 | 0.124 | |
| 48 | | 307.30 | 0.124 | |

Panjang gelombang (λ) maksimal rutin = 260,1 nm

**Lampiran 7**.Perhitungan Seri Konsentrasi Kurva Baku Rutin

25 µL rutin5 mg/mL→$\frac{0{,}025\ \text{mL}}{1\ \text{mL}}$ x 5 mg = 0,125 mg ad 25 mL

→ 125 mcg/25 mL = 5 mcg/mL = 5 ppm

50 µL rutin5 mg/mL→$\frac{0{,}050\ \text{mL}}{1\ \text{mL}}$ x 5 mg = 0,250 mg ad 25 mL

→ 250 mcg/25 mL = 10 mcg/mL = 10 ppm

75 µL rutin5 mg/mL→$\frac{0{,}075\ \text{mL}}{1\ \text{mL}}$ x 5 mg = 0,375 mg ad 25 mL

→ 375 mcg/25 mL = 15 mcg/mL = 15 ppm

100 µL rutin5 mg/mL→$\frac{0{,}100\ \text{mL}}{1\ \text{mL}}$ x 5 mg = 0,500 mg ad 25 mL

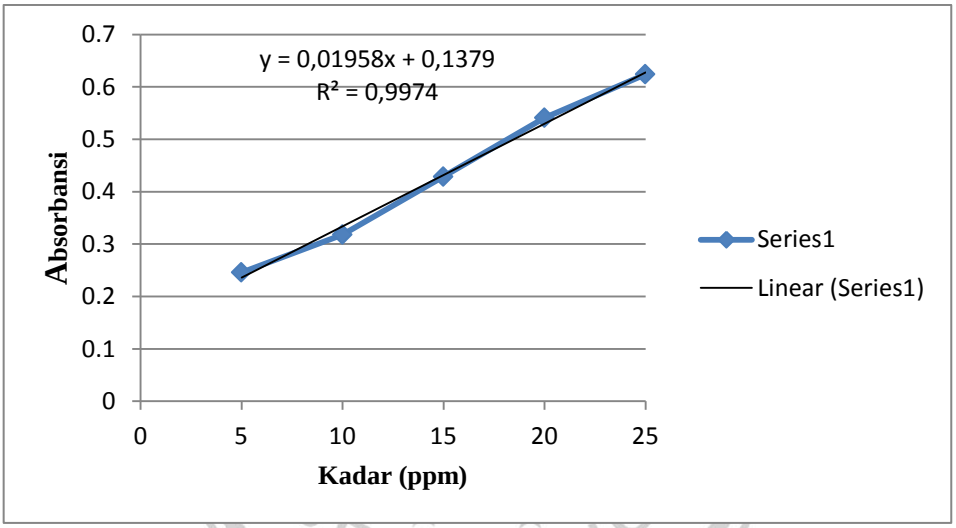
→ 500 mcg/25 mL = 20 mcg/mL = 20 ppm

125 µL rutin5 mg/mL→$\frac{0{,}125\ \text{mL}}{1\ \text{mL}}$ x 5 mg = 0,625 mg ad 25 mL

→ 625 mcg/25 mL = 25 mcg/mL = 25 ppm

**Lampiran 8.**Hasil Absorbansi dan Perhitungan Persamaan Kurva Baku Rutin

| Kadar (ppm) | Absorbansi (λ 260,1 nm) |
|---|---|
| 5 | 0.246 |
| 10 | 0.318 |
| 15 | 0.429 |
| 20 | 0.541 |
| 25 | 0.624 |




Regresi Linier Persamaan Kurva Baku

a = 0,1379

b = 0,0196

**R = 0,9974**

Y = bX + a

**Y = 0,01958X + 0,1379**

**Lampiran 9.**Hasil Absorbansi dan Perhitungan Kadar Flavonoid Kubis Putih

Kadar Flavonoid(X) = $\frac{Y-a}{b}$ x FP

= $\frac{Y-0,1379}{0,01958}$ x FP

Kadar favonoid (X) = $\frac{0,614-0,1379}{0,01958}$ x 5

= 121,58 ppm

| Lama | Suhu | Absorbansi | Kadar Flavonoid (ppm) | Kadar Rata-rata Flavonoid (ppm) |
|---|---|---|---|---|
| 0 Hari | Kamar (15-30°C) | 0.614 | 121.58 | 121.24 ± 0.39 |
| | | 0.613 | 121.32 | |
| | | 0.611 | 120.81 | |
| 3 Hari | Dingin (0-5°C) | 0.462 | 82.76 | 83.19 ± 0.39 |
| | | 0.464 | 83.27 | |
| | | 0.465 | 83.53 | |
| | Sejuk (5-15°C) | 0.586 | 114.48 | 114.17 ± 0.26 |
| | | 0.585 | 114.17 | |
| | | 0.584 | 113.92 | |
| | Kamar (15-30°C) | 0.427 | 73.83 | 73.91 ± 0.15 |
| | | 0.427 | 73.83 | |
| | | 0.428 | 74.08 | |
| 6 Hari | Dingin (0-5°C) | 0.423 | 72.80 | 73.91 ± 0.97 |
| | | 0.429 | 74.34 | |
| | | 0.430 | 74.59 | |
| | Sejuk (5-15°C) | 0.551 | 105.49 | 105.24 ± 0.26 |
| | | 0.549 | 104.98 | |
| | | 0.550 | 105.24 | |
| | Kamar (15-30°C) | 0.352 | 54.67 | 55.01 ± 0.82 |
| | | 0.357 | 55.95 | |
| | | 0.351 | 54.42 | |
| 9 Hari | Dingin (0-5°C) | 0.290 | 38.84 | 39.78 ± 0.90 |
| | | 0.294 | 39.86 | |
| | | 0.297 | 40.63 | |
| | Sejuk (5-15°C) | 0.335 | 50.33 | 50.84 ± 0.51 |
| | | 0.337 | 50.84 | |
| | | 0.339 | 51.35 | |
| | Kamar (15-30°C) | 0.430 | 29.84 | 30.11± 0.26 |
| | | 0.433 | 30.14 | |
| | | 0.435 | 30.35 | |

**Lampiran 10.**Hasil Analisis Statistik Pengaruh Suhu dan Lama Penyimpananterhadap Kadar Flavonoid

1. UJI HOMOGENITAS

**Test of Homogeneity of Variances**

kadar

| Levene Statistic | df1 | df2 | Sig. |
|---|---|---|---|
| 2.189 | 9 | 20 | .069 |

Signifikansi lebih dari 0,05 →data homogen

2. UJI NORMALITAS

**Tests of Normality**

| | | Kolmogorov-Smirnov[a] | | | Shapiro-Wilk | | |
|---|---|---|---|---|---|---|---|
| | perlakuankubis putih | Statistic | df | Sig. | Statistic | df | Sig. |
| kadar | kontrol | .176 | 3 | . | 1.000 | 3 | .983 |
| | 3 hari suhu dingin | .253 | 3 | . | .964 | 3 | .637 |
| | 3 hari suhu sejuk | .175 | 3 | . | 1.000 | 3 | .998 |
| | 3 hari suhu kamar | .253 | 3 | . | .964 | 3 | .637 |
| | 6 hari suhu dingin | .337 | 3 | . | .855 | 3 | .253 |
| | 6 hari suhu sejuk | .175 | 3 | . | 1.000 | 3 | 1.000 |
| | 6 hari suhu kamar | .328 | 3 | . | .871 | 3 | .298 |
| | 9 hari suhu dingin | .292 | 3 | . | .923 | 3 | .463 |
| | 9 hari suhu sejuk | .175 | 3 | . | 1.000 | 3 | 1.000 |
| | 9 hari suhu kamar | .219 | 3 | . | .987 | 3 | .781 |

a. Lilliefors Significance Correction

Signifikansi lebih dari 0,05 → data normal

3. UJI ANOVA 2 JALAN

**Tests of Between-Subjects Effects**

Dependent Variable:kadar

| Source | Type III Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|
| Corrected Model | 26706.687[a] | 9 | 2967.410 | 9.155E3 | .000 |
| Intercept | 171638.662 | 1 | 171638.662 | 5.295E5 | .000 |
| suhu | 6411.998 | 2 | 3205.999 | 9.891E3 | .000 |
| lama_penyimpanan | 12281.059 | 2 | 6140.529 | 1.894E4 | .000 |
| suhu * lama_penyimpanan | 778.385 | 4 | 194.596 | 600.367 | .000 |
| Error | 6.483 | 20 | .324 | | |
| Total | 194254.647 | 30 | | | |
| Corrected Total | 26713.169 | 29 | | | |

a. R Squared = 1,000 (Adjusted R Squared = 1,000)

Signifikansi < 0,05 → terdapat perbedaan yang signifikan

**Lampiran 11.** Hasil Analisis Statistik Kadar Flavonoidberdasarkan SuhuPenyimpanan

a. Dingin

**Test of Homogeneity of Variances**

kadar

| Levene Statistic | df1 | df2 | Sig. |
|---|---|---|---|
| 2.218 | 3 | 8 | .164 |

## Post Hoc

**Multiple Comparisons**

kadar
Tukey HSD

| (I) suhu dingin | (J) suhu dingin | Mean Difference (I-J) | Std. Error | Sig. | 95% Confidence Interval | |
|---|---|---|---|---|---|---|
| | | | | | Lower Bound | Upper Bound |
| kontrol | 3 hari | 38.131767* | .5712783 | .000 | 36.302332 | 39.961201 |
| | 6 hari | 47.409900* | .5712783 | .000 | 45.580466 | 49.239334 |
| | 9 hari | 81.543367* | .5712783 | .000 | 79.713932 | 83.372801 |
| 3 hari | kontrol | -38.131767* | .5712783 | .000 | -39.961201 | -36.302332 |
| | 6 hari | 9.278133* | .5712783 | .000 | 7.448699 | 11.107568 |
| | 9 hari | 43.411600* | .5712783 | .000 | 41.582166 | 45.241034 |
| 6 hari | kontrol | -47.409900* | .5712783 | .000 | -49.239334 | -45.580466 |
| | 3 hari | -9.278133* | .5712783 | .000 | -11.107568 | -7.448699 |
| | 9 hari | 34.133467* | .5712783 | .000 | 32.304032 | 35.962901 |
| 9 hari | kontrol | -81.543367* | .5712783 | .000 | -83.372801 | -79.713932 |
| | 3 hari | -43.411600* | .5712783 | .000 | -45.241034 | -41.582166 |
| | 6 hari | -34.133467* | .5712783 | .000 | -35.962901 | -32.304032 |

*. The mean difference is significant at the ,05 level.

**Lampiran 11.**Lanjutan...

b. Sejuk

**Test of Homogeneity of Variances**

kadar

| Levene Statistic | df1 | df2 | Sig. |
|---|---|---|---|
| .564 | 3 | 8 | .654 |

## Post Hoc

**Multiple Comparisons**

kadar
Tukey HSD

| (I) suhu sejuk | (J) suhu sejuk | Mean Difference (I-J) | Std. Error | Sig. | 95% Confidence Interval | |
|---|---|---|---|---|---|---|
| | | | | | Lower Bound | Upper Bound |
| kontrol | 3 hari | 7.147700* | .2763548 | .000 | 6.262715 | 8.032685 |
| | 6 hari | 16.085367* | .2763548 | .000 | 15.200381 | 16.970352 |
| | 9 hari | 70.477667* | .2763548 | .000 | 69.592681 | 71.362652 |
| 3 hari | kontrol | -7.147700* | .2763548 | .000 | -8.032685 | -6.262715 |
| | 6 hari | 8.937667* | .2763548 | .000 | 8.052681 | 9.822652 |
| | 9 hari | 63.329967* | .2763548 | .000 | 62.444981 | 64.214952 |
| 6 hari | kontrol | -16.085367* | .2763548 | .000 | -16.970352 | -15.200381 |
| | 3 hari | -8.937667* | .2763548 | .000 | -9.822652 | -8.052681 |
| | 9 hari | 54.392300* | .2763548 | .000 | 53.507315 | 55.277285 |
| 9 hari | kontrol | -70.477667* | .2763548 | .000 | -71.362652 | -69.592681 |
| | 3 hari | -63.329967* | .2763548 | .000 | -64.214952 | -62.444981 |
| | 6 hari | -54.392300* | .2763548 | .000 | -55.277285 | -53.507315 |

*. The mean difference is significant at the ,05 level.

**Lampiran 11.**Lanjutan...

c. Kamar

**Test of Homogeneity of Variances**

kadar

| Levene Statistic | df1 | df2 | Sig. |
|---|---|---|---|
| 3.375 | 3 | 8 | .075 |

## Post Hoc

**Multiple Comparisons**

kadar
Tukey HSD

| (I) kamar | (J) kamar | Mean Difference (I-J) | Std. Error | Sig. | 95% Confidence Interval | |
|---|---|---|---|---|---|---|
| | | | | | Lower Bound | Upper Bound |
| kontrol | 3 hari | 47.580163* | .3998180 | .000 | 46.299805 | 48.860521 |
| | 6 hari | 66.306767* | .3998180 | .000 | 65.026409 | 67.587125 |
| | 9 hari | 91.211400* | .3998180 | .000 | 89.931042 | 92.491758 |
| 3 hari | kontrol | -47.580163* | .3998180 | .000 | -48.860521 | -46.299805 |
| | 6 hari | 18.726603* | .3998180 | .000 | 17.446245 | 20.006961 |
| | 9 hari | 43.631237* | .3998180 | .000 | 42.350879 | 44.911595 |
| 6 hari | kontrol | -66.306767* | .3998180 | .000 | -67.587125 | -65.026409 |
| | 3 hari | -18.726603* | .3998180 | .000 | -20.006961 | -17.446245 |
| | 9 hari | 24.904633* | .3998180 | .000 | 23.624275 | 26.184991 |
| 9 hari | kontrol | -91.211400* | .3998180 | .000 | -92.491758 | -89.931042 |
| | 3 hari | -43.631237* | .3998180 | .000 | -44.911595 | -42.350879 |
| | 6 hari | -24.904633* | .3998180 | .000 | -26.184991 | -23.624275 |

*. The mean difference is significant at the ,05 level.

**Lampiran 12.** Hasil Analisis Statistik Kadar Flavonoidberdasarkan LamaPenyimpanan

a. 3 hari

**Test of Homogeneity of Variances**

kadar

| Levene Statistic | df1 | df2 | Sig. |
|---|---|---|---|
| .469 | 3 | 8 | .712 |

**Pos Hoc**

**Multiple Comparisons**

kadar
Tukey HSD

| (I) 3 hari | (J) 3 hari | Mean Difference (I-J) | Std. Error | Sig. | 95% Confidence Interval | |
|---|---|---|---|---|---|---|
| | | | | | Lower Bound | Upper Bound |
| kontrol | suhu dingin | 38.131767* | .2697857 | .000 | 37.267818 | 38.995715 |
| | suhu sejuk | 7.147700* | .2697857 | .000 | 6.283751 | 8.011649 |
| | suhu kamar | 47.580163* | .2697857 | .000 | 46.716215 | 48.444112 |
| suhu dingin | kontrol | -38.131767* | .2697857 | .000 | -38.995715 | -37.267818 |
| | suhu sejuk | -30.984067* | .2697857 | .000 | -31.848015 | -30.120118 |
| | suhu kamar | 9.448397* | .2697857 | .000 | 8.584448 | 10.312345 |
| suhu sejuk | kontrol | -7.147700* | .2697857 | .000 | -8.011649 | -6.283751 |
| | suhu dingin | 30.984067* | .2697857 | .000 | 30.120118 | 31.848015 |
| | suhu kamar | 40.432463* | .2697857 | .000 | 39.568515 | 41.296412 |
| suhu kamar | kontrol | -47.580163* | .2697857 | .000 | -48.444112 | -46.716215 |
| | suhu dingin | -9.448397* | .2697857 | .000 | -10.312345 | -8.584448 |
| | suhu sejuk | -40.432463* | .2697857 | .000 | -41.296412 | -39.568515 |

*. The mean difference is significant at the ,05 level.

**Lampiran 12.** Lanjutan...

b. 6 hari

**Test of Homogeneity of Variances**

kadar

| Levene Statistic | df1 | df2 | Sig. |
|---|---|---|---|
| 4.230 | 3 | 8 | .457 |

**Post Hoc**

**Multiple Comparisons**

kadar
Tukey HSD

| (I) 6 hari | (J) 6 hari | Mean Difference (I-J) | Std. Error | Sig. | 95% Confidence Interval | |
|---|---|---|---|---|---|---|
| | | | | | Lower Bound | Upper Bound |
| kontrol | suhu dingin | 47.409900* | .5386073 | .000 | 45.685090 | 49.134710 |
| | suhu sejuk | 16.085367* | .5386073 | .000 | 14.360557 | 17.810177 |
| | suhu kamar | 66.306767* | .5386073 | .000 | 64.581957 | 68.031577 |
| suhu dingin | kontrol | -47.409900* | .5386073 | .000 | -49.134710 | -45.685090 |
| | suhu sejuk | -31.324533* | .5386073 | .000 | -33.049343 | -29.599723 |
| | suhu kamar | 18.896867* | .5386073 | .000 | 17.172057 | 20.621677 |
| suhu sejuk | kontrol | -16.085367* | .5386073 | .000 | -17.810177 | -14.360557 |
| | suhu dingin | 31.324533* | .5386073 | .000 | 29.599723 | 33.049343 |
| | suhu kamar | 50.221400* | .5386073 | .000 | 48.496590 | 51.946210 |
| suhu kamar | kontrol | -66.306767* | .5386073 | .000 | -68.031577 | -64.581957 |
| | suhu dingin | -18.896867* | .5386073 | .000 | -20.621677 | -17.172057 |
| | suhu sejuk | -50.221400* | .5386073 | .000 | -51.946210 | -48.496590 |

*. The mean difference is significant at the ,05 level.

**Lampiran12.** Lanjutan...

c. 9 hari

**Test of Homogeneity of Variances**

kadar

| Levene Statistic | df1 | df2 | Sig. |
|---|---|---|---|
| 1.543 | 3 | 8 | .277 |

**Post Hoc**

**Multiple Comparisons**

kadar
Tukey HSD

| (I) 9 hari | (J) 9 hari | Mean Difference (I-J) | Std. Error | Sig. | 95% Confidence Interval | |
|---|---|---|---|---|---|---|
| | | | | | Lower Bound | Upper Bound |
| kontrol | suhu dingin | 81.543367* | .4468817 | .000 | 80.112294 | 82.974439 |
| | suhu sejuk | 70.477667* | .4468817 | .000 | 69.046594 | 71.908739 |
| | suhu kamar | 91.211400* | .4468817 | .000 | 89.780328 | 92.642472 |
| suhu dingin | kontrol | -81.543367* | .4468817 | .000 | -82.974439 | -80.112294 |
| | suhu sejuk | -11.065700* | .4468817 | .000 | -12.496772 | -9.634628 |
| | suhu kamar | 9.668033* | .4468817 | .000 | 8.236961 | 11.099106 |
| suhu sejuk | kontrol | -70.477667* | .4468817 | .000 | -71.908739 | -69.046594 |
| | suhu dingin | 11.065700* | .4468817 | .000 | 9.634628 | 12.496772 |
| | suhu kamar | 20.733733* | .4468817 | .000 | 19.302661 | 22.164806 |
| suhu kamar | kontrol | -91.211400* | .4468817 | .000 | -92.642472 | -89.780328 |
| | suhu dingin | -9.668033* | .4468817 | .000 | -11.099106 | -8.236961 |
| | suhu sejuk | -20.733733* | .4468817 | .000 | -22.164806 | -19.302661 |

*. The mean difference is significant at the ,05 level.

**Lampiran 13.**Hasil Perhitungan Panjang Gelombang Maksimal DPPH

1. Perhitungan Stok DPPH

   Molaritas DPPH yang dibutuhkan 0,4 mM = 4 x $10^{-4}$ M

   MR DPPH = 394,32 g/mol

   Volume larutan = 100 mL = 0,1 L

   Penimbangan DPPH=>Molaritas = $\frac{\text{gram}}{\text{MR}} \text{x} \frac{1000}{\text{volume}}$

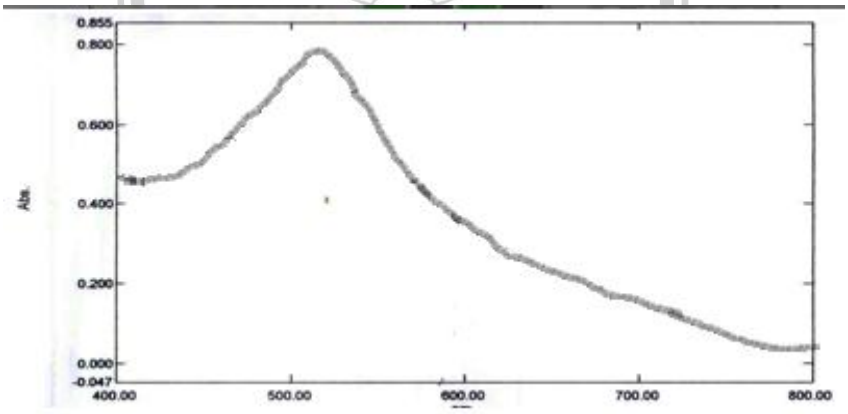
   $$4 \text{ x } 10^{-4} \text{ M} = \frac{\text{gram}}{394,32} \text{x} \frac{1000}{100}$$

   $$4 \text{ x } 10^{-4} \text{ M} = \frac{\text{gram}}{394,32} \text{x } 10$$

   $$\text{gram} = \frac{394,32 \text{ x} (4 \text{ x } 10^{-4}) \text{ M}}{10} = 15,773 \text{ x } 10^{-3} \text{ gram}$$

   $$= 15,773 \text{ mg}$$

2. Panjang Gelombang Maksimal DPPH




| No. | P/V | Wavelength | Abs. | Description |
|---|---|---|---|---|
| 1 | ● | 518.50 | 0.779 | |
| 2 | ● | 429.00 | 0.466 | |
| 3 | ● | 417.50 | 0.461 | |
| 4 | ● | 787.50 | 0.034 | |
| 5 | ● | 430.00 | 0.465 | |
| 6 | ● | 419.50 | 0.460 | |
| 7 | ● | 415.50 | 0.457 | |

**Lampiran 14.** Hasil Absorbansi dan Perhitungan Aktivitas Antioksidan Kubis Putih

$$\% \text{ aktivitas antioksidan} = \frac{\text{absorbansi kontrol} - \text{absorbansi sampel}}{\text{absorbansi kontrol}} \times 100\%$$

Keterangan :

Absorbansi kontrol : Serapan radikal DPPH 0.4 mM pada panjang gelombang 518,5 nm => 0.970

Absorbansi sampel : Serapan radikal DPPH 0.4 mM dalam kubis putih pada panjang gelombang 518,5 nm

$$\% \text{ Aktivitas antioksidan} = \frac{0{,}970 - 0{,}672}{0{,}970} \times 100\%$$

$$= 30{,}72\ \%$$

| Lama | Suhu | absorbansi | Aktivitas Antioksidan (%) | Rata-rata Aktivitas Antioksidan ± SD (%) |
|---|---|---|---|---|
| 0 hari | Kamar (15-30°C) | 0.672 | 30.72 | 30.52 ± 0.21 |
| | | 0.676 | 30.31 | |
| | | 0.674 | 30.52 | |
| 3 hari | Dingin (0-5°C) | 0.703 | 27.53 | 27.94 ± 0.37 |
| | | 0.698 | 28.04 | |
| | | 0.696 | 28.25 | |
| | Sejuk (5-15°C) | 0.690 | 28.87 | 29.21 ± 0.51 |
| | | 0.689 | 28.97 | |
| | | 0.681 | 29.79 | |
| | Kamar (15-30°C)) | 0.709 | 26.91 | 26.49 ± 0.37 |
| | | 0.714 | 26.39 | |
| | | 0.716 | 26.19 | |
| 6 Hari | Dingin (0-5°C) | 0.726 | 25.15 | 26.39 ± 1.09 |
| | | 0.710 | 26.80 | |
| | | 0.706 | 27.22 | |
| | Sejuk (5-15°C) | 0.707 | 27.11 | 27.49 ± 0.42 |
| | | 0.704 | 27.42 | |
| | | 0.699 | 27.94 | |
| | Kamar (15-30°C) | 0.731 | 24.64 | 25.05 ± 0.37 |
| | | 0.726 | 25.15 | |
| | | 0.724 | 25.36 | |
| 9 hari | Dingin (0-5°C) | 0.731 | 24.64 | 25.33 ± 0,63 |
| | | 0.723 | 25.46 | |
| | | 0.719 | 25.88 | |
| | Sejuk (5-15°C) | 0.714 | 26.39 | 26.70 ± 0.31 |
| | | 0.711 | 26.70 | |
| | | 0.708 | 27.01 | |
| | Kamar (15-30°C) | 0.748 | 22.89 | 23.61 ± 0.68 |
| | | 0.740 | 23.71 | |
| | | 0.735 | 24.23 | |

**Lampiran 15.**Hasil Analisis Statistik Pengaruh Suhu dan Lama Penyimpanan terhadap Aktivitas Antioksidan Kubis Putih

1. UJI HOMOGENITAS

**Test of Homogeneity of Variances**

persen_inhibisi

| Levene Statistic | df1 | df2 | Sig. |
|---|---|---|---|
| 2.189 | 9 | 20 | .069 |

Signifikansi lebih dari 0,05 data homogen

2. UJI NORMALITAS

**Tests of Normality**

| | | Kolmogorov-Smirnov[a] | | | Shapiro-Wilk | | |
|---|---|---|---|---|---|---|---|
| | perlakuan | Statistic | df | Sig. | Statistic | df | Sig. |
| persen_inhibisi | KP 0 | .176 | 3 | . | 1.000 | 3 | .975 |
| | KP 3 SD | .276 | 3 | . | .942 | 3 | .537 |
| | KP 3 SJ | .349 | 3 | . | .832 | 3 | .194 |
| | KP 3 SK | .175 | 3 | . | 1.000 | 3 | 1.000 |
| | KP 6 SD | .314 | 3 | . | .893 | 3 | .363 |
| | KP 6 SJ | .232 | 3 | . | .980 | 3 | .726 |
| | KP 6 SK | .175 | 3 | . | 1.000 | 3 | 1.000 |
| | KP 9 SD | .253 | 3 | . | .964 | 3 | .637 |
| | KP 9 SJ | .175 | 3 | . | 1.000 | 3 | 1.000 |
| | KP 9 SK | .227 | 3 | . | .983 | 3 | .747 |

a. Lilliefors Significance Correction

Signifikansi lebih dari 0,05 data normal

3. UJI ANOVA 2 JALAN

**Tests of Between-Subjects Effects**

Dependent Variable:persen_inhibisi

| Source | Type III Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|
| Corrected Model | 110.985[a] | 9 | 12.332 | 41.915 | .000 |
| Intercept | 19883.169 | 1 | 19883.169 | 6.758E4 | .000 |
| suhu | 32.386 | 2 | 16.193 | 55.040 | .000 |
| lama_penyimpanan | 34.106 | 2 | 17.053 | 57.962 | .000 |
| suhu * lama_penyimpanan | 32.988 | 4 | 18.247 | 58.031 | .000 |
| Error | 5.884 | 20 | .294 | | |
| Total | 21780.882 | 30 | | | |
| Corrected Total | 116.869 | 29 | | | |

a. R Squared = ,950 (Adjusted R Squared = ,927)

Signifikansi <0,05 terdapat perbedaan yang signifikan

**Lampiran 15.**Lanjutan...

4. POST HOC

**Multiple Comparisons**

persen_inhibisi
Tukey HSD

| (I)suhu penyimpanan | (J) suhu penyimpanan | Mean Difference (I-J) | Std. Error | Sig. | 95% Confidence Interval | |
|---|---|---|---|---|---|---|
| | | | | | Lower Bound | Upper Bound |
| kontrol | suhu dingin | 2.631600* | .3616045 | .000 | 1.619492 | 3.643708 |
| | suhu sejuk | 4.200911* | .3616045 | .000 | 3.188803 | 5.213019 |
| | suhu kamar | 5.300556* | .3616045 | .000 | 4.288448 | 6.312664 |
| suhu dingin | kontrol | -2.631600* | .3616045 | .000 | -3.643708 | -1.619492 |
| | suhu sejuk | 1.569311* | .2556930 | .000 | .853643 | 2.284980 |
| | suhu kamar | 2.668956* | .2556930 | .000 | 1.953287 | 3.384624 |
| suhu sejuk | kontrol | -4.200911* | .3616045 | .000 | -5.213019 | -3.188803 |
| | suhu dingin | -1.569311* | .2556930 | .000 | -2.284980 | -.853643 |
| | suhu kamar | 1.099644* | .2556930 | .002 | .383976 | 1.815313 |
| suhu kamar | kontrol | -5.300556* | .3616045 | .000 | -6.312664 | -4.288448 |
| | suhu dingin | -2.668956* | .2556930 | .000 | -3.384624 | -1.953287 |
| | suhu sejuk | -1.099644* | .2556930 | .002 | -1.815313 | -.383976 |

Based on observed means.
The error term is Mean Square(Error) = ,294.

*. The mean difference is significant at the ,05 level.

**Multiple Comparisons**

persen_inhibisi
Tukey HSD

| (I) lama_penyimpanan | (J) lama_penyimpanan | Mean Difference (I-J) | Std. Error | Sig. | 95% Confidence Interval | |
|---|---|---|---|---|---|---|
| | | | | | Lower Bound | Upper Bound |
| KONTROL | 3HARI | 3.960356* | .3616045 | .000 | 2.948248 | 4.972464 |
| | 6HARI | 2.711778* | .3616045 | .000 | 1.699670 | 3.723886 |
| | 9HARI | 5.460933* | .3616045 | .000 | 4.448825 | 6.473041 |
| 3HARI | KONTROL | -3.960356* | .3616045 | .000 | -4.972464 | -2.948248 |
| | 6HARI | -1.248578* | .2556930 | .000 | -1.964246 | -.532909 |
| | 9HARI | 1.500578* | .2556930 | .000 | .784909 | 2.216246 |
| 6HARI | KONTROL | -2.711778* | .3616045 | .000 | -3.723886 | -1.699670 |
| | 3HARI | 1.248578* | .2556930 | .000 | .532909 | 1.964246 |
| | 9HARI | 2.749156* | .2556930 | .000 | 2.033487 | 3.464824 |
| 9HARI | KONTROL | -5.460933* | .3616045 | .000 | -6.473041 | -4.448825 |
| | 3HARI | -1.500578* | .2556930 | .000 | -2.216246 | -.784909 |
| | 6HARI | -2.749156* | .2556930 | .000 | -3.464824 | -2.033487 |

Based on observed means.
The error term is Mean Square(Error) = ,294.

*. The mean difference is significant at the ,05 level.

Terdapat perbedaan yang signifikan dari tiap kelompok perlakuan

**Lampiran 16.**Hasil Analisis Statistik Aktivitas Antioksidan berdasarkan Suhu Penyimpanan

a. Dingin

**Test of Homogeneity of Variances**

inhibisi

| Levene Statistic | df1 | df2 | Sig. |
|---|---|---|---|
| 3.688 | 3 | 8 | .062 |

**Post Hoc**

**Multiple Comparisons**

inhibisi
Tukey HSD

| (I) suhu dingin | (J) suhu dingin | Mean Difference (I-J) | Std. Error | Sig. | 95% Confidence Interval | |
|---|---|---|---|---|---|---|
| | | | | | Lower Bound | Upper Bound |
| kontrol | 3 hari | 2.574333* | .5425213 | .006 | .836989 | 4.311677 |
| | 6 hari | 4.120733* | .5425213 | .000 | 2.383389 | 5.858077 |
| | 9 hari | 5.186000* | .5425213 | .000 | 3.448656 | 6.923344 |
| 3 hari | kontrol | -2.574333* | .5425213 | .006 | -4.311677 | -.836989 |
| | 6 hari | 1.546400 | .5425213 | .082 | -.190944 | 3.283744 |
| | 9 hari | 2.611667* | .5425213 | .006 | .874323 | 4.349011 |
| 6 hari | kontrol | -4.120733* | .5425213 | .000 | -5.858077 | -2.383389 |
| | 3 hari | -1.546400 | .5425213 | .082 | -3.283744 | .190944 |
| | 9 hari | 1.065267 | .5425213 | .277 | -.672077 | 2.802611 |
| 9 hari | kontrol | -5.186000* | .5425213 | .000 | -6.923344 | -3.448656 |
| | 3 hari | -2.611667* | .5425213 | .006 | -4.349011 | -.874323 |
| | 6 hari | -1.065267 | .5425213 | .277 | -2.802611 | .672077 |

*. The mean difference is significant at the ,05 level.

**Lampiran 16.**Lanjutan...

b. Sejuk

**Test of Homogeneity of Variances**

inhibisi

| Levene Statistic | df1 | df2 | Sig. |
|---|---|---|---|
| 1.254 | 3 | 8 | .353 |

## Post Hoc

**Multiple Comparisons**

inhibisi
Tukey HSD

| (I) suhu sejuk | (J) suhu sejuk | Mean Difference (I-J) | Std. Error | Sig. | 95% Confidence Interval | |
|---|---|---|---|---|---|---|
| | | | | | Lower Bound | Upper Bound |
| kontrol | 3 hari | 1.302833* | .3078075 | .012 | .317125 | 2.288541 |
| | 6 hari | 3.021067* | .3078075 | .000 | 2.035359 | 4.006775 |
| | 9 hari | 3.811433* | .3078075 | .000 | 2.825725 | 4.797141 |
| 3 hari | kontrol | -1.302833* | .3078075 | .012 | -2.288541 | -.317125 |
| | 6 hari | 1.718233* | .3078075 | .002 | .732525 | 2.703941 |
| | 9 hari | 2.508600* | .3078075 | .000 | 1.522892 | 3.494308 |
| 6 hari | kontrol | -3.021067* | .3078075 | .000 | -4.006775 | -2.035359 |
| | 3 hari | -1.718233* | .3078075 | .002 | -2.703941 | -.732525 |
| | 9 hari | .790367 | .3078075 | .122 | -.195341 | 1.776075 |
| 9 hari | kontrol | -3.811433* | .3078075 | .000 | -4.797141 | -2.825725 |
| | 3 hari | -2.508600* | .3078075 | .000 | -3.494308 | -1.522892 |
| | 6 hari | -.790367 | .3078075 | .122 | -1.776075 | .195341 |

*. The mean difference is significant at the ,05 level.

**Lampiran 16.**Lanjutan...

c. Suhu kamar

**Test of Homogeneity of Variances**

inhibisi

| Levene Statistic | df1 | df2 | Sig. |
|---|---|---|---|
| 1.410 | 3 | 8 | .309 |

## Post Hoc

**Multiple Comparisons**

inhibisi
Tukey HSD

| (I) suhu kamar | (J) suhu kamar | Mean Difference (I-J) | Std. Error | Sig. | 95% Confidence Interval | |
|---|---|---|---|---|---|---|
| | | | | | Lower Bound | Upper Bound |
| kontrol | 3 hari | 4.017600* | .3591560 | .000 | 2.867456 | 5.167744 |
| | 6 hari | 5.460933* | .3591560 | .000 | 4.310789 | 6.611077 |
| | 9 hari | 6.904233* | .3591560 | .000 | 5.754089 | 8.054377 |
| 3 hari | kontrol | -4.017600* | .3591560 | .000 | -5.167744 | -2.867456 |
| | 6 hari | 1.443333* | .3591560 | .016 | .293189 | 2.593477 |
| | 9 hari | 2.886633* | .3591560 | .000 | 1.736489 | 4.036777 |
| 6 hari | kontrol | -5.460933* | .3591560 | .000 | -6.611077 | -4.310789 |
| | 3 hari | -1.443333* | .3591560 | .016 | -2.593477 | -.293189 |
| | 9 hari | 1.443300* | .3591560 | .016 | .293156 | 2.593444 |
| 9 hari | kontrol | -6.904233* | .3591560 | .000 | -8.054377 | -5.754089 |
| | 3 hari | -2.886633* | .3591560 | .000 | -4.036777 | -1.736489 |
| | 6 hari | -1.443300* | .3591560 | .016 | -2.593444 | -.293156 |

*. The mean difference is significant at the ,05 level.

**Lampiran 17.** Hasil Analisis Statistik Aktivitas Antioksidan berdasarkan LamaPenyimpanan

a. 3 hari

**Test of Homogeneity of Variances**

inhibisi

| Levene Statistic | df1 | df2 | Sig. |
|---|---|---|---|
| 1.382 | 3 | 8 | .317 |

**Post Hoc**

**Multiple Comparisons**

inhibisi
Tukey HSD

| (I) 3 hari | (J) 3 hari | Mean Difference (I-J) | Std. Error | Sig. | 95% Confidence Interval | |
|---|---|---|---|---|---|---|
| | | | | | Lower Bound | Upper Bound |
| kontrol | suhu dingin | 2.574333* | .3097183 | .000 | 1.582506 | 3.566160 |
| | suhu sejuk | 1.302833* | .3097183 | .013 | .311006 | 2.294660 |
| | suhu kamar | 4.017600* | .3097183 | .000 | 3.025773 | 5.009427 |
| suhu dingin | kontrol | -2.574333* | .3097183 | .000 | -3.566160 | -1.582506 |
| | suhu sejuk | -1.271500* | .3097183 | .014 | -2.263327 | -.279673 |
| | suhu kamar | 1.443267* | .3097183 | .007 | .451440 | 2.435094 |
| suhu sejuk | kontrol | -1.302833* | .3097183 | .013 | -2.294660 | -.311006 |
| | suhu dingin | 1.271500* | .3097183 | .014 | .279673 | 2.263327 |
| | suhu kamar | 2.714767* | .3097183 | .000 | 1.722940 | 3.706594 |
| suhu kamar | kontrol | -4.017600* | .3097183 | .000 | -5.009427 | -3.025773 |
| | suhu dingin | -1.443267* | .3097183 | .007 | -2.435094 | -.451440 |
| | suhu sejuk | -2.714767* | .3097183 | .000 | -3.706594 | -1.722940 |

*. The mean difference is significant at the ,05 level.

**Lampiran 17.** Lanjutan...

b. 6 hari

**Test of Homogeneity of Variances**

inhibisi

| Levene Statistic | df1 | df2 | Sig. |
|---|---|---|---|
| 4.432 | 3 | 8 | .057 |

## Post Hoc

**Multiple Comparisons**

inhibisi
Tukey HSD

| (I) 6 hari | (J) 6 hari | Mean Difference (I-J) | Std. Error | Sig. | 95% Confidence Interval | |
|---|---|---|---|---|---|---|
| | | | | | Lower Bound | Upper Bound |
| kontrol | suhu dingin | 4.120733* | .5070796 | .000 | 2.496886 | 5.744581 |
| | suhu sejuk | 3.021067* | .5070796 | .002 | 1.397219 | 4.644914 |
| | suhu kamar | 5.460933* | .5070796 | .000 | 3.837086 | 7.084781 |
| suhu dingin | kontrol | -4.120733* | .5070796 | .000 | -5.744581 | -2.496886 |
| | suhu sejuk | -1.099667 | .5070796 | .211 | -2.723514 | .524181 |
| | suhu kamar | 1.340200 | .5070796 | .110 | -.283647 | 2.964047 |
| suhu sejuk | kontrol | -3.021067* | .5070796 | .002 | -4.644914 | -1.397219 |
| | suhu dingin | 1.099667 | .5070796 | .211 | -.524181 | 2.723514 |
| | suhu kamar | 2.439867* | .5070796 | .006 | .816019 | 4.063714 |
| suhu kamar | kontrol | -5.460933* | .5070796 | .000 | -7.084781 | -3.837086 |
| | suhu dingin | -1.340200 | .5070796 | .110 | -2.964047 | .283647 |
| | suhu sejuk | -2.439867* | .5070796 | .006 | -4.063714 | -.816019 |

*. The mean difference is significant at the ,05 level.

**Lampiran 17.**Lanjutan...

c. 9 hari

**Test of Homogeneity of Variances**

inhibisi

| Levene Statistic | df1 | df2 | Sig. |
|---|---|---|---|
| 1.555 | 3 | 8 | .274 |

## Post Hoc

**Multiple Comparisons**

inhibisi
Tukey HSD

| (I) 9 hari | (J) 9 hari | Mean Difference (I-J) | Std. Error | Sig. | 95% Confidence Interval | |
|---|---|---|---|---|---|---|
| | | | | | Lower Bound | Upper Bound |
| kontrol | suhu dingin | 5.186000* | .4062176 | .000 | 3.885148 | 6.486852 |
| | suhu sejuk | 3.811433* | .4062176 | .000 | 2.510582 | 5.112285 |
| | suhu kamar | 6.904233* | .4062176 | .000 | 5.603382 | 8.205085 |
| suhu dingin | kontrol | -5.186000* | .4062176 | .000 | -6.486852 | -3.885148 |
| | suhu sejuk | -1.374567* | .4062176 | .039 | -2.675418 | -.073715 |
| | suhu kamar | 1.718233* | .4062176 | .012 | .417382 | 3.019085 |
| suhu sejuk | kontrol | -3.811433* | .4062176 | .000 | -5.112285 | -2.510582 |
| | suhu dingin | 1.374567* | .4062176 | .039 | .073715 | 2.675418 |
| | suhu kamar | 3.092800* | .4062176 | .000 | 1.791948 | 4.393652 |
| suhu kamar | kontrol | -6.904233* | .4062176 | .000 | -8.205085 | -5.603382 |
| | suhu dingin | -1.718233* | .4062176 | .012 | -3.019085 | -.417382 |
| | suhu sejuk | -3.092800* | .4062176 | .000 | -4.393652 | -1.791948 |

*. The mean difference is significant at the ,05 level.