

BAB V

KESIMPULAN DAN SARAN

A. Kesimpulan

Hasil penelitian dapat disimpulkan bahwa :

Pertama, sediaan gel ekstrak daun kemangi (*Ocimum bacillicum* L.) memiliki aktivitas sebagai antibakteri terhadap bakteri *Staphylococcus epidermidis* yang diinduksikan pada hewan uji kelinci.

Kedua, sediaan gel ekstrak daun kemangi (*Ocimum bacillicum* L.) formula I dengan konsentrasi ekstrak sebesar 8% yang paling efektif sebagai antibakteri terhadap bakteri *Staphylococcus epidermidis* yang diujikan secara *in vivo*.

Ketiga, sediaan gel ekstrak daun kemangi (*Ocimum bacillicum* L.) memiliki syarat stabilitas yang sesuai.

B. Saran

Pertama, perlu dilakukan penelitian lebih lanjut untuk melakukan uji aktivitas antibakteri daun kemangi (*Ocimum bacillicum* L.) terhadap mikroorganisme lainnya.

Kedua, perlu dilakukan penelitian lebih lanjut untuk isolasi senyawa aktif minyak atsiri dari daun kemangi (*Ocimum bacillicum* L.) terhadap *Staphylococcus epidermidis*.

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Lampiran 1. *Ocimum bacilicum* L.



Lampiran 2. Hewan uji kelinci *New Zealand*



Lampiran 3. Hasil determinasi daun kemangi



No : 292/DET/UPT-LAB/12/1/2019
Hal : Surat Keterangan Determinasi Tumbuhan

Menerangkan bahwa :

Nama : Esri Suryaningsih
NIM : 21154484 A
Fakultas : Farmasi Universitas Setia Budi

Telah mendeterminasikan tumbuhan : **Kemangi / *Ocimum basilicum L.***

Hasil determinasi berdasarkan : Steenis : FLORA

1b – 2b – 3b – 4b – 6b – 7b – 9b – 10b – 11b – 12b – 13b – 14b – 16a. golongan 10. 239b – 243b – 244b – 248b – 249b – 250b – 266b – 267b – 273b – 276b – 278b – 279b – 282a. familia 110. Labiatae. 1a – 2b – 4b – 6b – 7b. 8. Ocimum. *Ocimum basilicum L.*

Deskripsi :

Habitus : Herba, tegak, tinggi 0,3 – 0,6 m.

Akar : Tumpang.

Batang : Percabangan monopodial, keunguan, berambut.

Daun : Tunggal, bulat telur elips, elips, atau memanjang, ujung runcing, pangkal tumpul, tepi bergerigi, bertulang menyirip, pada sebelah menyebelah ibu tulang 3 – 6 tulang cabang, panjang 4,4 – 4,9 cm, lebar 1,5 – 2,1 cm, herbaceus. Bila diremas berbau harum spesifik. Tangkai daun 0,5 – 1,8 cm.

Bunga : Karangannya semu berbunga 6, berkumpul menjadi tandan ujung. Daun pelindung elip atau bulat telur, panjang 0,5 – 1 cm. Kelopak sisi luar berambut, sisi dalam bagian bawah dalam tabung berambut rapat, panjang lk 0,5 cm; gigi belakang jorong sampai bulat telur terbalik, dengan tepi mengecil sepanjang tabung, gigi samping kecil dan runcing; kedua gigi bawah berlekatan menjadi bibir bawah yang bercelah dua. Mahkota putih, berbibir 2, panjang 8 – 9 mm, dari luar berambut; bibir atas bertaju 4; bibir bawah rata. Benangsari 4, panjang 2.

Buah : Keras coklat tua, gundul, waktu dibasahi membengkak sekali. Tangkai dari kelopak buah tegak dan tertekan pada sumbu dari karangan bunga, dengan ujung bentuk kait melingkar. Kelopak buah panjang 6 – 9 mm.

Pustaka : Steenis C.G.G.J., Bloembergen S. Eyma P.J. (1978): *FLORA*, PT PradnyaParamita. Jl. KebonSirih 46 Jakarta Pusat, 1978.

Mojosongo, 12 Januari 2019
Terdeterminasi

Dr. Kartiwah Wirjoseandjoro, SU

Lampiran 4. Hasil *Ethical Clearance*

4/16/2019

Form A2



HEALTH RESEARCH ETHICS COMMITTEE
KOMISI ETIK PENELITIAN KESEHATAN
Dr. Moewardi General Hospital
RSUD Dr. Moewardi

School of Medicine Sebelas Maret University
Fakultas Kedokteran Universitas sebelas Maret



ETHICAL CLEARANCE **KELAIKAN ETIK**

Nomor : 483 / IV / HREC / 2019

The Health Research Ethics Committee Dr. Moewardi General Hospital / School of Medicine Sebelas Maret
 Komisi Etik Penelitian Kesehatan RSUD Dr. Moewardi / Fakultas Kedokteran Universitas Sebelas Maret

Maret University Of Surakarta, after reviewing the proposal design, herewith to certify
 Surakarta, setelah menilai rancangan penelitian yang diusulkan, dengan ini menyatakan

That the research proposal with topic :
 Bahwa usulan penelitian dengan judul

Uji Aktivitas Antibakteri Sediaan Gel Ekstrak Daun Kemangi (*Ocimum basilicum* L.) Terhadap Kelinci Yang Diinduksi Bakteri *Staphylococcus epidermidis*

Principal investigator : Esri Suryaningsih
Peneliti Utama : 21154584A

Location of research : Laboratorium Universitas Setia Budi Surakarta
Lokasi Tempat Penelitian

Is ethically approved
 Dinyatakan layak etik

Issued on : 16 Apr 2019

Chairman
 Ketua

Dr. Wahyu Dwi Atmoko, SpF
 NIP. 19770224 201001 1 004

Lampiran 5. Hasil keterangan hewan uji

"ABIMANYU FARM"



✓ Mencit Putih Jantan ✓ Tikus Wistar ✓ Swiss Webster ✓ Cacing
 ✓ Mencit Balb/C ✓ Kelinci New Zealand

Ngampon Rt 04 / Rw 04. Mojosongo Kec Jebres Surakarta. Phone 085 629 994 33 / LAB USB Ska

Yang bertanda tangan di bawah ini:

Nama : FX.Sigit Pramono

Selaku pengelola Abimanyu Farm, menerangkan bahwa hewan uji yang digunakan untuk penelitian, oleh:

Nama : Esri Suryaningsih
 Nim : 21154584A
 Institusi : Universitas Setia Budi Surakarta

Merupakan hewan uji dengan spesifikasi sebagai berikut:

Jenis hewan : Kelinci New Zealand
 Umur : 2-3 bulan
 Jenis kelamin : Jantan
 Jumlah : 5 ekor
 Keterangan : Sehat
 Asal-usul : Unit Pengembangan Hewan Percobaan Boyolali

Yang pengembangan dan pengelolaanya disesuaikan standar baku penelitian. Demikian surat Keterangan ini di buat untuk digunakan sebagaimana mestinya.

Surakarta, 14 Juni 2019



FX.Sigit Pramono

"ABIMANYU FARM"

Lampiran 6. Gambar daun dan serbuk daun kemangi



Daun kemangi segar



Daun kemangi kering








Serbuk daun kemangi



Sisa ekstrak daun kemangi

Lampiran 7. Hasil uji kandungan senyawa kimia

| Kandungan kimia | Hasil | Keterangan |
|-----------------|--|-------------|
| Tannin |  <p>Hijau kebiruan</p> | + (positif) |
| Flavonoid |  <p>Merah</p> | + (positif) |

| Kandungan kimia | Hasil | Keterangan |
|-----------------|--|-------------|
| Alkaloid |  <p>Jingga</p> | + (positif) |
| Terpenoid |  <p>Ungu merah</p> | + (positif) |
| Saponin |  <p>Busa stabil</p> | + (positif) |

Lampiran 8. Gambar alat

Alat penyerbuk



Botol maserasi



Evaporator



Waterbath



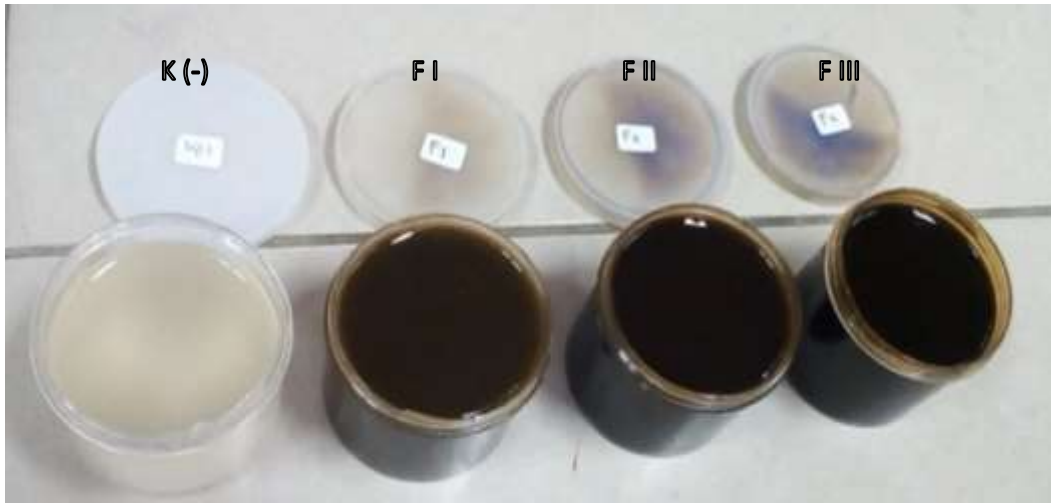
Incubator

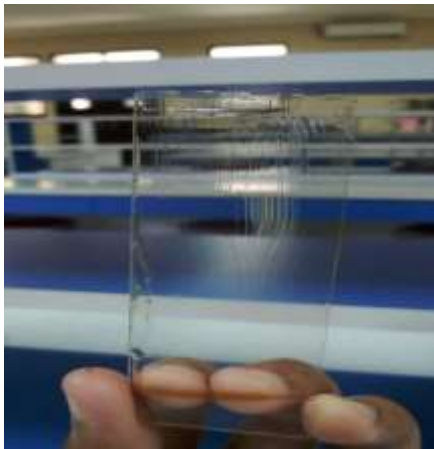


Oven



Inkas

Lampiran 9. Sediaan gel ekstrak daun kemangi

Lampiran 10. Hasil uji mutu fisik sediaan gel

Uji homogenitas



Uji daya sebar



Uji daya lekat



Uji viskositas



Hasil uji stabilitas

Lampiran 11. Uji mikrobiologi



Bakteri murni *Staphylococcus epidermidis* ATCC 12228



Media VJA

Lampiran 12. Hewan uji



Sebelum diberi perlakuan



Setelah diberi perlakuan



Diolesi sediaan gel



Dinyatakan sembuh

Lampiran 13. Data hasil pengujian sifat fisik gel ekstrak

a. Hasil uji daya lekat

| Formula | Waktu | Daya lekat (detik) | | | Rata-rata | ± SD |
|---------|-------------|--------------------|-------------|-------------|-----------|------|
| | | Replikasi 1 | Replikasi 2 | Replikasi 3 | | |
| K (+) | Hari ke-2 | 5,77 | 5,84 | 5,94 | 5,85 | 0,08 |
| | Hari ke-7 | 5,85 | 5,87 | 5,86 | 5,86 | 0,01 |
| | Hari ke-14 | 5,82 | 5,91 | 5,73 | 5,82 | 0,09 |
| | Hari ke- 21 | 5,97 | 5,82 | 5,99 | 5,92 | 0,09 |
| K (-) | Hari ke-2 | 8,53 | 8,13 | 8,53 | 8,43 | 0,23 |
| | Hari ke-7 | 8,56 | 8,16 | 8,56 | 8,42 | 0,23 |
| | Hari ke-14 | 8,87 | 8,15 | 8,78 | 8,60 | 0,39 |
| | Hari ke- 21 | 8,91 | 8,96 | 8,89 | 8,92 | 0,03 |
| F I | Hari ke-2 | 4,41 | 4,43 | 4,45 | 4,43 | 0,02 |
| | Hari ke- 7 | 4,45 | 4,62 | 4,47 | 4,51 | 0,09 |
| | Hari ke-14 | 4,33 | 4,44 | 4,49 | 4,42 | 0,08 |
| | Hari ke- 21 | 4,19 | 4,29 | 4,01 | 4,16 | 0,14 |
| F II | Hari ke-2 | 5,55 | 5,84 | 5,63 | 5,64 | 0,11 |
| | Hari ke- 7 | 5,55 | 5,82 | 5,61 | 5,66 | 0,14 |
| | Hari ke-14 | 5,47 | 5,37 | 5,47 | 5,43 | 0,05 |
| | Hari ke- 21 | 5,45 | 5,44 | 5,43 | 5,44 | 0,01 |
| F III | Hari ke-2 | 7,74 | 7,60 | 7,80 | 7,71 | 0,10 |
| | Hari ke- 7 | 7,73 | 7,83 | 7,85 | 7,80 | 0,06 |
| | Hari ke-14 | 7,51 | 7,64 | 7,59 | 7,58 | 0,06 |
| | Hari ke- 21 | 7,21 | 7,33 | 7,25 | 7,26 | 0,06 |

b. Hasil uji daya sebar

| Formula | Waktu | Beban (g) | Daya sebar (cm) | | | Rata-rata | ± SD |
|---------|------------|-----------|-----------------|-------------|-------------|-----------|-------|
| | | | Replikasi 1 | Replikasi 2 | Replikasi 3 | | |
| K (+) | Hari ke-2 | 0 | 3,100 | 3,100 | 3,100 | 3,100 | 0,000 |
| | | 50 | 3,730 | 3,510 | 3,725 | 3,655 | 0,125 |
| | | 100 | 4,100 | 4,130 | 4,100 | 4,110 | 0,017 |
| | | 150 | 4,350 | 4,330 | 4,274 | 4,318 | 0,039 |
| | | 200 | 4,571 | 4,530 | 4,444 | 4,513 | 0,066 |
| | Hari ke-7 | 0 | 3,100 | 3,025 | 3,175 | 3,100 | 0,075 |
| | | 50 | 3,700 | 3,525 | 3,725 | 3,650 | 0,108 |
| | | 100 | 4,000 | 4,125 | 4,075 | 4,066 | 0,062 |
| | | 150 | 4,350 | 4,325 | 4,275 | 4,316 | 0,038 |
| | | 200 | 4,550 | 4,50 | 4,425 | 4,491 | 0,062 |
| | Hari ke-14 | 0 | 3,325 | 3,375 | 3,375 | 3,358 | 0,028 |
| | | 50 | 3,650 | 3,725 | 3,675 | 3,683 | 0,038 |
| | | 100 | 4,175 | 4,125 | 4,300 | 4,200 | 0,090 |
| | | 150 | 4,650 | 4,600 | 4,700 | 4,650 | 0,050 |
| | | 200 | 4,750 | 4,675 | 4,800 | 4,741 | 0,062 |
| | Hari | | | | | | |

| Formula | Waktu | Beban (g) | Daya sebar (cm) | | | Rata-rata | ± SD |
|---------|-------------|-----------|-----------------|-------------|-------------|-----------|-------|
| | | | Replikasi 1 | Replikasi 2 | Replikasi 3 | | |
| | ke- 21 | 50 | 3,350 | 3,425 | 3,45 | 3,408 | 0,052 |
| | | 100 | 3,700 | 3,650 | 3,725 | 3,691 | 0,038 |
| | | 150 | 4,275 | 4,175 | 4,200 | 4,216 | 0,052 |
| | | 200 | 4,725 | 4,775 | 4,800 | 4,766 | 0,038 |
| | | | | | | | |
| K (-) | Hari ke-2 | 0 | 2,400 | 2,400 | 2,390 | 2,396 | 0,005 |
| | | 50 | 3,000 | 3,010 | 3,010 | 3,006 | 0,005 |
| | | 100 | 3,870 | 3,570 | 3,610 | 3,683 | 0,162 |
| | | 150 | 4,510 | 4,480 | 4,500 | 4,496 | 0,015 |
| | | 200 | 4,800 | 4,870 | 4,900 | 4,856 | 0,051 |
| | Hari ke-7 | 0 | 2,425 | 2,450 | 2,475 | 2,450 | 0,025 |
| | | 50 | 3,025 | 3,050 | 3,050 | 3,041 | 0,014 |
| | | 100 | 3,875 | 3,650 | 3,650 | 3,725 | 0,129 |
| | | 150 | 4,550 | 4,550 | 4,550 | 4,550 | 0,000 |
| | | 200 | 4,850 | 4,950 | 4,900 | 4,900 | 0,050 |
| | Hari ke-14 | 0 | 2,400 | 2,350 | 2,400 | 2,383 | 0,028 |
| | | 50 | 3,050 | 3,000 | 3,025 | 3,025 | 0,025 |
| | | 100 | 3,875 | 3,950 | 3,825 | 3,883 | 0,062 |
| | | 150 | 4,550 | 4,550 | 4,525 | 4,541 | 0,014 |
| | | 200 | 4,775 | 4,875 | 4,925 | 4,858 | 0,076 |
| | Hari ke- 21 | 0 | 3,475 | 3,450 | 3,475 | 3,466 | 0,014 |
| | | 50 | 3,925 | 3,909 | 3,902 | 3,908 | 0,014 |
| | | 100 | 4,325 | 4,350 | 4,350 | 4,341 | 0,014 |
| | | 150 | 4,525 | 4,525 | 4,575 | 4,541 | 0,028 |
| | | 200 | 4,825 | 4,850 | 4,821 | 4,825 | 0,025 |
| F I | Hari ke-2 | 0 | 3,910 | 3,871 | 3,910 | 3,897 | 0,022 |
| | | 50 | 4,660 | 4,650 | 4,500 | 4,603 | 0,089 |
| | | 100 | 5,200 | 5,100 | 5,000 | 5,100 | 0,100 |
| | | 150 | 5,460 | 5,600 | 5,600 | 5,575 | 0,090 |
| | | 200 | 5,900 | 6,100 | 6,003 | 6,000 | 0,100 |
| | Hari ke- 7 | 0 | 3,900 | 3,875 | 3,925 | 3,900 | 0,025 |
| | | 50 | 4,700 | 4,702 | 4,652 | 4,683 | 0,028 |
| | | 100 | 5,101 | 5,025 | 5,015 | 5,075 | 0,043 |
| | | 150 | 5,475 | 5,650 | 5,621 | 5,575 | 0,090 |
| | | 200 | 5,903 | 6,102 | 6,040 | 6,000 | 0,043 |
| | Hari ke-14 | 0 | 5,125 | 5,152 | 5,075 | 5,116 | 0,038 |
| | | 50 | 6,225 | 6,051 | 6,125 | 6,133 | 0,087 |
| | | 100 | 6,775 | 6,812 | 6,825 | 6,800 | 0,025 |
| | | 150 | 7,125 | 7,125 | 7,102 | 7,116 | 0,014 |
| | | 200 | 7,325 | 7,325 | 7,375 | 7,341 | 0,028 |
| | Hari ke- 21 | 0 | 5,275 | 5,254 | 5,275 | 5,266 | 0,014 |
| | | 50 | 6,104 | 6,075 | 6,102 | 6,091 | 0,014 |
| | | 100 | 6,550 | 6,501 | 6,525 | 6,525 | 0,025 |
| | | 150 | 6,975 | 6,975 | 7,154 | 7,033 | 0,101 |

| Formula | Waktu | Beban (g) | Daya sebar (cm) | | | Rata-rata | ± SD |
|---------|------------|-----------|-----------------|-------------|-------------|-----------|-------|
| | | | Replikasi 1 | Replikasi 2 | Replikasi 3 | | |
| | | 200 | 7,403 | 7,450 | 7,411 | 7,416 | 0,028 |
| F II | Hari ke-2 | 0 | 3,491 | 3,450 | 3,453 | 3,633 | 0,023 |
| | | 50 | 4,002 | 4,000 | 4,007 | 4,000 | 0,000 |
| | | 100 | 4,310 | 4,501 | 4,400 | 4,400 | 0,100 |
| | | 150 | 4,651 | 4,723 | 4,721 | 4,698 | 0,041 |
| | | 200 | 5,023 | 5,111 | 5,002 | 5,040 | 0,005 |
| | Hari ke-7 | 0 | 3,521 | 3,427 | 3,587 | 3,466 | 0,057 |
| | | 50 | 4,025 | 3,975 | 4,025 | 4,008 | 0,028 |
| | | 100 | 4,423 | 4,375 | 4,375 | 4,383 | 0,014 |
| | | 150 | 4,725 | 4,725 | 4,765 | 4,716 | 0,014 |
| | | 200 | 5,025 | 5,054 | 5,005 | 5,025 | 0,025 |
| | Hari ke-14 | 0 | 4,553 | 4,575 | 4,559 | 4,558 | 0,014 |
| | | 50 | 5,475 | 5,432 | 5,575 | 5,483 | 0,087 |
| | | 100 | 5,957 | 5,925 | 5,975 | 5,950 | 0,025 |
| | | 150 | 6,432 | 6,437 | 6,425 | 6,408 | 0,014 |
| | | 200 | 6,725 | 6,754 | 6,675 | 6,716 | 0,038 |
| | Hari ke-21 | 0 | 5,212 | 5,253 | 5,156 | 5,200 | 0,050 |
| | | 50 | 5,954 | 5,875 | 5,957 | 5,925 | 0,043 |
| | | 100 | 6,525 | 6,551 | 6,559 | 6,541 | 0,014 |
| | | 150 | 6,945 | 6,857 | 6,976 | 6,883 | 0,028 |
| | | 200 | 7,254 | 7,157 | 7,255 | 7,216 | 0,057 |
| F III | Hari ke-2 | 0 | 3,456 | 3,423 | 3,479 | 3,423 | 0,040 |
| | | 50 | 4,091 | 4,197 | 4,325 | 4,033 | 0,057 |
| | | 100 | 4,576 | 4,475 | 4,51 | 4,493 | 0,020 |
| | | 150 | 4,945 | 4,977 | 4,980 | 4,950 | 0,043 |
| | | 200 | 5,234 | 5,239 | 5,215 | 5,223 | 0,011 |
| | Hari ke-7 | 0 | 3,458 | 3,425 | 3,475 | 3,450 | 0,025 |
| | | 50 | 4,125 | 4,125 | 4,127 | 4,116 | 0,014 |
| | | 100 | 4,556 | 4,475 | 4,598 | 4,508 | 0,038 |
| | | 150 | 4,975 | 4,953 | 4,957 | 4,958 | 0,014 |
| | | 200 | 5,255 | 5,225 | 5,236 | 5,225 | 0,025 |
| | Hari ke-14 | 0 | 4,574 | 4,575 | 4,534 | 4,550 | 0,043 |
| | | 50 | 5,275 | 5,225 | 5,259 | 5,250 | 0,025 |
| | | 100 | 5,775 | 5,756 | 5,733 | 5,741 | 0,038 |
| | | 150 | 6,251 | 6,175 | 6,325 | 6,250 | 0,075 |
| | | 200 | 6,559 | 6,687 | 6,600 | 6,583 | 0,028 |
| | Hari ke-21 | 0 | 5,051 | 4,975 | 5,025 | 5,016 | 0,038 |
| | | 50 | 5,875 | 5,825 | 5,875 | 5,858 | 0,028 |
| | | 100 | 6,459 | 6,472 | 6,425 | 6,425 | 0,025 |
| | | 150 | 6,775 | 6,754 | 6,832 | 6,775 | 0,025 |
| | | 200 | 7,150 | 7,075 | 7,125 | 7,116 | 0,038 |

c. Hasil uji viskositas (dPas) spindel no.2

| Formula | Waktu | Viskositas (dPas) | | | Rata-rata | ± SD |
|---------|-------------|-------------------|-------------|-------------|-----------|------|
| | | Replikasi 1 | Replikasi 2 | Replikasi 3 | | |
| K (+) | Hari ke-2 | 150,00 | 151,00 | 152,00 | 151,00 | 1,00 |
| | Hari ke-7 | 150,00 | 151,00 | 152,00 | 151,00 | 1,00 |
| | Hari ke-14 | 150,00 | 149,00 | 151,00 | 150,00 | 1,00 |
| | Hari ke- 21 | 148,00 | 152,00 | 150,00 | 150,00 | 2,00 |
| K (-) | Hari ke-2 | 150,00 | 152,00 | 151,00 | 151,00 | 1,00 |
| | Hari ke-7 | 150,00 | 152,00 | 151,00 | 151,00 | 1,00 |
| | Hari ke-14 | 155,00 | 157,00 | 158,00 | 156,66 | 1,52 |
| | Hari ke- 21 | 160,00 | 163,00 | 162,00 | 161,66 | 1,52 |
| F I | Hari ke-2 | 120,00 | 121,00 | 120,00 | 120,33 | 0,57 |
| | Hari ke- 7 | 120,00 | 121,00 | 120,00 | 120,33 | 0,57 |
| | Hari ke-14 | 115,00 | 115,00 | 118,00 | 116,00 | 1,73 |
| | Hari ke- 21 | 110,00 | 100,00 | 110,00 | 106,66 | 5,77 |
| F II | Hari ke-2 | 130,00 | 135,00 | 135,00 | 133,33 | 2,88 |
| | Hari ke- 7 | 130,00 | 135,00 | 135,00 | 133,33 | 2,88 |
| | Hari ke-14 | 125,00 | 125,00 | 123,00 | 124,33 | 1,15 |
| | Hari ke- 21 | 120,00 | 118,00 | 120,00 | 119,33 | 1,15 |
| F III | Hari ke-2 | 145,00 | 145,00 | 144,00 | 144,66 | 0,57 |
| | Hari ke- 7 | 145,00 | 145,00 | 144,00 | 144,66 | 0,57 |
| | Hari ke-14 | 134,00 | 133,00 | 134,00 | 133,66 | 0,57 |
| | Hari ke- 21 | 123,00 | 127,00 | 129,00 | 126,33 | 3,05 |

d. Hasil uji pH gel

| Formula | Waktu | pH | | | Rata-rata | ±SD |
|---------|-------------|-------------|-------------|-------------|-----------|-------|
| | | Replikasi 1 | Replikasi 2 | Replikasi 3 | | |
| K (+) | Hari ke-2 | 6,000 | 6,020 | 6,020 | 6,013 | 0,011 |
| | Hari ke-7 | 6,020 | 6,010 | 6,020 | 6,016 | 0,005 |
| | Hari ke-14 | 6,030 | 6,020 | 6,020 | 6,023 | 0,005 |
| | Hari ke- 21 | 6,020 | 6,020 | 6,020 | 6,020 | 0,000 |
| K (-) | Hari ke-2 | 7,010 | 7,010 | 7,010 | 7,010 | 0,010 |
| | Hari ke-7 | 7,000 | 7,010 | 7,010 | 7,006 | 0,005 |
| | Hari ke-14 | 7,000 | 7,000 | 7,020 | 7,006 | 0,011 |
| | Hari ke- 21 | 7,020 | 7,020 | 7,000 | 7,013 | 0,011 |
| F I | Hari ke-2 | 7,100 | 7,090 | 7,090 | 7,093 | 0,005 |
| | Hari ke- 7 | 7,100 | 7,090 | 7,120 | 7,103 | 0,015 |
| | Hari ke-14 | 7,110 | 7,140 | 7,150 | 7,133 | 0,020 |
| | Hari ke- 21 | 7,150 | 7,130 | 7,120 | 7,133 | 0,015 |
| F II | Hari ke-2 | 7,210 | 7,200 | 7,200 | 7,203 | 0,005 |
| | Hari ke- 7 | 7,230 | 7,200 | 7,230 | 7,220 | 0,017 |
| | Hari ke-14 | 7,240 | 7,250 | 7,210 | 7,233 | 0,020 |
| | Hari ke- 21 | 7,240 | 7,230 | 7,210 | 7,226 | 0,015 |
| F III | Hari ke-2 | 7,330 | 7,340 | 7,340 | 7,336 | 0,005 |
| | Hari ke- 7 | 7,340 | 7,310 | 7,300 | 7,316 | 0,020 |
| | Hari ke-14 | 7,330 | 7,330 | 7,320 | 7,326 | 0,005 |
| | Hari ke- 21 | 7,320 | 7,310 | 7,340 | 7,323 | 0,015 |

Lampiran 14. Data perhitungan

a. ekstrak etanol daun kemangi

$$\begin{aligned}\% \text{ Rendemen ekstrak} &= \frac{\text{berat ekstrak (g)}}{\text{berat serbuk (g)}} \times 100\% \\ &= \frac{60,18}{500} \times 100\% = 12,036\%\end{aligned}$$

Lampiran 15. Hasil analisis statistik

- Daya lekat

Descriptive Statistics

| | N | Minimum | Maximum | Mean | Std. Deviation |
|--------------------|----|---------|---------|--------|----------------|
| DayaLekat | 60 | 4,01 | 8,96 | 6,3948 | 1,52637 |
| Valid N (listwise) | 60 | | | | |

One-Sample Kolmogorov-Smirnov Test

| | | Unstandardized Residual |
|----------------------------------|----------------|-------------------------|
| N | | 60 |
| Normal Parameters ^{a,b} | Mean | ,0000000 |
| | Std. Deviation | 1,52484975 |
| Most Extreme Differences | Absolute | ,172 |
| | Positive | ,172 |
| | Negative | -,104 |
| Kolmogorov-Smirnov Z | | 1,334 |
| Asymp. Sig. (2-tailed) | | ,057 |

a. Test distribution is Normal.

b. Calculated from data.

Levene's Test of Equality of Error Variances^a

Dependent Variable: DayaLekat

| F | df1 | df2 | Sig. |
|-------|-----|-----|------|
| 5,353 | 19 | 40 | ,063 |

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Design: Intercept + Formula + WaktuUji + Formula * WaktuUji

Tests of Between-Subjects Effects

Dependent Variable: DayaLekat

| Source | Type III Sum of Squares | df | Mean Square | F | Sig. |
|--------------------|-------------------------|----|-------------|------------|------|
| Corrected Model | 136,677 ^a | 19 | 7,194 | 368,396 | ,000 |
| Intercept | 2453,634 | 1 | 2453,634 | 125655,528 | ,000 |
| Formula | 135,275 | 4 | 33,819 | 1731,920 | ,000 |
| WaktuUji | ,104 | 3 | ,035 | 1,776 | ,167 |
| Formula * WaktuUji | 1,299 | 12 | ,108 | 5,543 | ,000 |
| Error | ,781 | 40 | ,020 | | |
| Total | 2591,092 | 60 | | | |
| Corrected Total | 137,458 | 59 | | | |

a. R Squared = ,994 (Adjusted R Squared = ,992)

Post Hoc Tests

Multiple Comparisons

Dependent Variable: DayaLekat

Tukey HSD

| (I) Formula | (J) Formula | Mean Difference (I-J) | Std. Error | Sig. | 95% Confidence Interval | |
|-------------|-------------|-----------------------|------------|------|-------------------------|-------------|
| | | | | | Lower Bound | Upper Bound |
| Kontrol (+) | Kontrol (-) | -2,7217 | ,05705 | ,000 | -2,8846 | -2,5587 |
| | Formula I | 1,4825 | ,05705 | ,000 | 1,3196 | 1,6454 |
| | Formula II | ,3117 | ,05705 | ,000 | ,1487 | ,4746 |
| | Formula III | -1,7258 | ,05705 | ,000 | -1,8888 | -1,5629 |
| Kontrol (-) | Kontrol (+) | 2,7217 | ,05705 | ,000 | 2,5587 | 2,8846 |
| | Formula I | 4,2042 | ,05705 | ,000 | 4,0412 | 4,3671 |
| | Formula II | 3,0333 | ,05705 | ,000 | 2,8704 | 3,1963 |
| | Formula III | ,9958 | ,05705 | ,000 | ,8329 | 1,1588 |
| Formula I | Kontrol (+) | -1,4825 | ,05705 | ,000 | -1,6454 | -1,3196 |
| | Kontrol (-) | -4,2042 | ,05705 | ,000 | -4,3671 | -4,0412 |
| | Formula II | -1,1708 | ,05705 | ,000 | -1,3338 | -1,0079 |
| | Formula III | -3,2083 | ,05705 | ,000 | -3,3713 | -3,0454 |
| Formula II | Kontrol (+) | -,3117 | ,05705 | ,000 | -,4746 | -,1487 |
| | Kontrol (-) | -3,0333 | ,05705 | ,000 | -3,1963 | -2,8704 |
| | Formula I | 1,1708 | ,05705 | ,000 | 1,0079 | 1,3338 |
| | Formula III | -2,0375 | ,05705 | ,000 | -2,2004 | -1,8746 |
| Formula III | Kontrol (+) | 1,7258 | ,05705 | ,000 | 1,5629 | 1,8888 |
| | Kontrol (-) | -,9958 | ,05705 | ,000 | -1,1588 | -,8329 |
| | Formula I | 3,2083 | ,05705 | ,000 | 3,0454 | 3,3713 |
| | Formula II | 2,0375 | ,05705 | ,000 | 1,8746 | 2,2004 |

Based on observed means.

The error term is Mean Square(Error) = ,020.

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

Homogeneous Subsets

DayaLekat

Tukey HSD^{a,b}

| Formula | N | Subset | | | | |
|-------------|----|--------|--------|--------|--------|--------|
| | | 1 | 2 | 3 | 4 | 5 |
| Formula I | 12 | 4,3817 | | | | |
| Formula II | 12 | | 5,5525 | | | |
| Kontrol (+) | 12 | | | 5,8642 | | |
| Formula III | 12 | | | | 7,5900 | |
| Kontrol (-) | 12 | | | | | 8,5858 |
| Sig. | | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 |

Means for groups in homogeneous subsets are displayed.

Based on observed means.

The error term is Mean Square(Error) = ,020.

a. Uses Harmonic Mean Sample Size = 12,000.

b. Alpha = ,05.

- Daya sebar

Descriptive Statistics

| | N | Minimum | Maximum | Mean | Std. Deviation |
|--------------------|-----|---------|---------|--------|----------------|
| DayaSebar | 300 | 2,35 | 7,45 | 4,8090 | 1,20033 |
| Valid N (listwise) | 300 | | | | |

One-Sample Kolmogorov-Smirnov Test

| | | Unstandardized Residual |
|----------------------------------|----------------|-------------------------|
| N | | 300 |
| Normal Parameters ^{a,b} | Mean | ,0000000 |
| | Std. Deviation | ,95681052 |
| Most Extreme Differences | Absolute | ,031 |
| | Positive | ,031 |
| | Negative | -,022 |
| Kolmogorov-Smirnov Z | | ,533 |
| Asymp. Sig. (2-tailed) | | ,939 |

a. Test distribution is Normal.

b. Calculated from data.

Levene's Test of Equality of Error Variances^a

Dependent Variable: DayaSebar

| F | df1 | df2 | Sig. |
|-------|-----|-----|------|
| 1,908 | 19 | 280 | ,014 |

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Design: Intercept + Formula + WaktuUji + Formula * WaktuUji

Tests of Between-Subjects Effects

Dependent Variable: DayaSebar

| Source | Type III Sum of Squares | df | Mean Square | F | Sig. |
|--------------------|-------------------------|-----|-------------|-----------|------|
| Corrected Model | 285,215 ^a | 19 | 15,011 | 28,872 | ,000 |
| Intercept | 6937,887 | 1 | 6937,887 | 13343,805 | ,000 |
| Formula | 164,407 | 4 | 41,102 | 79,052 | ,000 |
| WaktuUji | 85,144 | 3 | 28,381 | 54,587 | ,000 |
| Formula * WaktuUji | 35,664 | 12 | 2,972 | 5,716 | ,000 |
| Error | 145,581 | 280 | ,520 | | |
| Total | 7368,683 | 300 | | | |
| Corrected Total | 430,797 | 299 | | | |

a. R Squared = ,662 (Adjusted R Squared = ,639)

Post Hoc Tests

Multiple Comparisons

Dependent Variable: DayaSebar

Tukey HSD

| (I) Formula | (J) Formula | Mean Difference (I-J) | Std. Error | Sig. | 95% Confidence Interval | |
|-------------|-------------|-----------------------|------------|-------|-------------------------|-------------|
| | | | | | Lower Bound | Upper Bound |
| Kontrol (+) | Kontrol (-) | ,1937 | ,13165 | ,582 | -,1678 | ,5551 |
| | Formula I | -1,7237* | ,13165 | ,000 | -2,0852 | -1,3622 |
| | Formula II | -1,1665* | ,13165 | ,000 | -1,5280 | -,8050 |
| | Formula III | -1,1597* | ,13165 | ,000 | -1,5211 | -,7982 |
| Kontrol (-) | Kontrol (+) | -,1937 | ,13165 | ,582 | -,5551 | ,1678 |
| | Formula I | -1,9174* | ,13165 | ,000 | -2,2788 | -1,5559 |
| | Formula II | -1,3602* | ,13165 | ,000 | -1,7216 | -,9987 |
| | Formula III | -1,3533* | ,13165 | ,000 | -1,7148 | -,9919 |
| Formula I | Kontrol (+) | 1,7237* | ,13165 | ,000 | 1,3622 | 2,0852 |
| | Kontrol (-) | 1,9174* | ,13165 | ,000 | 1,5559 | 2,2788 |
| | Formula II | ,5572* | ,13165 | ,000 | ,1957 | ,9187 |
| | Formula III | ,5640* | ,13165 | ,000 | ,2026 | ,9255 |
| Formula II | Kontrol (+) | 1,1665* | ,13165 | ,000 | ,8050 | 1,5280 |
| | Kontrol (-) | 1,3602* | ,13165 | ,000 | ,9987 | 1,7216 |
| | Formula I | -,5572* | ,13165 | ,000 | -,9187 | -,1957 |
| | Formula III | ,0068 | ,13165 | 1,000 | -,3546 | ,3683 |
| Formula III | Kontrol (+) | 1,1597* | ,13165 | ,000 | ,7982 | 1,5211 |
| | Kontrol (-) | 1,3533* | ,13165 | ,000 | ,9919 | 1,7148 |
| | Formula I | -,5640* | ,13165 | ,000 | -,9255 | -,2026 |
| | Formula II | -,0068 | ,13165 | 1,000 | -,3683 | ,3546 |

Based on observed means.

The error term is Mean Square(Error) = ,520.

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

Homogeneous Subsets

DayaSebar

Tukey HSD^{a,b}

| Formula | N | Subset | | |
|-------------|----|--------|--------|--------|
| | | 1 | 2 | 3 |
| Kontrol (-) | 60 | 3,8441 | | |
| Kontrol (+) | 60 | 4,0377 | | |
| Formula III | 60 | | 5,1974 | |
| Formula II | 60 | | 5,2042 | |
| Formula I | 60 | | | 5,7614 |
| Sig. | | ,582 | 1,000 | 1,000 |

Means for groups in homogeneous subsets are displayed.

Based on observed means.

The error term is Mean Square(Error) = ,520.

a. Uses Harmonic Mean Sample Size = 60,000.

b. Alpha = ,05.

NPar Tests

Descriptive Statistics

| | N | Mean | Std. Deviation | Minimum | Maximum |
|-----------|-----|--------|----------------|---------|---------|
| DayaSebar | 300 | 4,8090 | 1,20033 | 2,35 | 7,45 |
| Formula | 300 | 3,0000 | 1,41658 | 1,00 | 5,00 |

Kruskal-Wallis Test

Ranks

| | Formula | N | Mean Rank |
|-----------|-------------|-----|-----------|
| DayaSebar | Kontrol (+) | 60 | 89,23 |
| | Kontrol (-) | 60 | 83,76 |
| | Formula I | 60 | 219,43 |
| | Formula II | 60 | 178,85 |
| | Formula III | 60 | 181,23 |
| | Total | 300 | |

Test Statistics^{a,b}

| | DayaSebar |
|-------------|-----------|
| Chi-Square | 117,295 |
| df | 4 |
| Asymp. Sig. | ,000 |

a. Kruskal Wallis Test

b. Grouping Variable:
Formula

- Viskositas

Descriptive Statistics

| | N | Minimum | Maximum | Mean | Std. Deviation |
|--------------------|----|---------|---------|--------|----------------|
| Viskositas | 60 | 112 | 152 | 134.32 | 13.465 |
| Valid N (listwise) | 60 | | | | |

One-Sample Kolmogorov-Smirnov Test

| | | Viskositas |
|----------------------------------|----------------|------------|
| N | | 60 |
| Normal Parameters ^{a,b} | Mean | 134.32 |
| | Std. Deviation | 13.465 |
| Most Extreme Differences | Absolute | .146 |
| | Positive | .095 |
| | Negative | -.146 |
| Kolmogorov-Smirnov Z | | 1.128 |
| Asymp. Sig. (2-tailed) | | .157 |

a. Test distribution is Normal.

b. Calculated from data.

Levene's Test of Equality of Error Variances^a

Dependent Variable: Viskositas

| F | df1 | df2 | Sig. |
|------|-----|-----|------|
| .922 | 19 | 40 | .562 |

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Design: Intercept + Formula + WaktuUji + Formula * WaktuUji

Tests of Between-Subjects Effects

Dependent Variable: Viskositas

| Source | Type III Sum of Squares | df | Mean Square | F | Sig. |
|--------------------|-------------------------|----|-------------|------------|------|
| Corrected Model | 10555.650 ^a | 19 | 555.561 | 157.234 | .000 |
| Intercept | 1082458.017 | 1 | 1082458.017 | 306356.042 | .000 |
| Formula | 8351.233 | 4 | 2087.808 | 590.889 | .000 |
| WaktuUji | 1733.383 | 3 | 577.794 | 163.527 | .000 |
| Formula * WaktuUji | 471.033 | 12 | 39.253 | 11.109 | .000 |
| Error | 141.333 | 40 | 3.533 | | |
| Total | 1093155.000 | 60 | | | |
| Corrected Total | 10696.983 | 59 | | | |

a. R Squared = ,987 (Adjusted R Squared = ,981)

Post Hoc Tests**Multiple Comparisons**

Dependent Variable: Viskositas

Tukey HSD

| (I) Formula | (J) Formula | Mean Difference (I-J) | Std. Error | Sig. | 95% Confidence Interval | |
|-------------|-------------|-----------------------|------------|------|-------------------------|-------------|
| | | | | | Lower Bound | Upper Bound |
| K (+) | K (-) | -22.17 [*] | .767 | .000 | -24.36 | -19.97 |
| | F I | 7.42 [*] | .767 | .000 | 5.22 | 9.61 |
| | F II | 2.75 [*] | .767 | .008 | .56 | 4.94 |
| | F III | -17.92 [*] | .767 | .000 | -20.11 | -15.72 |
| K (-) | K (+) | 22.17 [*] | .767 | .000 | 19.97 | 24.36 |
| | F I | 29.58 [*] | .767 | .000 | 27.39 | 31.78 |
| | F II | 24.92 [*] | .767 | .000 | 22.72 | 27.11 |
| | F III | 4.25 [*] | .767 | .000 | 2.06 | 6.44 |
| F I | K (+) | -7.42 [*] | .767 | .000 | -9.61 | -5.22 |
| | K (-) | -29.58 [*] | .767 | .000 | -31.78 | -27.39 |
| | F II | -4.67 [*] | .767 | .000 | -6.86 | -2.47 |
| | F III | -25.33 [*] | .767 | .000 | -27.53 | -23.14 |
| F II | K (+) | -2.75 [*] | .767 | .008 | -4.94 | -.56 |
| | K (-) | -24.92 [*] | .767 | .000 | -27.11 | -22.72 |
| | F I | 4.67 [*] | .767 | .000 | 2.47 | 6.86 |
| | F III | -20.67 [*] | .767 | .000 | -22.86 | -18.47 |
| F III | K (+) | 17.92 [*] | .767 | .000 | 15.72 | 20.11 |
| | K (-) | -4.25 [*] | .767 | .000 | -6.44 | -2.06 |
| | F I | 25.33 [*] | .767 | .000 | 23.14 | 27.53 |
| | F II | 20.67 [*] | .767 | .000 | 18.47 | 22.86 |

Based on observed means.

The error term is Mean Square(Error) = 3,533.

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

Homogeneous Subsets

Viskositas

Tukey HSD^{a,b}

| Formula | N | Subset | | | | |
|---------|----|--------|--------|--------|--------|--------|
| | | 1 | 2 | 3 | 4 | 5 |
| F I | 12 | 120.92 | | | | |
| F II | 12 | | 125.58 | | | |
| K (+) | 12 | | | 128.33 | | |
| F III | 12 | | | | 146.25 | |
| K (-) | 12 | | | | | 150.50 |
| Sig. | | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 |

Means for groups in homogeneous subsets are displayed.

Based on observed means.

The error term is Mean Square(Error) = 3,533.

a. Uses Harmonic Mean Sample Size = 12,000.

b. Alpha = .05.

- pH

Descriptive Statistics

| | N | Minimum | Maximum | Mean | Std. Deviation |
|--------------------|----|---------|---------|--------|----------------|
| pH | 60 | 6.01 | 8.19 | 7.4185 | .72970 |
| Valid N (listwise) | 60 | | | | |

One-Sample Kolmogorov-Smirnov Test

| | | Standardized Residual |
|----------------------------------|----------------|-----------------------|
| N | | 60 |
| Normal Parameters ^{a,b} | Mean | .0000000 |
| | Std. Deviation | .98290472 |
| Most Extreme Differences | Absolute | .121 |
| | Positive | .121 |
| | Negative | -.116 |
| Kolmogorov-Smirnov Z | | .939 |
| Asymp. Sig. (2-tailed) | | .342 |

a. Test distribution is Normal.

b. Calculated from data.

Levene's Test of Equality of Error Variances^a

Dependent Variable: pH

| F | df1 | df2 | Sig. |
|-------|-----|-----|------|
| 2.816 | 19 | 40 | .053 |

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Design: Intercept + Formula + WaktuUji +

Formula * WaktuUji

Tests of Between-Subjects Effects

Dependent Variable: pH

| Source | Type III Sum of Squares | df | Mean Square | F | Sig. |
|--------------------|-------------------------|----|-------------|-------------|------|
| Corrected Model | 31.396 ^a | 19 | 1.652 | 3478.822 | .000 |
| Intercept | 3302.049 | 1 | 3302.049 | 6951681.126 | .000 |
| Formula | 31.365 | 4 | 7.841 | 16507.653 | .000 |
| WaktuUji | .006 | 3 | .002 | 4.027 | .014 |
| Formula * WaktuUji | .026 | 12 | .002 | 4.577 | .000 |
| Error | .019 | 40 | .000 | | |
| Total | 3333.464 | 60 | | | |
| Corrected Total | 31.415 | 59 | | | |

a. R Squared = ,999 (Adjusted R Squared = ,999)

Post Hoc Tests

Multiple Comparisons

Dependent Variable: pH

Tukey HSD

| (I) Formula | (J) Formula | Mean Difference (I-J) | Std. Error | Sig. | 95% Confidence Interval | |
|-------------|-------------|-----------------------|------------|------|-------------------------|-------------|
| | | | | | Lower Bound | Upper Bound |
| K (+) | K (-) | -2.1017 [*] | .00890 | .000 | -2.1271 | -2.0763 |
| | F I | -1.7700 [*] | .00890 | .000 | -1.7954 | -1.7446 |
| | F II | -1.5742 [*] | .00890 | .000 | -1.5996 | -1.5488 |
| | F III | -1.3717 [*] | .00890 | .000 | -1.3971 | -1.3463 |
| K (-) | K (+) | 2.1017 [*] | .00890 | .000 | 2.0763 | 2.1271 |
| | F I | .3317 [*] | .00890 | .000 | .3063 | .3571 |
| | F II | .5275 [*] | .00890 | .000 | .5021 | .5529 |
| | F III | .7300 [*] | .00890 | .000 | .7046 | .7554 |
| F I | K (+) | 1.7700 [*] | .00890 | .000 | 1.7446 | 1.7954 |
| | K (-) | -.3317 [*] | .00890 | .000 | -.3571 | -.3063 |
| | F II | .1958 [*] | .00890 | .000 | .1704 | .2212 |
| | F III | .3983 [*] | .00890 | .000 | .3729 | .4237 |
| F II | K (+) | 1.5742 [*] | .00890 | .000 | 1.5488 | 1.5996 |
| | K (-) | -.5275 [*] | .00890 | .000 | -.5529 | -.5021 |
| | F I | -.1958 [*] | .00890 | .000 | -.2212 | -.1704 |
| | F III | .2025 [*] | .00890 | .000 | .1771 | .2279 |
| F III | K (+) | 1.3717 [*] | .00890 | .000 | 1.3463 | 1.3971 |
| | K (-) | -.7300 [*] | .00890 | .000 | -.7554 | -.7046 |
| | F I | -.3983 [*] | .00890 | .000 | -.4237 | -.3729 |
| | F II | -.2025 [*] | .00890 | .000 | -.2279 | -.1771 |

Based on observed means.

The error term is Mean Square(Error) = ,000.

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

Homogeneous Subsets

pH

Tukey HSD^{a,b}

| Formula | N | Subset | | | | |
|---------|----|--------|--------|--------|--------|--------|
| | | 1 | 2 | 3 | 4 | 5 |
| K (+) | 12 | 6.0550 | | | | |
| F III | 12 | | 7.4267 | | | |
| F II | 12 | | | 7.6292 | | |
| F I | 12 | | | | 7.8250 | |
| K (-) | 12 | | | | | 8.1567 |
| Sig. | | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 |

Means for groups in homogeneous subsets are displayed.

Based on observed means.

The error term is Mean Square(Error) = ,000.

a. Uses Harmonic Mean Sample Size = 12,000.

b. Alpha = .05.

- Waktu penyembuhan

Descriptive Statistics

| | N | Mean | Std. Deviation | Minimum | Maximum |
|-----------------------|----|----------|----------------|----------|---------|
| Standardized Residual | 25 | ,0000000 | ,97894501 | -1,50128 | 1,65996 |

One-Sample Kolmogorov-Smirnov Test

| | | Standardized Residual |
|----------------------------------|----------------|-----------------------|
| N | | 25 |
| Normal Parameters ^{a,b} | Mean | ,0000000 |
| | Std. Deviation | ,97894501 |
| Most Extreme Differences | Absolute | ,141 |
| | Positive | ,131 |
| | Negative | -,141 |
| Kolmogorov-Smirnov Z | | ,707 |
| Asymp. Sig. (2-tailed) | | ,699 |

a. Test distribution is Normal.

b. Calculated from data.

Test of Homogeneity of Variances

lama

| Levene Statistic | df1 | df2 | Sig. |
|------------------|-----|-----|------|
| ,729 | 4 | 20 | ,583 |

Multiple Comparisons

Dependent Variable: lama

Tukey HSD

| (I) formula | (J) formula | Mean Difference (I-J) | Std. Error | Sig. | 95% Confidence Interval | |
|-------------|-------------|-----------------------|------------|------|-------------------------|-------------|
| | | | | | Lower Bound | Upper Bound |
| k (+) | k (-) | -,45845* | ,01965 | ,000 | -,5173 | -,3997 |
| | f1 | -,31596* | ,01965 | ,000 | -,3748 | -,2572 |
| | f2 | -,27280* | ,01965 | ,000 | -,3316 | -,2140 |
| | f3 | -,04509 | ,01965 | ,188 | -,1039 | ,0137 |
| k (-) | k (+) | ,45845* | ,01965 | ,000 | ,3997 | ,5173 |
| | f1 | ,14249* | ,01965 | ,000 | ,0837 | ,2013 |
| | f2 | ,18565* | ,01965 | ,000 | ,1269 | ,2445 |
| | f3 | ,41336* | ,01965 | ,000 | ,3546 | ,4722 |
| f1 | k (+) | ,31596* | ,01965 | ,000 | ,2572 | ,3748 |
| | k (-) | -,14249* | ,01965 | ,000 | -,2013 | -,0837 |
| | f2 | ,04316 | ,01965 | ,221 | -,0156 | ,1020 |
| | f3 | ,27087* | ,01965 | ,000 | ,2121 | ,3297 |
| f2 | k (+) | ,27280* | ,01965 | ,000 | ,2140 | ,3316 |
| | k (-) | -,18565* | ,01965 | ,000 | -,2445 | -,1269 |
| | f1 | -,04316 | ,01965 | ,221 | -,1020 | ,0156 |
| | f3 | ,22771* | ,01965 | ,000 | ,1689 | ,2865 |
| f3 | k (+) | ,04509 | ,01965 | ,188 | -,0137 | ,1039 |
| | k (-) | -,41336* | ,01965 | ,000 | -,4722 | -,3546 |
| | f1 | -,27087* | ,01965 | ,000 | -,3297 | -,2121 |
| | f2 | -,22771* | ,01965 | ,000 | -,2865 | -,1689 |

*. The mean difference is significant at the 0.05 level.

Homogeneous Subsets

lama

Tukey HSD^a

| formula | N | Subset for alpha = 0.05 | | |
|---------|---|-------------------------|--------|--------|
| | | 1 | 2 | 3 |
| k (+) | 5 | ,9623 | | |
| f3 | 5 | 1,0074 | | |
| f2 | 5 | | 1,2351 | |
| f1 | 5 | | 1,2783 | |
| k (-) | 5 | | | 1,4208 |
| Sig. | | ,188 | ,221 | 1,000 |