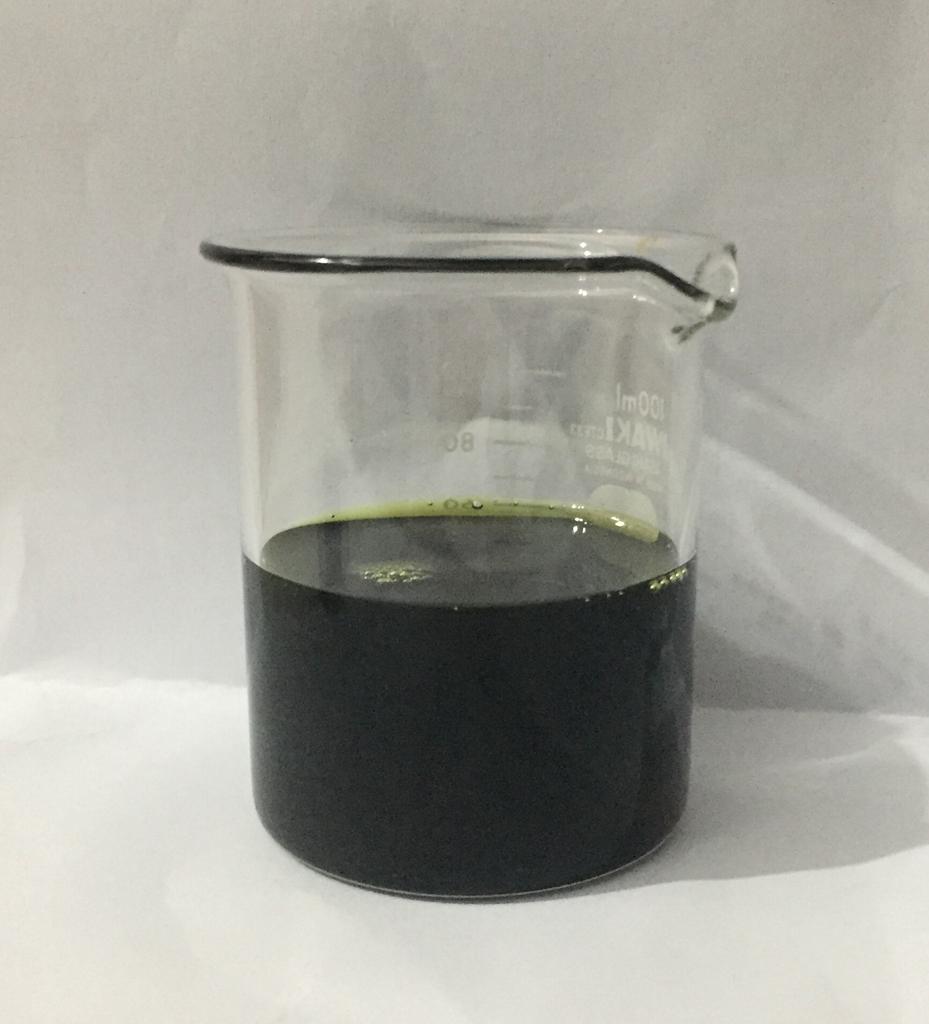
**Lampiran 1**. *Certificate of Analysis* (COA) Minyak Nyamplung



**Lampiran 2**. Minyak Nyamplung



Minyak nyamplung yang beredar dipasaran



Minyak nyamplung dalam wadah

**Lampiran 3**. Bagan Alir (*Flowsheet*) Pembuatan Sediaan *Lip Balm*

Oleum cacao

Cera flava dan cera alba

* Ditimbang
* Masukkan ke dalam cawan penguap
* Lelehkan diatas penangas air sambil diaduk
* Ditimbang
* Masukkan ke dalam cawan penguap
* Lelehkan diatas penangas air sambil diaduk

Lelehan oleum cacao

Lelehan cera flava dan cera alba

* Masukkan lelehan cera flava dan cera alba kedalam lelehan oleum cacao
* Masukkan nipagin, nipasol, natrium metabisulfit, BHT dan gliserin sambil terus diaduk
* Masukkan minyak nyamplung sambil diaduk

Massa cair

* Masukkan ke dalam wadah *lip balm*
* Biarkan pada suhu ruangan sampai membeku

Sediaan *lip balm* minyak nyamplung

**Lampiran 4.** Perhitungan Formula Sediaan *Lip Balm*

1. F0 yaitu sediaan *lip balm* tanpa minyak nyamplung (blanko)
   1. Minyak nyamplung : -
   2. Gliserin 5% : x 100g = 5 gram
   3. Cera alba 5% : x 100g = 5 gram
   4. Cera flava 6% : x 100g = 6 gram
   5. Nipagin 0,18% : x 100g = 0,18 gram
   6. Nipasol 0,02% : x 100g = 0,02 gram
   7. Na.Metabisulfit 0,1% : x 100g = 0,1 gram
   8. BHT 0,1% : x 100g = 0,1 gram
   9. Oleum cacao ad 100% : x 100g = 100 gram

: 100 – (5+5+6+0,18+0,02+0,1+0,1)

: 100-16,4

: 83,6 gram

1. F1 yaitu sediaan *lip balm* dengan konsentrasi minyak nyamplung 15%
   1. Minyak nyamplung 15% : x 100g = 15 gram
   2. Gliserin 5% : x 100g = 5 gram
   3. Cera alba 5% : x 100g = 5 gram
   4. Cera flava 6% : x 100g = 6 gram
   5. Nipagin 0,18% : x 100g = 0,18 gram

**Lampiran 4**. (Lanjutan)

* 1. Nipasol 0,02% : x 100g = 0,02 gram
  2. Na.Metabisulfit 0,1% : x 100g = 0,1 gram
  3. BHT 0,1% : x 100g = 0,1 gram
  4. Oleum cacao ad 100% : x 100g = 100 gram

: 100 – (15+5+5+6+0,18+0,02+0,1+0,1)

: 100-31,4

: 68,6 gram

1. F2 yaitu sediaan *lip balm* dengan konsentrasi minyak nyamplung 20%
   1. Minyak nyamplung 20% : x 100g = 20 gram
   2. Gliserin 5% : x 100g = 5 gram
   3. Cera alba 5% : x 100g = 5 gram
   4. Cera flava 6% : x 100g = 6 gram
   5. Nipagin 0,18% : x 100g = 0,18 gram
   6. Nipasol 0,02% : x 100g = 0,02 gram
   7. Na.Metabisulfit 0,1% : x 100g = 0,1 gram
   8. BHT 0,1% : x 100g = 0,1 gram
   9. Oleum cacao ad 100% : x 100g = 100 gram

: 100 – (20+5+5+6+0,18+0,02+0,1+0,1)

: 100-36,4

: 63,6 gram

**Lampiran 5**. Hasil Sediaan *Lip Balm* Minyak Nyamplung



Keterangan: F0 : Sediaan *lip balm* tanpa minyak nyamplung (Blanko)

F1 : Sediaan *lip balm* dengan konsentrasi minyak nyamplung 15%

F2 : Sediaan *lip balm* dengan konsentrasi minyak nyamplung 20%

**Lampiran 6**. Hasil Nilai pH Sediaan *Lip Balm* Selama 4 Minggu dengan 6 Kali Pengulangan

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **pengulangan** | **Nilai pH** | | | | | | | | | | | | | | |
| **Minggu 0** | | | **Minggu 1** | | | **Minggu 2** | | | **Minggu 3** | | | **Minggu 4** | | |
| **F0** | **F1** | **F2** | **F0** | **F1** | **F2** | **F0** | **F1** | **F2** | **F0** | **F1** | **F2** | **F0** | **F1** | **F2** |
| 1 | 5,3 | 5,1 | 5 | 5,3 | 5,1 | 5 | 5,3 | 5,1 | 5 | 5,4 | 5,1 | 5 | 5,3 | 5,1 | 5 |
| 2 | 5,3 | 5,1 | 5 | 5,3 | 5,1 | 5 | 5,2 | 5,1 | 5 | 5,3 | 5,1 | 4,9 | 5,3 | 5,1 | 5,1 |
| 3 | 5,2 | 5 | 5 | 5,3 | 5,1 | 5 | 5,2 | 5,1 | 5,1 | 5,3 | 5 | 5 | 5,3 | 5,1 | 5 |
| 4 | 5,3 | 5 | 5 | 5,4 | 5 | 5 | 5,3 | 5 | 5 | 5,3 | 5,1 | 5 | 5,3 | 5 | 5 |
| 5 | 5,2 | 5,1 | 4,9 | 5,3 | 5,1 | 5 | 5,3 | 5,1 | 5 | 5,3 | 5,1 | 5 | 5,2 | 4,9 | 4,9 |
| 6 | 5,3 | 5,1 | 5 | 5,3 | 5,1 | 4,9 | 5,3 | 5,1 | 5 | 5,3 | 5 | 5 | 5,3 | 5 | 5 |

**Lampiran 7**. Hasil Pemeriksaan Suhu Lebur Sediaan *Lip Balm* Selama 4 Minggu dengan 6 Kali Pengulangan

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| pengulangan | Suhu lebur | | | | | | | | | | | | | | |
| Minggu 0 | | | Minggu 1 | | | Minggu 2 | | | Minggu 3 | | | Minggu 4 | | |
| F0 | F1 | F2 | F0 | F1 | F2 | F0 | F1 | F2 | F0 | F1 | F2 | F0 | F1 | F2 |
| 1 | 52 | 53 | 54 | 52,5 | 53 | 55 | 52 | 53 | 54 | 52 | 53,5 | 54 | 52 | 53 | 54,5 |
| 2 | 52 | 53,5 | 54 | 52 | 53 | 54 | 52 | 53,5 | 54 | 52 | 53 | 54 | 52 | 53 | 54 |
| 3 | 52,5 | 53 | 54 | 52 | 53 | 54 | 52,5 | 54 | 54 | 52 | 53 | 54 | 52 | 53 | 54 |
| 4 | 52 | 53,5 | 54 | 52 | 53,5 | 54 | 52 | 53,5 | 54 | 52 | 53 | 54 | 52 | 53 | 54 |
| 5 | 52,5 | 53 | 54 | 52 | 54 | 54 | 52 | 53 | 54 | 52,5 | 53 | 54 | 52 | 53 | 54 |
| 6 | 52 | 53,5 | 54,5 | 52 | 53 | 54,5 | 52,5 | 53 | 54,5 | 52,5 | 53 | 54 | 52 | 53 | 54 |

**Lampiran 8**. Hasil nilai *breaking point* sediaan *lip balm* selama 4 minggu dengan 6 Kali Pengulangan

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| pengulangan | *Breaking point* | | | | | | | | | | | | | | |
| Minggu 0 | | | Minggu 1 | | | Minggu 2 | | | Minggu 3 | | | Minggu 4 | | |
|  | F0 | F1 | F2 | F0 | F1 | F2 | F0 | F1 | F2 | F0 | F1 | F2 | F0 | F1 | F2 |
| 1 | 340 | 320 | 300 | 340 | 327 | 300 | 370 | 320 | 305 | 370 | 325 | 307 | 372 | 325 | 307 |
| 2 | 340 | 320 | 302 | 345 | 320 | 302 | 370 | 320 | 302 | 370 | 320 | 307 | 377 | 320 | 307 |
| 3 | 342 | 320 | 302 | 342 | 325 | 302 | 370 | 322 | 302 | 370 | 320 | 302 | 377 | 327 | 302 |
| 4 | 340 | 322 | 305 | 340 | 322 | 305 | 372 | 322 | 305 | 370 | 322 | 305 | 370 | 322 | 305 |
| 5 | 342 | 320 | 300 | 340 | 320 | 300 | 370 | 320 | 300 | 372 | 320 | 300 | 372 | 327 | 305 |
| 6 | 340 | 320 | 300 | 340 | 320 | 307 | 372 | 320 | 300 | 372 | 320 | 300 | 372 | 325 | 300 |

**Lampiran 9.** Bagan Alir (*Flowsheet*) Uji Efektivitas Kelembaban

Sukarelawan

Diamati kondisi kulit bibir

* Menjelaskan tentang penelitian
* Menanyakan apakah bersedia menjadi sukarelawan
* Mengisi surat pernyataan bersedia menjadi sukarelawan
* Diukur nilai kelembaban kulit bibir
* Sediaan diberikan pada sukarelawan
* Sukarelawan menggunakan sediaan *lip balm*
* Diukur selama 4 minggu

Nilai Kelembaban Kulit Bibir

Nilai Kelembaban Kulit Bibir Minggu 4

Nilai Kelembaban Kulit Bibir Minggu 3

Nilai Kelembaban Kulit Bibir Minggu 0

Nilai Kelembaban Kulit Bibir Minggu 2

Nilai Kelembaban Kulit Bibir Minggu 1

* Analisis data
* Data kelembaban kulit bibir dianalisis dengan program SPSS
* Selisih nilai kelembaban dibandingkan kelembaban awal

Hasil Rata – Rata Persentase Peningkatan Kelembaban Kulit Bibir

Hasil Analisis Data Kelembapan Kulit dengan Program SPSS

**Lampiran 10**. Surat Pernyataan Bersedia Menjadi Sukarelawan

Saya yang bertanda tangan di bawah ini:

Nama :

Umur :

Jenis kelamin :

Alamat :

No.Telp/HP :

Telah mendapat penjelasan secukupnya bahwa Bibir saya akan digunakan sebagai daerah yang akan diuji. Setelah mendapat penjelasan secukupnya tentang manfaat penelitian ini maka saya menyatakan **SETUJU** untuk ikut serta dalam penelitian Suka Ima Pakpahan dengan judul “Formulasi dan Evaluasi Sediaan*Lip Balm* Minyak Nyamplung (*Calophylluminophyllum* L.)” Saya bersedia untuk mengikuti prosedur penelitian yang telah diterapkan.

Persetujuan ini saya buat dengan penuh kesadaran dan tanpa paksaan dari pihak manapun. Demikian surat pernyataan ini dibuat untuk dapat dipergunakan sebagaimana mestinya.

Medan, Maret 2021

Sukarelawan Peneliti

(..............................) (Suka Ima Pakpahan)

**Lampiran 11**. Uji Efektivitas Kelembaban Terhadap Kulit Bibir Sukarelawan dengan Menggunakan Alat *Skin Detector*



Alat yang digunakan Untuk Mengukur Kelembaban Kulit Bibir (*Skin Detector)*



Pengukuran kulit bibir sukarelawan dengan menggunakan alat *Skin Detector*

**Lampiran 12**. Hasil Nilai Kelembaban Kulit Bibir Sukarelawan Selama 4 Minggu

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| pengulangan | Kelembaban kulit bibir (%) | | | | | | | | | | | | | | |
| Minggu 0 | | Minggu 1 | | | | Minggu 2 | | | Minggu 3 | | | Minggu 4 | | |
| F0 | F1 | F2 | F0 | F1 | F2 | F0 | F1 | F2 | F0 | F1 | F2 | F0 | F1 | F2 |
| 1 | 34,2 | 37,0 | 31,4 | 34,3 | 40,2 | 34,9 | 34,6 | 44,8 | 34,9 | 34,7 | 50,7 | 46,9 | 34,9 | 54,1 | 52,4 |
| 2 | 22,9 | 26,4 | 31,4 | 23,1 | 29,7 | 34,2 | 23,4 | 33,9 | 34,2 | 23,7 | 37,4 | 46,0 | 23,9 | 40,2 | 51,4 |
| 3 | 39,0 | 32,6 | 32,6 | 39,2 | 35,9 | 35,1 | 39,3 | 40,8 | 35,1 | 39,8 | 45,1 | 47,5 | 39,8 | 51,9 | 53,2 |
| 4 | 24,3 | 35,4 | 32,1 | 24,9 | 38,1 | 35,9 | 25,2 | 41,8 | 35,9 | 25,3 | 46,0 | 47,7 | 25,5 | 52,0 | 54,7 |
| 5 | 36,8 | 35,7 | 31,2 | 37,0 | 39,0 | 34,1 | 37,3 | 42,9 | 34,1 | 37,5 | 47,4 | 46,7 | 37,7 | 50,5 | 53,3 |
| 6 | 26,4 | 31,7 | 31,6 | 26,6 | 34,2 | 34,2 | 26,9 | 39,6 | 34,2 | 27,2 | 43,5 | 46,3 | 34,5 | 47,0 | 54,5 |

**Lampiran 13.** Kulit Bibir Sukarelawan Sebelum dan Sesudah Pemakaian Sediaan *Lip Balm*

F0 : Sediaan *lip balm* blanko

Sebelum pemakaian sediaan *lip balm*  Sesudah pemakaian sediaan *lip balm*

selama 4 minggu

F1 : Sediaan *lip balm* dengan konsentrasi minyak nyamplung 15%

Sebelum pemakaian sediaan *lip balm*  Sesudah pemakaian sediaan *lip balm*

selama 4 minggu

F2 : Sediaan *lip balm* dengan konsentrasi minyak nyamplung 20%

Sebelum pemakaian sediaan *lip balm* Sesudah pemakaian sediaan *lip balm*

Selama 4 minggu

**Lampiran 14**. Hasil Analisa Statistik Data Kelembaban Kulit Bibir dengan Program SPSS

| **Tests of Normality** | | | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | FORMULA | Kolmogorov-Smirnova | | | Shapiro-Wilk | | |
|  | Statistic | df | Sig. | Statistic | df | Sig. |
| MINGGU 0 | F0 | .228 | 6 | .200\* | .887 | 6 | .304 |
| F1 | .222 | 6 | .200\* | .901 | 6 | .381 |
| F2 | .254 | 6 | .200\* | .882 | 6 | .277 |
| MINGGU 1 | F0 | .233 | 6 | .200\* | .894 | 6 | .337 |
| F1 | .191 | 6 | .200\* | .932 | 6 | .596 |
| F2 | .275 | 6 | .175 | .869 | 6 | .221 |
| MINGGU 2 | F0 | .233 | 6 | .200\* | .890 | 6 | .320 |
| F1 | .225 | 6 | .200\* | .916 | 6 | .475 |
| F2 | .265 | 6 | .200\* | .847 | 6 | .148 |
| MINGGU 3 | F0 | .229 | 6 | .200\* | .896 | 6 | .348 |
| F1 | .200 | 6 | .200\* | .953 | 6 | .763 |
| F2 | .170 | 6 | .200\* | .955 | 6 | .778 |
| MINGGU 4 | F0 | .225 | 6 | .200\* | .895 | 6 | .343 |
| F1 | .262 | 6 | .200\* | .865 | 6 | .206 |
| F2 | .219 | 6 | .200\* | .969 | 6 | .886 |
| a. Lilliefors Significance Correction | | | | | | | |
| \*. This is a lower bound of the true significance. | | | | | | | |

**Lampiran 14.** (Lanjutan)

| **Descriptives** | | | | | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  | N | Mean | Std. Deviation | Std. Error | 95% Confidence Interval for Mean | | Minimum | Maximum |
|  |  | Lower Bound | Upper Bound |
| MINGGU 0 | F0 | 6 | 30.600 | 6.9077 | 2.8200 | 23.351 | 37.849 | 22.9 | 39.0 |
| F1 | 6 | 33.133 | 3.8563 | 1.5743 | 29.086 | 37.180 | 26.4 | 37.0 |
| F2 | 6 | 31.717 | .5307 | .2167 | 31.160 | 32.274 | 31.2 | 32.6 |
| Total | 18 | 31.817 | 4.4304 | 1.0443 | 29.613 | 34.020 | 22.9 | 39.0 |
| MINGGU 1 | F0 | 6 | 30.850 | 6.8261 | 2.7867 | 23.686 | 38.014 | 23.1 | 39.2 |
| F1 | 6 | 36.183 | 3.8416 | 1.5683 | 32.152 | 40.215 | 29.7 | 40.2 |
| F2 | 6 | 34.733 | .7062 | .2883 | 33.992 | 35.474 | 34.1 | 35.9 |
| Total | 18 | 33.922 | 4.8538 | 1.1441 | 31.508 | 36.336 | 23.1 | 40.2 |
| MINGGU 2 | F0 | 6 | 31.117 | 6.7774 | 2.7669 | 24.004 | 38.229 | 23.4 | 39.3 |
| F1 | 6 | 40.633 | 3.7495 | 1.5307 | 36.698 | 44.568 | 33.9 | 44.8 |
| F2 | 6 | 41.017 | .4708 | .1922 | 40.523 | 41.511 | 40.6 | 41.7 |
| Total | 18 | 37.589 | 6.3177 | 1.4891 | 34.447 | 40.731 | 23.4 | 44.8 |
| MINGGU 3 | F0 | 6 | 31.367 | 6.8234 | 2.7856 | 24.206 | 38.527 | 23.7 | 39.8 |
| F1 | 6 | 45.017 | 4.4557 | 1.8191 | 40.341 | 49.693 | 37.4 | 50.7 |
| F2 | 6 | 46.850 | .6626 | .2705 | 46.155 | 47.545 | 46.0 | 47.7 |
| Total | 18 | 41.078 | 8.3775 | 1.9746 | 36.912 | 45.244 | 23.7 | 50.7 |
| MINGGU 4 | F0 | 6 | 31.550 | 6.7622 | 2.7606 | 24.454 | 38.646 | 23.9 | 39.8 |
| F1 | 6 | 49.283 | 5.0325 | 2.0545 | 44.002 | 54.565 | 40.2 | 54.1 |
| F2 | 6 | 52.983 | 1.0907 | .4453 | 51.839 | 54.128 | 51.4 | 54.7 |
| Total | 18 | 44.606 | 10.6724 | 2.5155 | 39.298 | 49.913 | 23.9 | 54.7 |

**Lampiran 14.** (Lanjutan)

| **Test of Homogeneity of Variances** | | | | |
| --- | --- | --- | --- | --- |
|  | Levene Statistic | df1 | df2 | Sig. |
| MINGGU 0 | 17.158 | 2 | 15 | .000 |
| MINGGU 1 | 16.005 | 2 | 15 | .000 |
| MINGGU 2 | 14.852 | 2 | 15 | .000 |
| MINGGU 3 | 10.553 | 2 | 15 | .001 |
| MINGGU 4 | 9.842 | 2 | 15 | .002 |

| **ANOVA** | | | | | | |
| --- | --- | --- | --- | --- | --- | --- |
|  |  | Sum of Squares | df | Mean Square | F | Sig. |
| MINGGU 0 | Between Groups | 19.343 | 2 | 9.672 | .462 | .639 |
| Within Groups | 314.342 | 15 | 20.956 |  |  |
| Total | 333.685 | 17 |  |  |  |
| MINGGU 1 | Between Groups | 91.254 | 2 | 45.627 | 2.213 | .144 |
| Within Groups | 309.257 | 15 | 20.617 |  |  |
| Total | 400.511 | 17 |  |  |  |
| MINGGU 2 | Between Groups | 377.448 | 2 | 188.724 | 9.403 | .002 |
| Within Groups | 301.070 | 15 | 20.071 |  |  |
| Total | 678.518 | 17 |  |  |  |
| MINGGU 3 | Between Groups | 858.834 | 2 | 429.417 | 19.270 | .000 |
| Within Groups | 334.257 | 15 | 22.284 |  |  |
| Total | 1193.091 | 17 |  |  |  |
| MINGGU 4 | Between Groups | 1575.098 | 2 | 787.549 | 32.704 | .000 |
| Within Groups | 361.212 | 15 | 24.081 |  |  |
| Total | 1936.309 | 17 |  |  |  |

**Lampiran 14.** (Lanjutan)

| **MINGGU 0** | | |
| --- | --- | --- |
| Tukey HSDa | | |
| FORMULA | N | Subset for alpha = 0.05 |
| 1 |
| F0 | 6 | 30.600 |
| F2 | 6 | 31.717 |
| F1 | 6 | 33.133 |
| Sig. |  | .613 |
| Means for groups in homogeneous subsets are displayed. | | |
| a. Uses Harmonic Mean Sample Size = 6.000. | | |

| **MINGGU 1** | | |
| --- | --- | --- |
| Tukey HSDa | | |
| FORMULA | N | Subset for alpha = 0.05 |
| 1 |
| F0 | 6 | 30.850 |
| F2 | 6 | 34.733 |
| F1 | 6 | 36.183 |
| Sig. |  | .138 |
| Means for groups in homogeneous subsets are displayed. | | |
| a. Uses Harmonic Mean Sample Size = 6.000. | | |

**Lampiran 14.** (Lanjutan)

| **MINGGU 2** | | | |
| --- | --- | --- | --- |
| Tukey HSDa | | | |
| FORMULA | N | Subset for alpha = 0.05 | |
| 1 | 2 |
| F0 | 6 | 31.117 |  |
| F1 | 6 |  | 40.633 |
| F2 | 6 |  | 41.017 |
| Sig. |  | 1.000 | .988 |
| Means for groups in homogeneous subsets are displayed. | | | |
| a. Uses Harmonic Mean Sample Size = 6.000. | | | |

| **MINGGU 3** | | | |
| --- | --- | --- | --- |
| Tukey HSDa | | | |
| FORMULA | N | Subset for alpha = 0.05 | |
| 1 | 2 |
| F0 | 6 | 31.367 |  |
| F1 | 6 |  | 45.017 |
| F2 | 6 |  | 46.850 |
| Sig. |  | 1.000 | .783 |
| Means for groups in homogeneous subsets are displayed. | | | |
| a. Uses Harmonic Mean Sample Size = 6.000. | | | |

**Lampiran 14.** (Lanjutan)

| **MINGGU 4** | | | |
| --- | --- | --- | --- |
| Tukey HSDa | | | |
| FORMULA | N | Subset for alpha = 0.05 | |
| 1 | 2 |
| F0 | 6 | 31.550 |  |
| F1 | 6 |  | 49.283 |
| F2 | 6 |  | 52.983 |
| Sig. |  | 1.000 | .414 |
| Means for groups in homogeneous subsets are displayed. | | | |
| a. Uses Harmonic Mean Sample Size = 6.000. | | | |

**Lampiran 15.** Produk Sediaan *Lip Balm* Minyak Nyamplung



Keterangan: *Lip balm* yang sudah dikemas dalam kemasan dan sudah diberi etiket