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Lampiran 1. Hasil Determinasi Tanaman Daun Cempedak (*Artocarpus integer* Thunb.) Merr)



PEMERINTAH PROVINSI JAWA TIMUR
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Nomor : 074/280/102.20-A/2022
Sifat : Biasa
Perihal : **Determinasi Tanaman Cempedak**

Memenuhi permohonan saudara :

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Fakultas : FARMASI, UNIVERSITAS SETIA BUDI

1. Perihal determinasi tanaman cempedak

Kingdom : Plantae (Tumbuhan)
Divisi : Magnoliophyta (Tumbuhan berbunga)
Kelas : Magnoliopsida (Berkeping dua / dikotil)
Ordo : Urticales
Famili : Moraceae (Suku nangka-nangkaan)
Genus : *Artocarpus*
Spesies : *Artocarpus integer* (Thunb.) Merr.
Sinonim : *A. integra* Merr.
Nama Umum : Cempedak (Indonesia), nangka beurit (Sunda), nongko cino (Jawa), cubadak hutan (Minangkabau), tiwadak (Banjar).
Kunci Determinasi : 1b-2b-3b-4b-6b-7b-9b-10b-11b-12b-13b-14b-15a-109b-119b-120a-121b-124a:Moraceae-1b:Artocarpus-2-1b:*A. integer*.

2. Morfologi : Habitus: Pohon sedang, tingginya dapat mencapai 20 m. Batang: Bulat, ranting dan pucuk berambut halus dan kaku, kecokelatan. Daun: Tunggal, tipis agak kaku, bulat telur terbalik sampai jorong, bertepi rata, dengan pangkal berbentuk pasak sampai membulat, dan ujung meruncing (acuminate); daun penumpu bulat telur memanjang, meruncing, berambut kawat, mudah rontok dan meninggalkan bekas berupa cincin pada ranting. Bunga: Perbungaan, muncul di ketiak daun, pada cabang besar atau pada batang utama. Buah: Semu majemuk (syncarp), berbentuk silinder sampai bulat, 10-15 × 20-35 cm, kehijauan, kekuningan sampai kecokelatan, dengan tonjolan piramidal serupa duri lunak yang rapat atau licin berpetak-petak dengan mata faset; daging buah adalah perhiasan bunga yang membesar dan menebal, putih kekuningan sampai jingga, manis dan harum, bertekstur lembut, berlendir dan agak berserat. Biji: Bulat gepeng atau memanjang, 2-3 cm.

3. Bagian yang digunakan : Daun.

4. Penggunaan : Penelitian (Skripsi).

5. Daftar Pustaka

- Van Steenis, C.G.G.J. 2008. *FLORA: untuk Sekolah di Indonesia*. Pradnya Paramita, Jakarta.

Demikian surat keterangan determinasi ini kami buat untuk dipergunakan sebagaimana mestinya.

Batu, 05 April 2022

KEPALA UPT LABORATORIUM HERBAL
MATERIA MEDICA BATU

ACHMAD MABRUR, SKM, M.Kes.
PEMBINA
NIP. 19680203 199203 1 004

**Lampiran 2. Proses pembuatan simplisia daun cempedak
(*Artocarpus integer* Thunb.) Merr)**



1. Perhitungan randemen bobot kering terhadap bobot basah :

$$\text{Randemen} = \frac{\text{Bobot kering}}{\text{Bobot basah}} \times 100\%$$

$$\text{Randemen} = \frac{2.000 \text{ gram}}{14.000 \text{ gram}} \times 100\% = 14,285 \%$$

2. Perhitungan randemen bobot serbuk terhadap bobot kering :

$$\text{Randemen} = \frac{\text{Bobot serbuk}}{\text{Bobot kering}} \times 100\%$$

$$\text{Randemen} = \frac{1.100 \text{ gram}}{2.000 \text{ gram}} \times 100\% = 55 \%$$

Lampiran 3. Penetapan susut pengeringan serbuk daun cempedak (*Artocarpus integer* Thunb.) Merr) metode moisture balance



Lampiran 4. Penetapan kadar air serbuk daun cempedak (*Artocarpus integer* Thunb.) Merr) metode sterling bidwel



Replikasi 1

Replikasi 2



Replikasi 3

Hasil penetapan kadar air serbuk daun cempedak (*Sterling bidwel*)

Replikasi	Bobot serbuk (g)	Volume terbaca (ml)	Kadar air serbuk (% v/b)
1.	20,0020	1,3	6,49
2.	20,0040	1,5	7,49
3.	20,0042	1,6	7,99
Rata-rata ± SD			7,32 ± 0,763

$$\text{Replikasi 1} = \frac{\text{Volume terbaca}}{\text{Bobot serbuk}} \times 100\%$$

$$= \frac{1,3}{20,0020} \times 100\%$$

$$= 6,49\%$$

$$\text{Replikasi 2} = \frac{\text{Volume terbaca}}{\text{Bobot serbuk}} \times 100\%$$

$$= \frac{1,5}{20,0040} \times 100\%$$

$$= 7,49\%$$

$$\text{Replikasi} = \frac{\text{Volume terbaca}}{\text{Bobot serbuk}} \times 100\%$$

$$= \frac{1,6}{20,0042} \times 100\%$$

$$= 7,99\%$$

$$\text{Rata-rata kadar air serbuk daun cempedak} = \frac{6,49\% + 7,49\% + 7,99\%}{3}$$

$$= 7,32\%$$

Lampiran 5. Perhitungan randemen ekstrak etanol daun cempedak (*Artocarpus integer* Thunb.) Merr)



Perhitungan randemen ekstrak daun cempedak :

$$\text{Randemen} = \frac{\text{Bobot ekstrak kental}}{\text{Bobot serbuk}} \times 100\%$$

$$\text{Randemen} = \frac{199 \text{ gram}}{800 \text{ gram}} \times 100\% = 24,875 \%$$

Lampiran 6. Penetapan susut pengeringan ekstrak etanol daun cempedak cempedak (*Artocarpus integer* Thunb.) Merr) metode gravimetri



➤ Replikasi 1

- Bobot kurs kosong = 39,7461 g
- Bobot kurs + ekstrak = 49,7440 g
- Bobot ekstrak = 49,7440 g – 39,7461 g
= 9,9979 g
- Bobot kurs kosong + ekstrak setelah pemanasan = 40,5869 g
- Bobot ekstrak setelah pemanasan = 40,5869 g - 39,7461 g
= 0,8408 g
- Susut pengeringan ekstrak = $\frac{\text{Bobot konstan}}{\text{Bobot awal}} \times 100\%$
= $\frac{0,8408 \text{ gram}}{9,9979 \text{ gram}} \times 100\%$
= 8,40 %

➤ Replikasi 2

- Bobot kurs kosong = 38,7077 g
- Bobot kurs + ekstrak = 48,7054 g
- Bobot ekstrak = 48,7054 g – 38,7077 g
= 9,9977 g
- Bobot kurs kosong + ekstrak setelah pemanasan = 39,5151 g
- Bobot ekstrak setelah pemanasan = 39,5151 g - 38,7077 g
= 0,8074 g

$$\begin{aligned}
 \text{- Susut pengeringan ekstrak} &= \frac{\text{Bobot konstan}}{\text{Bobot awal}} \times 100\% \\
 &= \frac{0,8074 \text{ gram}}{9,9977 \text{ gram}} \times 100\% \\
 &= 8,075 \%
 \end{aligned}$$

➤ Replikasi 3

$$\begin{aligned}
 \text{- Bobot kurs kosong} &= 39,8450 \text{ g} \\
 \text{- Bobot kurs + ekstrak} &= 49,8395 \text{ g} \\
 \text{- Bobot ekstrak} &= 49,8395 \text{ g} - 39,8450 \text{ g} \\
 &= 9,9945 \text{ g} \\
 \text{- Bobot kurs kosong + ekstrak setelah pemanasan} &= 40,6057 \text{ g} \\
 \text{- Bobot ekstrak setelah pemanasan} &= 40,6057 \text{ g} - 39,8450 \text{ g} \\
 &= 0,7607 \text{ g}
 \end{aligned}$$

$$\begin{aligned}
 \text{- Susut pengeringan ekstrak} &= \frac{\text{Bobot konstan}}{\text{Bobot awal}} \times 100\% \\
 &= \frac{0,7607 \text{ gram}}{9,9945 \text{ gram}} \times 100\% \\
 &= 7,61 \%
 \end{aligned}$$

Kesimpulan =

Rata-rata susut pengeringan ekstrak etanol daun cempedak

$$= 8,40 \% + 8,075 \% + 7,61 \% / 3$$

$$= 8,03 \pm 0,40$$

Lampiran 7. Identifikasi kandungan senyawa ekstrak etanol daun cempedak (*Artocarpus integer* Thunb.) Merr) dengan metode tabung



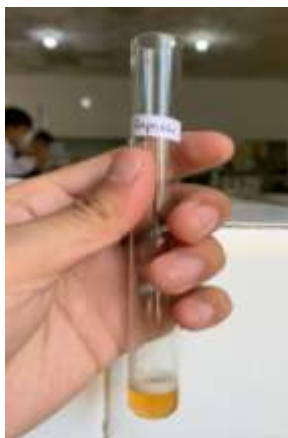
**Alkaloid
(Reagen
Bouchardat)**



**Alkaloid
(Reagen
Dragendroft)**



Flavonoid



Saponin

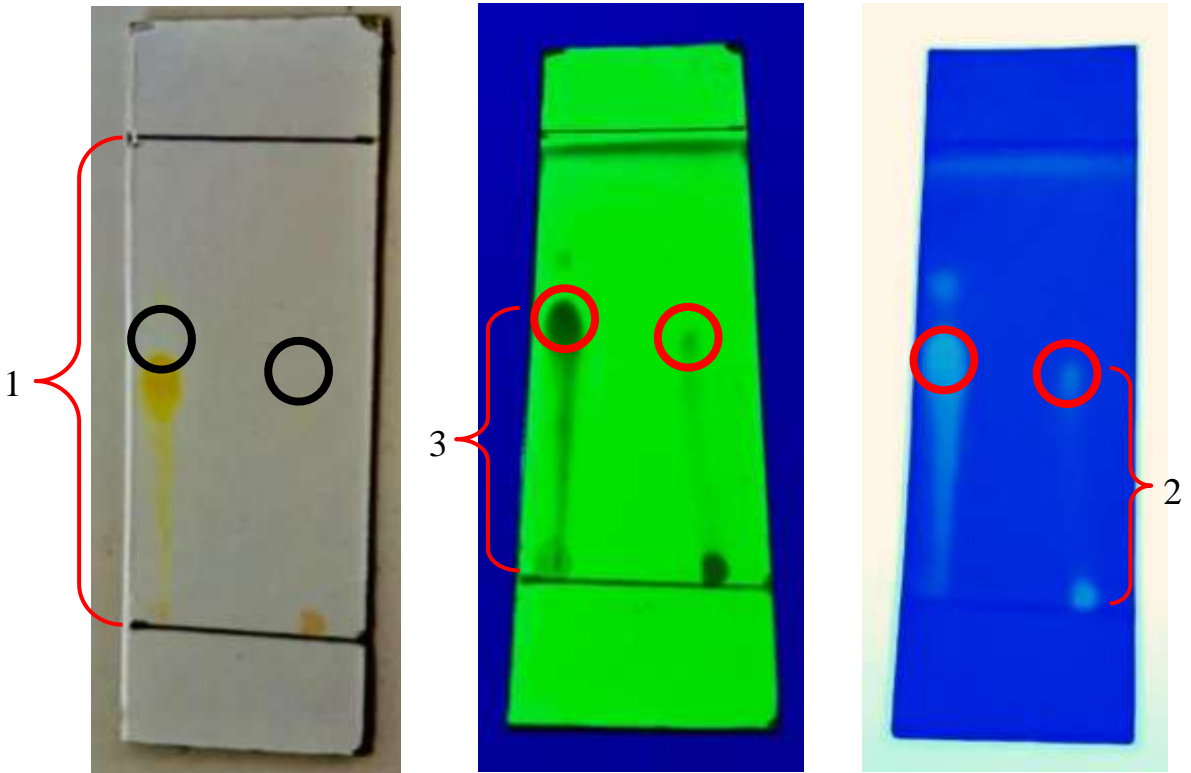


Tanin



Triterpenoid

Lampiran 8. Identifikasi kandungan flavonoid ekstrak etanol daun cempedak (*Artocarpus integer* (Thunb.) Merr) dengan metode Kromatografi Lapis Tipis.



Sinar tampak

UV 254

UV 366

Keterangan :

1 : Panjang eluen

2 : Panjang bercak ekstrak

3: Panjang bercak kuarsetin (baku pembanding)

$$R_f = \frac{\text{Panjang bercak}}{\text{Panjang eluen}}$$

Diketahui :

Panjang eluen = 4 cm

Panjang baku kuarsetin = 2,3 cm

Panjang bercak ekstrak = 2,2 cm

$$R_f \text{ kuarsetin} = \frac{2,3 \text{ cm}}{4 \text{ cm}} = 0,575$$

$$R_f \text{ ekstrak} = \frac{2,2 \text{ cm}}{4 \text{ cm}} = 0,55$$

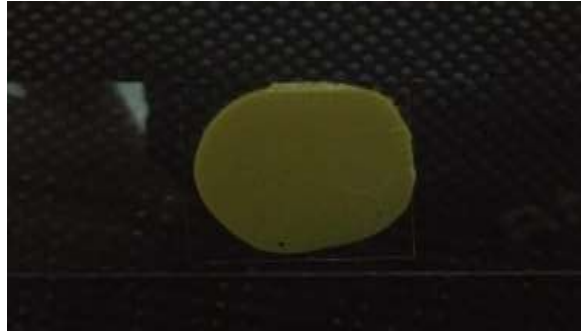
Lampiran 9. Pemeriksaan organoleptis sediaan emulgel ekstrak etanol daun cempedak (*Artocarpus integer* (Thunb.) Merr)



Hasil uji sediaan emulgel ekstrak etanol daun cempedak dan kontrol negatif



Lampiran 10. Pemeriksaan homogenitas sediaan emulegel ekstrak etanol daun cempedak (*Artocarpus integer* (Thunb.) Merr)



Lampiran 11. Pengujian mutu fisik viskositas sediaan emulgel ekstrak etanol daun cempedak (*Artocarpus integer* (Thunb.) Merr) dan analisis data SPSS



Formula	Replikasi	Viskositas (dPas) ±SD	
		Hari ke-1	Hari ke-21
Formula 1	1	240	230
	2	230	220
	3	230	220
	Rata-rata ± SD	233,33 ± 5,77	233,33 ± 5,77
Formula 2	1	290	270
	2	280	270
	3	270	260
	Rata-rata ± SD	280 ± 10,0	266,67 ± 5,77
Formula 3	1	330	320
	2	340	330
	3	330	320
	Rata-rata ± SD	333,33 ± 5,77	323,33 ± 5,77
Kontrol negatif 1	1	250	250
	2	240	240
	3	240	230
	Rata-rata ± SD	243,33 ± 5,77	240 ± 10,0
Kontrol negatif 2	1	300	300
	2	290	280
	3	340	290
	Rata-rata ± SD	293,33 ± 5,77	290 ± 10
Kontrol negatif 3	1	350	350
	2	340	330
	3	340	340
	Rata-rata ± SD	343,33 ± 5,77	340 ± 10

Tests of Normality

	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
F1_Hari1	.385	3	.	.750	3	.000
F1_Hari21	.385	3	.	.750	3	.000
F2_Hari1	.175	3	.	1.000	3	1.000
F2_Hari21	.385	3	.	.750	3	.000
F3_Hari1	.385	3	.	.750	3	.000
F3_Hari21	.385	3	.	.750	3	.000
KN1_Hari1	.385	3	.	.750	3	.000
KN1_Hari21	.175	3	.	1.000	3	1.000
KN2_Hari1	.385	3	.	.750	3	.000
KN2_Hari21	.175	3	.	1.000	3	1.000
KN3_Hari1	.385	3	.	.750	3	.000
KN3_Hari21	.175	3	.	1.000	3	1.000

a. Lilliefors Significance Correction

	F1_Hari21 - F1_Hari1	F2_Hari21 - F2_Hari1	F3_Hari21 - F3_Hari1	KN1_Hari21 - KN1_Hari1	KN2_Hari21 - KN2_Hari1	KN3_Hari21 - KN3_Hari1
Z	-1.732 ^b	-1.633 ^b	-1.732 ^b	-1.000 ^b	-1.000 ^b	-1.000 ^b
Asymp. Sig. (2- tailed)	.083	.102	.083	.317	.317	.317

a. Wilcoxon Signed Ranks Test

b. Based on positive ranks.

Lampiran 12. Pengujian mutu fisik pH sediaan emulgel ekstrak etanol daun cempedak (*Artocarpus integer* (Thunb.) Merr) dan analisis data SPSS



Formula	Replikasi	pH±SD	
		Hari ke-1	Hari ke-21
Formula 1	1	5,1	5,17
	2	5,19	5,08
	3	5,22	5,13
	Rata-rata ± SD	5,17 ± 0,06	5,13 ± 0,05
Formula 2	1	5,34	5,26
	2	5,26	5,19
	3	5,32	5,25
	Rata-rata ± SD	5,31 ± 0,04	5,23 ± 0,04
Formula 3	1	5,48	5,29
	2	5,42	5,25
	3	5,40	5,32
	Rata-rata ± SD	5,43 ± 0,04	5,29 ± 0,04
Kontrol negatif 1	1	6,06	5,9
	2	5,92	5,87
	3	6,01	5,93
	Rata-rata ± SD	6 ± 0,07	5,90 ± 0,03
Kontrol negatif 2	1	6,15	6,04
	2	6,18	6,07
	3	6,06	6
	Rata-rata ± SD	6,1 ± 0,1	6 ± 0,0
Kontrol negatif 3	1	6,2	6,14
	2	6,19	6,08
	3	6,17	6,05
	Rata-rata ± SD	6,19 ± 0,02	6,09 ± 0,05

Tests of Normality

	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	Df	Sig.	Statistic	df	Sig.
F1_Hari1	.292	3	.	.923	3	.463
F1_Hari21	.196	3	.	.996	3	.878
F2_Hari1	.292	3	.	.923	3	.463
F2_Hari21	.337	3	.	.855	3	.253
F3_Hari1	.292	3	.	.923	3	.463
F3_Hari21	.204	3	.	.993	3	.843
KN1_Hari1	.241	3	.	.974	3	.688
KN1_Hari21	.175	3	.	1.000	3	1.000
KN2_Hari1	.292	3	.	.923	3	.463
KN2_Hari21	.204	3	.	.993	3	.843
KN3_Hari1	.253	3	.	.964	3	.637
KN3_Hari21	.253	3	.	.964	3	.637

a. Lilliefors Significance Correction

Paired Samples Test

	Paired Differences					T	Df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
				Lower	Upper			
Pair 1 F1_Hari1 - F1_Hari21	.04333	.09866	.05696	-.20175	.28841	.761	2	.526
Pair 2 F2_Hari1 - F2_Hari21	.07333	.00577	.00333	.05899	.08768	22.000	2	.002
Pair 3 F3_Hari1 - F3_Hari21	.14667	.05859	.03383	.00111	.29222	4.335	2	.049
Pair 4 KN1_Hari1 - KN1_Hari21	.09667	.05686	.03283	-.04459	.23792	2.945	2	.099
Pair 5 KN2_Hari1 - KN2_Hari21	.09333	.02887	.01667	.02162	.16504	5.600	2	.030
Pair 6 KN3_Hari1 - KN3_Hari21	.09667	.03215	.01856	.01681	.17652	5.209	2	.035

Lampiran 13. Pengujian mutu fisik daya sebar sediaan emulgel ekstrak etanol daun cempedak (*Artocarpus integer* (Thunb.) Merr) dan analisis data SPSS



Data mutu fisik daya sebar F1 HPMC 3,5%

Replikasi	Hari Ke1				Hari Ke 21			
	0 gram	50 gram	100 gram	150 gram	0 gram	50 gram	100 gram	150 gram
1	3.80	4.20	4.50	4.90	4.90	4.30	4.60	5.10
2	3.70	4.20	4.70	5.00	3.80	4.30	4.80	5.10
3	3.70	4.00	4.40	5.00	3.80	4.10	4.50	5.10
Rata-rata	3.73	4.13	4.53	4.97	4.17	4.23	4.63	5.10
SD	0.06	0.12	0.15	0.06	0.64	0.12	0.15	0.00

Data mutu fisik daya sebar F2 HPMC 4,5%

Replikasi	Hari Ke1				Hari Ke 21			
	0 gram	50 gram	100 gram	150 gram	0 gram	50 gram	100 gram	150 gram
1	3.30	3.70	4.30	4.50	3.40	3.80	4.40	4.60
2	3.40	3.70	4.10	4.40	3.50	3.80	4.20	4.50
3	3.30	3.60	4.20	4.50	3.40	3.70	4.30	4.60
Rata-rata	3.33	3.67	4.20	4.47	3.43	3.77	4.30	4.57
SD	0.06	0.06	0.10	0.06	0.06	0.06	0.10	0.06

Data mutu fisik daya sebar F3 HPMC 5,5%

Replikasi	Hari Ke1				Hari Ke 21			
	0 gram	50 gram	100 gram	150 gram	0 gram	50 gram	100 gram	150 gram
1	3.20	3.60	4.10	4.40	3.20	3.70	4.20	4.50
2	3.10	3.60	4.00	4.30	3.20	3.70	4.20	4.40
3	3.20	3.70	4.00	4.30	3.10	3.80	4.10	4.40

Rata-rata	3.17	3.63	4.03	4.33	3.17	3.73	4.17	4.43
SD	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06

Data mutu fisik daya sebar KN 1 HPMC 3,5%

Replikasi	Hari Ke1				Hari Ke 21			
	0 gram	50 gram	100 gram	150 gram	0 gram	50 gram	100 gram	150 gram
1	3.50	3.90	4.20	4.70	3.50	3.90	4.20	4.70
2	3.30	3.90	4.40	4.70	3.30	3.90	4.40	4.70
3	3.40	3.80	4.30	4.60	3.50	3.90	4.40	4.70
Rata-rata	3.40	3.87	4.30	4.67	3.43	3.90	4.33	4.70
SD	0.10	0.06	0.10	0.06	0.12	0.00	0.12	0.00

Data mutu fisik daya sebar KN 2 HPMC 4,5%

Replikasi	Hari Ke1				Hari Ke 21			
	0 gram	50 gram	100 gram	150 gram	0 gram	50 gram	100 gram	150 gram
1	3.20	3.40	4.00	4.30	3.20	3.40	4.00	4.30
2	3.10	3.50	4.00	4.30	3.30	3.70	4.10	4.40
3	3.20	3.50	3.90	4.20	3.20	3.50	3.90	4.20
Rata-rata	3.17	3.47	3.97	4.27	3.23	3.53	4.00	4.30
SD	0.06	0.06	0.06	0.06	0.06	0.15	0.10	0.10

Data mutu fisik daya sebar KN 3 HPMC 5,5%

Replikasi	Hari Ke1				Hari Ke 21			
	0 gram	50 gram	100 gram	150 gram	0 gram	50 gram	100 gram	150 gram
1	3.00	3.40	3.80	4.10	3.30	3.40	3.80	4.10
2	2.90	3.50	3.90	4.30	4.00	3.60	4.00	4.10
3	2.90	3.40	3.90	4.20	2.90	3.40	3.90	4.20
Rata-rata	2.93	3.43	3.87	4.20	3.40	3.47	3.90	4.15
SD	0.06	0.06	0.06	0.10	0.56	0.12	0.10	0.07

Analisis data mutu fisik daya sebar beban 0 gram sediaan emulgel menggunakan SPSS

Tests of Normality

	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	Df	Sig.
F1_Hari1	.385	3	.	.750	3	.000
F1_Hari21	.385	3	.	.750	3	.000
F2_Hari1	.385	3	.	.750	3	.000
F2_Hari21	.385	3	.	.750	3	.000
F3_Hari1	.385	3	.	.750	3	.000
F3_Hari21	.385	3	.	.750	3	.000
KN1_Hari1	.175	3	.	1.000	3	1.000
KN1_Hari21	.385	3	.	.750	3	.000
KN2_Hari1	.385	3	.	.750	3	.000
KN2_Hari21	.385	3	.	.750	3	.000
KN3_Hari1	.385	3	.	.750	3	.000
KN3_Hari21	.238	3	.	.976	3	.702

a. Lilliefors Significance Correction

Test Statistics^a

	F1_Hari21 - F1_Hari1	F2_Hari21 - F2_Hari1	F3_Hari21 - F3_Hari1	KN1_Hari21 - KN1_Hari1	KN2_Hari21 - KN2_Hari1	KN3_Hari21 - KN3_Hari1
Z	-1.633 ^b	-1.732 ^b	.000 ^c	-1.000 ^b	-1.000 ^b	-1.342 ^b
Asymp. Sig. (2-tailed)	.102	.083	1.000	.317	.317	.180

a. Wilcoxon Signed Ranks Test

b. Based on negative ranks.

c. The sum of negative ranks equals the sum of positive ranks.

Analisis data mutu fisik daya sebar beban 50 gram sediaan emulgel menggunakan SPSS

Tests of Normality^b

	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
F1_Hari1	.385	3	.	.750	3	.000
F1_Hari21	.385	3	.	.750	3	.000
F2_Hari1	.385	3	.	.750	3	.000
F2_Hari21	.385	3	.	.750	3	.000
F3_Hari1	.385	3	.	.750	3	.000
F3_Hari21	.385	3	.	.750	3	.000
KN1_Hari1	.385	3	.	.750	3	.000
KN2_Hari1	.385	3	.	.750	3	.000
KN2_Hari21	.253	3	.	.964	3	.637
KN3_Hari1	.385	3	.	.750	3	.000
KN3_Hari21	.385	3	.	.750	3	.000

a. Lilliefors Significance Correction

b. KN1_Hari21 is constant. It has been omitted.

Test Statistics^a

	F1_Hari21 - F1_Hari1	F2_Hari21 - F2_Hari1	F3_Hari21 - F3_Hari1	KN1_Hari21 - KN1_Hari1	KN2_Hari21 - KN2_Hari1	KN3_Hari21 - KN3_Hari1
Z	-1.732 ^b	-1.732 ^b	-1.732 ^b	-1.000 ^b	-1.000 ^b	-1.000 ^b
Asymp. Sig. (2-tailed)	.083	.083	.083	.317	.317	.317

a. Wilcoxon Signed Ranks Test

b. Based on negative ranks.

Analisis data mutu fisik daya sebar beban 100 gram sediaan emulgel menggunakan SPSS

Tests of Normality

Kolmogorov-Smirnov ^a			Shapiro-Wilk		
Statistic	Df	Sig.	Statistic	df	Sig.
.253	3	.	.964	3	.637
.253	3	.	.964	3	.637
.175	3	.	1.000	3	1.000
.175	3	.	1.000	3	1.000
.385	3	.	.750	3	.000
.385	3	.	.750	3	.000
.175	3	.	1.000	3	1.000
.385	3	.	.750	3	.000
.385	3	.	.750	3	.000
.175	3	.	1.000	3	1.000
.385	3	.	.750	3	.000
.175	3	.	1.000	3	1.000

a. Lilliefors Significance Correction

Test Statistics^a

	F1_Hari21 - F1_Hari1	F2_Hari21 - F2_Hari1	F3_Hari21 - F3_Hari1	KN1_Hari2 1 - KN1_Hari1	KN2_Hari2 1 - KN2_Hari1	KN3_Hari2 1 - KN3_Hari1
Z	-1.732 ^b	-1.732 ^b	-1.633 ^b	-1.000 ^b	-1.000 ^b	-1.000 ^b
Asymp. Sig. (2-tailed)	.083	.083	.102	.317	.317	.317

a. Wilcoxon Signed Ranks Test

b. Based on negative ranks.

Analisis data mutu fisik daya sebar beban 150 gram sediaan emulgel menggunakan SPSS

Tests of Normality^{b,c}

	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
F1_Hari1	.385	3	.	.750	3	.000
F2_Hari1	.385	3	.	.750	3	.000
F2_Hari21	.385	3	.	.750	3	.000
F3_Hari1	.385	3	.	.750	3	.000
F3_Hari21	.385	3	.	.750	3	.000
KN1_Hari1	.385	3	.	.750	3	.000
KN2_Hari1	.385	3	.	.750	3	.000
KN2_Hari21	.175	3	.	1.000	3	1.000
KN3_Hari1	.175	3	.	1.000	3	1.000
KN3_Hari21	.253	3	.	.964	3	.637

a. Lilliefors Significance Correction

b. F1_Hari21 is constant. It has been omitted.

c. KN1_Hari21 is constant. It has been omitted.

Test Statistics^a

	F1_Hari21 - F1_Hari1	F2_Hari21 - F2_Hari1	F3_Hari21 - F3_Hari1	KN1_Hari2 1 - KN1_Hari1	KN2_Hari2 1 - KN2_Hari1	KN3_Hari2 1 - KN3_Hari1
Z	-1.633 ^b	-1.732 ^b	-1.732 ^b	-1.000 ^b	-1.000 ^b	-1.000 ^b
Asymp. Sig. (2-tailed)	.102	.083	.083	.317	.317	.317

a. Wilcoxon Signed Ranks Test

c. Based on negative ranks.

Lampiran 14. Pengujian mutu fisik daya lekat sediaan emulgel ekstrak etanol daun cempedak (*Artocarpus integer* (Thunb.) Merr) dan analisis data SPSS



Formula	Replikasi	Daya lekat \pm SD	
		Hari ke-1	Hari ke-21
Formula 1	1	1.27	1.21
	2	1.35	1.25
	3	1.42	1.35
	Rata-rata \pm SD	1,35 \pm 0,07	1,27 \pm 0,07
Formula 2	1	2.13	2.09
	2	2.18	2.12
	3	2.20	2.13
	Rata-rata \pm SD	2,17 \pm 0,04	2,11 \pm 0,02
Formula 3	1	2.49	2.45
	2	2.57	2.50
	3	2.53	2.47
	Rata-rata \pm SD	2,53 \pm 0,04	2,47 \pm 0,03
Kontrol negatif 1	1	1.83	1.76
	2	1.90	1.85
	3	1.80	1.77
	Rata-rata \pm SD	1,84 \pm 0,05	1,79 \pm 0,11
Kontrol negatif 2	1	2.52	2.48
	2	2.47	2.45
	3	2.49	2.44
	Rata-rata \pm SD	2,49 \pm 0,03	2,46 \pm 0,02
Kontrol negatif 3	1	3.35	3.29
	2	3.43	3.32
	3	3.49	3.38
	Rata-rata \pm SD	3,42 \pm 0,07	3,33 \pm 0,05

Analisis data mutu fisik daya lekat ekstrak etanol daun cempedak menggunakan SPSS

Tests of Normality

	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
F1_Hari1	.204	3	.	.993	3	.843
F1_Hari21	.219	3	.	.987	3	.780
F2_Hari1	.276	3	.	.942	3	.537
F2_Hari21	.376	3	.	.773	3	.051
F3_Hari1	.175	3	.	1.000	3	1.000
F3_Hari21	.219	3	.	.987	3	.780
KN1_Hari1	.219	3	.	.987	3	.780
KN1_Hari21	.353	3	.	.824	3	.174
KN2_Hari1	.219	3	.	.987	3	.780
KN2_Hari21	.292	3	.	.923	3	.463
KN3_Hari1	.204	3	.	.993	3	.843
KN3_Hari21	.368	3	.	.791	3	.093

a. Lilliefors Significance Correction

- Paired T-test

Paired Samples Test

	Paired Differences						t	Df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference					
				Lower	Upper				
Pair 1	F1_Hari1 - F1_Hari21	-.04000	.18520	.10693	-.50007	.42007	-.374	2	.744
Pair 2	F2_Hari1 - F2_Hari21	-.19667	.40992	.23667	-1.21496	.82163	-.831	2	.493
Pair 3	F3_Hari1 - F3_Hari21	.05667	.01528	.00882	.01872	.09461	6.425	2	.023
Pair 4	KN1_Hari1 - KN1_Hari21	.00000	.15133	.08737	-.37592	.37592	.000	2	1.000
Pair 5	KN2_Hari1 - KN2_Hari21	.03667	.01528	.00882	-.00128	.07461	4.158	2	.053
Pair 6	KN3_Hari1 - KN3_Hari21	.72333	.57449	.33168	-.70377	2.15043	2.181	2	.161

Lampiran 15. Pengujian stabilitas viskositas dengan metode *cycling test* sediaan emulgel ekstrak etanol daun cempedak (*Artocarpus integer* (Thunb.) Merr) dan analisis data SPSS



Formula	Replikasi	Viskositas (dPas) \pm SD	
		Hari ke-1	Hari ke-21
Formula 1	1	240	210
	2	230	200
	3	230	200
	Rata-rata \pm SD	233,3 \pm 5,77	203,33 \pm 5,77
Formula 2	1	290	250
	2	280	240
	3	270	240
	Rata-rata \pm SD	280 \pm 10	243,3 \pm 5,77
Formula 3	1	330	280
	2	340	290
	3	330	280
	Rata-rata \pm SD	333,3 \pm 5,77	283,3 \pm 5,77
Kontrol negatif 1	1	250	230
	2	240	220
	3	240	220
	Rata-rata \pm SD	243,3 \pm 5,77	223,3 \pm 5,77
Kontrol negatif 2	1	300	280
	2	290	270
	3	290	270
	Rata-rata \pm SD	293,33 \pm 5,77	273,33 \pm 5,77
Kontrol negatif 3	1	350	320
	2	340	310
	3	340	310
	Rata-rata \pm SD	343,33 \pm 5,77	313,3 \pm 5,77

Tests of Normality

	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	Df	Sig.	Statistic	Df	Sig.
F1_SebelumStabilitas	.385	3	.	.750	3	.000
F1_SetelahStabilitas	.385	3	.	.750	3	.000
F2_SebelumStabilitas	.175	3	.	1.000	3	1.000
F2_SetelahStabilitas	.385	3	.	.750	3	.000
F3_SebelumStabilitas	.385	3	.	.750	3	.000
F3_SetelahStabilitas	.385	3	.	.750	3	.000
KN1_SebelumStabilitas	.385	3	.	.750	3	.000
KN1_SetelahStabilitas	.385	3	.	.750	3	.000
KN2_SebelumStabilitas	.385	3	.	.750	3	.000
KN2_SetelahStabilitas	.385	3	.	.750	3	.000
KN3_SebelumStabilitas	.385	3	.	.750	3	.000
KN3_SetelahStabilitas	.385	3	.	.750	3	.000

a. Lilliefors Significance Correction

Test Statistics^a

	F1_SetelahStabilitas - F1_SebelumStabilitas	F2_SetelahStabilitas - F2_SebelumStabilitas	F3_SetelahStabilitas - F3_SebelumStabilitas	KN1_SetelahStabilitas - KN1_SebelumStabilitas	KN2_SetelahStabilitas - KN2_SebelumStabilitas	KN3_SetelahStabilitas - KN3_SebelumStabilitas
Z	-1.732 ^b	-1.633 ^b	-1.732 ^b	-1.732 ^b	-1.732 ^b	-1.732 ^b
Asymp. Sig. (2-tailed)	.083	.102	.083	.083	.083	.083

a. Wilcoxon Signed Ranks Test

b. Based on positive ranks.

Lampiran 16. Pengujian stabilitas pH dengan metode *cycling test* sediaan emulgel ekstrak etanol daun cempedak (*Artocarpus integer* (Thunb.) Merr) dan analisis data SPSS



Formula	Replikasi	pH ±SD	
		Hari ke-1	Hari ke-21
Formula 1	1	5.21	5.09
	2	5.19	5.08
	3	5.22	5.09
	Rata-rata ± SD	5,21 ± 0,02	5,09 ± 0,01
Formula 2	1	5.34	5.25
	2	5.26	5.19
	3	5.32	5.24
	Rata-rata ± SD	5,31 ± 0,04	5,23 ± 0,03
Formula 3	1	5.48	5.35
	2	5.42	5.34
	3	5.40	5.32
	Rata-rata ± SD	5,43 ± 0,04	5,34 ± 0,02
Kontrol negatif 1	1	6.06	5.93
	2	5.92	5.87
	3	6.01	5.90
	Rata-rata ± SD	6 ± 0,07	5,9 ± 0,03
Kontrol negatif 2	1	6.15	6.04
	2	6.18	6.06
	3	6.06	5.93
	Rata-rata ± SD	6,13 ± 0,06	6,01 ± 0,07
Kontrol negatif 3	1	6.20	6.12
	2	6.19	6.10
	3	6.17	6.09
	Rata-rata ± SD	6,19 ± 0,02	6,10 ± 0,02

Tests of Normality

	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	Df	Sig.	Statistic	Df	Sig.
F1_SebelumStabilitas	.253	3	.	.964	3	.637
F1_SetelahStabilitas	.385	3	.	.750	3	.000
F2_SebelumStabilitas	.292	3	.	.923	3	.463
F2_SetelahStabilitas	.328	3	.	.871	3	.298
F3_SebelumStabilitas	.292	3	.	.923	3	.463
F3_SetelahStabilitas	.253	3	.	.964	3	.637
KN1_SebelumStabilitas	.241	3	.	.974	3	.688
KN1_SetelahStabilitas	.175	3	.	1.000	3	1.000
KN2_SebelumStabilitas	.292	3	.	.923	3	.463
KN2_SetelahStabilitas	.333	3	.	.862	3	.274
KN3_SebelumStabilitas	.253	3	.	.964	3	.637
KN3_SetelahStabilitas	.253	3	.	.964	3	.637

a. Lilliefors Significance Correction

Test Statistics^a

	F1_Setelah Stabilitas - F1_Sebelu mStabilitas	F2_SetelahSt abilitas - F2_Sebelum Stabilitas	F3_SetelahS tabilitas - F3_Sebelum Stabilitas	KN1_Setela hStabilitas - KN1_Sebel umStabilitas	KN2_Setela hStabilitas - KN2_Sebel umStabilitas	KN3_Setela hStabilitas - KN3_Sebel umStabilitas
Z	-1.604 ^b	-1.604 ^b	-1.633 ^b	-1.604 ^b	-1.604 ^b	-1.633 ^b
Asymp. Sig. (2- tailed)	.109	.109	.102	.109	.109	.102

a. Wilcoxon Signed Ranks Test

b. Based on positive ranks.

Lampiran 17. Hasil uji nilai SPF sediaan emulgel ekstrak etanol daun cempedak (*Artocarpus integer* (Thunb.) Merr) dan analisis data SPSS



Kontrol Positif (Wardah gel SPF 30)

Replikasi 1

λ	EE x I	Abs	$\frac{EE \times I \times Abs}{Abs}$	CF	$\sum \frac{EE \times I}{x \text{ Abs}}$	FP	SPF
290	0.0150	0.2839	0.0042585		0.9022464	10	30
295	0.0817	0.3026	0.0247224				
300	0.2874	0.3140	0.0902436				
305	0.3278	0.3213	0.1053221				
310	0.1864	0.3242	0.0604309				
315	0.0839	0.3011	0.0252623				
320	0.0180	0.2598	0.0046764				
			0.3149162				

$$SPF = CF \times \left\{ \sum EE(\lambda) \times I(\lambda) \times abs(\lambda) \right\} \times FP$$

$$30 = CF \times 0.3149162 \times 10$$

$$CF = 9.526343$$

Replikasi 2

Λ	EE x I	Abs	EE x I x Abs	CF	\sum EE x I x Abs	FP	SPF
290	0.0150	0.2911	0.0043665		0.8988394	10	30
295	0.0817	0.3110	0.0254087				
300	0.2874	0.3221	0.0925715				
305	0.3278	0.3295	0.1080101				
310	0.1864	0.3328	0.0620339				
315	0.0839	0.3067	0.0257321				
320	0.0180	0.2620	0.004716				
			0.3228389				

$$\text{SPF} = \text{CF} \times \{ \sum \text{EE}(\lambda) \times \text{I}(\lambda) \times \text{abs}(\lambda) \} \times \text{FP}$$

$$30 = \text{CF} \times 0.3228389 \times 10$$

$$\text{CF} = 9.29256$$

Replikasi 3

Λ	EE x I	Abs	EE x I x Abs	CF	\sum EE x I x Abs	FP	SPF
290	0.0150	0.3025	0.0045375		0.8957555	10	30
295	0.0817	0.3241	0.026479				
300	0.2874	0.3362	0.0966239				
305	0.3278	0.3439	0.1127304				
310	0.1864	0.3476	0.0647926				
315	0.0839	0.3210	0.0269319				
320	0.0180	0.2752	0.0049536				
			0.3370489				

$$\text{SPF} = \text{CF} \times \{ \sum \text{EE}(\lambda) \times \text{I}(\lambda) \times \text{abs}(\lambda) \} \times \text{FP}$$

$$30 = \text{CF} \times 0.3370489 \times 10$$

$$\text{CF} = 8.90079$$

$$\text{Rata-rata CF} = 9.2399$$

Nilai SPF ekstrak etanol daun cempedak 4%

Replikasi 1

Λ	EE x I	Abs	EE x I x Abs	CF	\sum EE x I x Abs	FP	SPF
290	0.0150	0.5156	0.007734	9.2399	0.34176754	10	31.57898
295	0.0817	0.4276	0.03493492				
300	0.2874	0.3603	0.10355022				
305	0.3278	0.3255	0.1066989				
310	0.1864	0.3097	0.05772808				
315	0.0839	0.3058	0.02565662				
320	0.0180	0.3036	0.0054648				
			0.34176754				

$$\text{SPF} = \text{CF} \times \{ \sum \text{EE}(\lambda) \times \text{I}(\lambda) \times \text{abs}(\lambda) \} \times \text{FP}$$

$$\text{SPF} = 9,2399 \times 0.34176754 \times 10$$

$$\text{SPF} = 31.57898$$

Replikasi 2

Λ	EE x I	Abs	EE x I x Abs	CF	\sum EE x I x Abs	FP	SPF
290	0.0150	0.5247	0.0078705	9.2399	0.34813285	10	32.16713
295	0.0817	0.4353	0.03556401				
300	0.2874	0.3667	0.10538958				
305	0.3278	0.3317	0.10873126				
310	0.1864	0.3157	0.05884648				
315	0.0839	0.3118	0.02616002				
320	0.0180	0.3095	0.005571				
			0.34813285				

$$\text{SPF} = \text{CF} \times \{ \sum \text{EE}(\lambda) \times \text{I}(\lambda) \times \text{abs}(\lambda) \} \times \text{FP}$$

$$\text{SPF} = 9,2399 \times 0.34813285 \times 10$$

$$\text{SPF} = 32.16713$$

Replikasi 3

Λ	EE x I	Abs	EE x I x Abs	CF	$\sum \frac{EE \times I \times Abs}{Abs}$	FP	SPF
290	0.0150	0.4990	0.007485	9.2399	0.32214979	10	29.76632
295	0.0817	0.4096	0.03346432				
300	0.2874	0.3411	0.09803214				
305	0.3278	0.3054	0.10011012				
310	0.1864	0.2895	0.0539628				
315	0.0839	0.2859	0.02398701				
320	0.0180	0.2838	0.0051084				
			0.32214979				

$$SPF = CF \times \left\{ \sum EE(\lambda) \times I(\lambda) \times abs(\lambda) \right\} \times FP$$

$$SPF = 9,2399 \times 0.32214979 \times 10$$

$$SPF = 29.76632$$

$$\text{Rata-rata SPF} = 31,17081$$

Kontrol Negatif sediaan HPMC 3,5

Replikasi 1

Λ	EE x I	Abs	EE x I x Abs	CF	$\sum EE \times I \times Abs$	FP	SPF
290	0.0150	0.0068	0.000102	9.2399	0.00261643	10	0,2418
295	0.0817	0.0062	0.00050654				
300	0.2874	0.0035	0.0010059				
305	0.3278	0.0016	0.00052448				
310	0.1864	0.0017	0.00031688				
315	0.0839	0.0017	0.00014263				
320	0.0180	0.0010	0.000018				
			0.00261643				

$$SPF = CF \times \left\{ \sum EE(\lambda) \times I(\lambda) \times abs(\lambda) \right\} \times FP$$

$$SPF = 9,2399 \times 0.00261643 \times 10$$

$$SPF = 0,2418$$

Replikasi 2

Λ	EE x I	Abs	EE x I x Abs	CF	\sum EE x I x Abs	FP	SPF
290	0.0150	0.0067	0.0001005	9.2399	0.00211731	10	0,1956
295	0.0817	0.0060	0.0004902				
300	0.2874	0.0030	0.0008622				
305	0.3278	0.0009	0.00029502				
310	0.1864	0.0013	0.00024232				
315	0.0839	0.0013	0.00010907				
320	0.0180	0.0010	0.000018				
			0.00211731				

$$\text{SPF} = \text{CF} \times \{ \sum \text{EE}(\lambda) \times \text{I}(\lambda) \times \text{abs}(\lambda) \} \times \text{FP}$$

$$\text{SPF} = 9,2399 \times 0.00211731 \times 10$$

$$\text{SPF} = 0,1956$$

Replikasi 3

Λ	EE x I	Abs	EE x I x Abs	CF	\sum EE x I x Abs	FP	SPF
290	0.0150	0.0071	0.0001065	9.2399	0.00245533	10	0,2269
295	0.0817	0.0062	0.00050654				
300	0.2874	0.0033	0.00094842				
305	0.3278	0.0016	0.00052448				
310	0.1864	0.0013	0.00024232				
315	0.0839	0.0013	0.00010907				
320	0.0180	0.0010	0.000018				
			0.00245533				

$$\text{SPF} = \text{CF} \times \{ \sum \text{EE}(\lambda) \times \text{I}(\lambda) \times \text{abs}(\lambda) \} \times \text{FP}$$

$$\text{SPF} = 9,2399 \times 0.00245533 \times 10$$

$$\text{SPF} = 0,2269$$

$$\text{Rata-rata SPF} = 0,221$$

Kontrol Negatif sediaan HPMC 4,5

Replikasi 1

Λ	EE x I	Abs	EE x I x Abs	CF	\sum EE x I x Abs	FP	SPF
290	0.0150	0.0079	0.0001185	9.2399	0.0030691	10	0,2836
295	0.0817	0.0066	0.00053922				
300	0.2874	0.0041	0.00117834				
305	0.3278	0.0019	0.00062282				
310	0.1864	0.0021	0.00039144				
315	0.0839	0.0022	0.00018458				
320	0.0180	0.0019	0.0000342				
			0.0030691				

$$\text{SPF} = \text{CF} \times \{ \sum \text{EE}(\lambda) \times \text{I}(\lambda) \times \text{abs}(\lambda) \} \times \text{FP}$$

$$\text{SPF} = 9,2399 \times 0.0030691 \times 10$$

$$\text{SPF} = 0,2836$$

Replikasi 2

Λ	EE x I	Abs	EE x I x Abs	CF	\sum EE x I x Abs	FP	SPF
290	0.0150	0.0074	0.000111	9.2399	0.00314521	10	0,2906
295	0.0817	0.0068	0.00055556				
300	0.2874	0.0042	0.00120708				
305	0.3278	0.0021	0.00068838				
310	0.1864	0.0020	0.0003728				
315	0.0839	0.0021	0.00017619				
320	0.0180	0.0019	0.0000342				
			0.00314521				

$$\text{SPF} = \text{CF} \times \{ \sum \text{EE}(\lambda) \times \text{I}(\lambda) \times \text{abs}(\lambda) \} \times \text{FP}$$

$$\text{SPF} = 9,2399 \times 0.00314521 \times 10$$

$$\text{SPF} = 0,2906$$

Replikasi 3

Λ	EE x I	Abs	EE x I x Abs	CF	$\frac{\sum EE \times I \times Abs}{Abs}$	FP	SPF
290	0.0150	0.0074	0.000111	9.2399	0.00298023	10	0,283
295	0.0817	0.0066	0.00053922				
300	0.2874	0.0038	0.00109212				
305	0.3278	0.0019	0.00062282				
310	0.1864	0.0022	0.00041008				
315	0.0839	0.0021	0.00017619				
320	0.0180	0.0016	0.0000288				
			0.00298023				

$$SPF = CF \times \{ \sum EE(\lambda) \times I(\lambda) \times abs(\lambda) \} \times FP$$

$$SPF = 9,2399 \times 0.00298023 \times 10$$

$$SPF = 0,2754$$

$$\text{Rata-rata SPF} = 0,283$$

Kontrol Negatif sediaan HPMC 5,5

Replikasi 1

Λ	EE x I	Abs	EE x I x Abs	CF	$\frac{\sum EE \times I \times Abs}{Abs}$	FP	SPF
290	0.0150	0.0087	0.0001305	9.2399	0.00409472	10	0,3783
295	0.0817	0.0078	0.00063726				
300	0.2874	0.0050	0.001437				
305	0.3278	0.0029	0.00095062				
310	0.1864	0.0032	0.00059648				
315	0.0839	0.0034	0.00028526				
320	0.0180	0.0032	0.0000576				
			0.00409472				

$$SPF = CF \times \{ \sum EE(\lambda) \times I(\lambda) \times abs(\lambda) \} \times FP$$

$$SPF = 9,2399 \times 0.00409472 \times 10$$

$$SPF = 0,3783$$

Replikasi 2

Λ	EE x I	Abs	EE x I x Abs	CF	\sum EE x I x Abs	FP	SPF
290	0.0150	0.0079	0.0001185	9.2399	0.00342627	10	0,3166
295	0.0817	0.0069	0.00056373				
300	0.2874	0.0044	0.00126456				
305	0.3278	0.0023	0.00075394				
310	0.1864	0.0025	0.000466				
315	0.0839	0.0026	0.00021814				
320	0.0180	0.0023	0.0000414				
			0.00342627				

$$\text{SPF} = \text{CF} \times \{ \sum \text{EE}(\lambda) \times \text{I}(\lambda) \times \text{abs}(\lambda) \} \times \text{FP}$$

$$\text{SPF} = 9,2399 \times 0.00342627 \times 10$$

$$\text{SPF} = 0,3166$$

Replikasi 3

Λ	EE x I	Abs	EE x I x Abs	CF	\sum EE x I x Abs	FP	SPF
290	0.0150	0.0078	0.000117	9.2399	0.00322708	10	0,2982
295	0.0817	0.0071	0.00058007				
300	0.2874	0.0042	0.00120708				
305	0.3278	0.0022	0.00072116				
310	0.1864	0.0020	0.0003728				
315	0.0839	0.0023	0.00019297				
320	0.0180	0.0020	0.000036				
			0.00322708				

$$\text{SPF} = \text{CF} \times \{ \sum \text{EE}(\lambda) \times \text{I}(\lambda) \times \text{abs}(\lambda) \} \times \text{FP}$$

$$\text{SPF} = 9,2399 \times 0.00322708 \times 10$$

$$\text{SPF} = 0,2982$$

$$\text{Rata-rata} = 0.331$$

Sediaan emulgel ekstrak 4% HPMC 3,5

Replikasi 1

λ	EE x I	Abs	EE x I x Abs	CF	\sum EE x I x Abs	FP	SPF
290	0.0150	0.1774	0.002661	9.2399	0.14959589	10	13,8225
295	0.0817	0.1610	0.0131537				
300	0.2874	0.1507	0.04331118				
305	0.3278	0.1462	0.04792436				
310	0.1864	0.1460	0.0272144				
315	0.0839	0.1495	0.01254305				
320	0.0180	0.1549	0.0027882				
			0.14959589				

$$\text{SPF} = \text{CF} \times \{ \sum \text{EE}(\lambda) \times \text{I}(\lambda) \times \text{abs}(\lambda) \} \times \text{FP}$$

$$\text{SPF} = 9,2399 \times 0.14959589 \times 10$$

$$\text{SPF} = 13,8225$$

Replikasi 2

Λ	EE x I	Abs	EE x I x Abs	CF	\sum EE x I x Abs	FP	SPF
290	0.0150	0.1792	0.002688	9.2399	0.14990506	10	13,8511
295	0.0817	0.1624	0.01326808				
300	0.2874	0.1516	0.04356984				
305	0.3278	0.1463	0.04795714				
310	0.1864	0.1457	0.02715848				
315	0.0839	0.1488	0.01248432				
320	0.0180	0.1544	0.0027792				
			0.14990506				

$$\text{SPF} = \text{CF} \times \{ \sum \text{EE}(\lambda) \times \text{I}(\lambda) \times \text{abs}(\lambda) \} \times \text{FP}$$

$$\text{SPF} = 9,2399 \times 0.14990506 \times 10$$

$$\text{SPF} = 13,8511$$

Replikasi 3

λ	EE x I	Abs	EE x I x Abs	CF	\sum EE x I x Abs	FP	SPF
290	0.0150	0.1844	0.002766	9.2399	0.15314343	10	14,1503
295	0.0817	0.1668	0.01362756				
300	0.2874	0.1553	0.04463322				
305	0.3278	0.1494	0.04897332				
310	0.1864	0.1482	0.02762448				
315	0.0839	0.1515	0.01271085				
320	0.0180	0.1560	0.002808				
			0.15314343				

$$SPF = CF \times \{ \sum EE(\lambda) \times I(\lambda) \times abs(\lambda) \} \times FP$$

$$SPF = 9,2399 \times 0.14990506 \times 10$$

$$SPF = 14,1503$$

$$\text{Rata-rata SPF} = 13,941$$

Sediaan emulgel ekstrak 4% HPMC 4,5

Replikasi 1

λ	EE x I	Abs	EE x I x Abs	CF	\sum EE x I x Abs	FP	SPF
290	0.0150	0.1577	0.0023655	9.2399	0.13793487	10	12,7450
295	0.0817	0.1440	0.0117648				
300	0.2874	0.1378	0.03960372				
305	0.3278	0.1355	0.0444169				
310	0.1864	0.1364	0.02542496				
315	0.0839	0.1401	0.01175439				
320	0.0180	0.1447	0.0026046				
			0.13793487				

$$SPF = CF \times \{ \sum EE(\lambda) \times I(\lambda) \times abs(\lambda) \} \times FP$$

$$SPF = 9,2399 \times 0.13793487 \times 10$$

$$SPF = 12,7450$$

Replikasi 2

λ	EE x I	Abs	EE x I x Abs	CF	\sum EE x I x Abs	FP	SPF
290	0.0150	0.1582	0.002373	9.2399	0.13740266	10	12,6959
295	0.0817	0.1441	0.01177297				
300	0.2874	0.1373	0.03946002				
305	0.3278	0.1348	0.04418744				
310	0.1864	0.1359	0.02533176				
315	0.0839	0.1393	0.01168727				
320	0.0180	0.1439	0.0025902				
			0.13740266				

$$\text{SPF} = \text{CF} \times \{ \sum \text{EE}(\lambda) \times \text{I}(\lambda) \times \text{abs}(\lambda) \} \times \text{FP}$$

$$\text{SPF} = 9,2399 \times 0.13740266 \times 10$$

$$\text{SPF} = 12,6959$$

Replikasi 3

λ	EE x I	Abs	EE x I x Abs	CF	\sum EE x I x Abs	FP	SPF
290	0.0150	0.1616	0.002424	9.2399	0.14011886	10	12,9468
295	0.0817	0.1473	0.01203441				
300	0.2874	0.1403	0.04032222				
305	0.3278	0.1375	0.0450725				
310	0.1864	0.1382	0.02576048				
315	0.0839	0.1415	0.01187185				
320	0.0180	0.1463	0.0026334				
			0.14011886				

$$\text{SPF} = \text{CF} \times \{ \sum \text{EE}(\lambda) \times \text{I}(\lambda) \times \text{abs}(\lambda) \} \times \text{FP}$$

$$\text{SPF} = 9,2399 \times 0.14011886 \times 10$$

$$\text{SPF} = 12,9468$$

$$\text{Rata-rata SPF} = 12,796$$

Sediaan emulgel ekstrak 4% HPMC 5,5

Replikasi 1

Λ	EE x I	Abs	EE x I x Abs	CF	\sum EE x I x Abs	FP	SPF
290	0.0150	0.1525	0.0022875	9.2399	0.12776153	10	11,8050
295	0.0817	0.1383	0.01129911				
300	0.2874	0.1292	0.03713208				
305	0.3278	0.1244	0.04077832				
310	0.1864	0.1246	0.02322544				
315	0.0839	0.1272	0.01067208				
320	0.0180	0.1315	0.002367				
			0.12776153				

$$\text{SPF} = \text{CF} \times \{ \sum \text{EE}(\lambda) \times \text{I}(\lambda) \times \text{abs}(\lambda) \} \times \text{FP}$$

$$\text{SPF} = 9,2399 \times 0.12776153 \times 10$$

$$\text{SPF} = 11,8050$$

Replikasi 2

λ	EE x I	Abs	EE x I x Abs	CF	\sum EE x I x Abs	FP	SPF
290	0.0150	0.1533	0.0022995	9.2399	0.12838851	10	11,8630
295	0.0817	0.1394	0.01138898				
300	0.2874	0.1299	0.03733326				
305	0.3278	0.1250	0.040975				
310	0.1864	0.1249	0.02328136				
315	0.0839	0.1279	0.01073081				
320	0.0180	0.1322	0.0023796				
			0.12838851				

$$\text{SPF} = \text{CF} \times \{ \sum \text{EE}(\lambda) \times \text{I}(\lambda) \times \text{abs}(\lambda) \} \times \text{FP}$$

$$\text{SPF} = 9,2399 \times 0.12838851 \times 10$$

$$\text{SPF} = 11,8630$$

Replikasi 3

λ	EE x I	Abs	EE x I x Abs	CF	\sum EE x I x Abs	FP	SPF
290	0.0150	0.1525	0.0022875	9.2399	0.12751529	10	11,7823
295	0.0817	0.1386	0.01132362				
300	0.2874	0.1292	0.03713208				
305	0.3278	0.1243	0.04074554				
310	0.1864	0.1245	0.0232068				
315	0.0839	0.1245	0.01044555				
320	0.0180	0.1319	0.0023742				
			0.12751529				

$$\text{SPF} = \text{CF} \times \{ \sum \text{EE}(\lambda) \times \text{I}(\lambda) \times \text{abs}(\lambda) \} \times \text{FP}$$

$$\text{SPF} = 9,2399 \times 0.12838851 \times 10$$

$$\text{SPF} = 11,7823$$

$$\text{Rata-rata SPF} = 11,817$$

Analisis data SPF menggunakan metode SPSS

Tests of Normality

	Formula	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	Df	Sig.
SPF	F1	.357	3	.	.815	3	.151
	KN1	.258	3	.	.960	3	.614
	Ekstrak	.295	3	.	.920	3	.453

a. Lilliefors Significance Correction

ANOVA

SPF

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1442.954	2	721.477	1353.233	.000
Within Groups	3.199	6	.533		
Total	1446.153	8			

Test of Homogeneity of Variances

SPF

Levene Statistic	df1	df2	Sig.
8.800	2	6	.016

Multiple Comparisons

Dependent Variable: SPF

Dunnnett T3

(I) Formula	(J) Formula	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
F1	KN1	13.7198667*	.1057060	.000	13.073534	14.366199
	Ekstrak	-17.2295000*	.7300447	.003	-21.655088	-12.803912
KN1	F1	-13.7198667*	.1057060	.000	-14.366199	-13.073534
	Ekstrak	-30.9493667*	.7226079	.001	-35.527417	-26.371316
Ekstrak	F1	17.2295000*	.7300447	.003	12.803912	21.655088
	KN1	30.9493667*	.7226079	.001	26.371316	35.527417

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

SPF

Tukey HSD^a

Formula	N	Subset for alpha = 0.05		
		1	2	3
KN1	3	.221433		
F1	3		13.941300	
Ekstrak	3			31.170800
Sig.		1.000	1.000	1.000

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 3.000.