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Lampiran 1. Hasil determinasi tanaman



KEMENTERIAN KESEHATAN REPUBLIK INDONESIA
BADAN PENELITIAN DAN PENGEMBANGAN KESEHATAN
 BALAI BESAR PENELITIAN DAN PENGEMBANGAN
 TANAMAN OBAT DAN OBAT TRADISIONAL
 Jalan Lawu No.11 Tawangmangu, Karanganyar, Jawa Tengah 57792
 Telepon (0271) 697 010 Faksimile (0271) 697 451
 Laman b2p2toot.litbang.kemkes.go.id Surat Elektronik b2p2toot@litbang.kemkes.go.id

Nomor : KM.04.02/2/2519/2021 04 November 2021
 Lampiran : -
 Hal : Keterangan Determinasi

Yth. Dekan Fakultas Farmasi Universitas Setia Budi
 Jalan Letjend. Sutoyo Solo 57127

Merujuk surat Saudara nomor: 396/H6-04/23.08.2021 tanggal 23 Agustus 2021 hal permohonan determinasi, dengan ini kami sampaikan bahwa hasil determinasi sampel tanaman sebagai berikut:

Nama Pemohon : Yesinisa Vera Ivanka
 Nama Sampel : Bidara Arab
 Sampel : Segar
 Spesies : *Ziziphus jujuba* Mill.
 Sinonim : *Rhamnus jujuba* L.; *Ziziphus mauritiana* Lam.
 Familia : Rhamnaceae
 Penanggung Jawab : Nur Rahmawati Wijaya, S.Si.

Hasil determinasi tersebut hanya mencakup sampel tanaman yang telah dikirimkan ke B2P2TOOT.

Atas perhatian Saudara, kami sampaikan terima kasih.

Kepala Balai Besar Penelitian
 dan Pengembangan Tanaman Obat
 dan Obat Tradisional
 Tawangmangu,



Akhmad Saikhu, S.K.M.,
M.Sc.PH.
 NIP 196805251992031004

Tembusan :

-

Lampiran 2. Pembuatan serbuk daun bidara arab

Penjemuran daun bidara arab



Simplisiakering



Penyerbukan



Pengayakan



Uji susut pengeringan serbuk daun bidara arab



Lampiran 3. Pembuatan ekstrak daun bidara arab

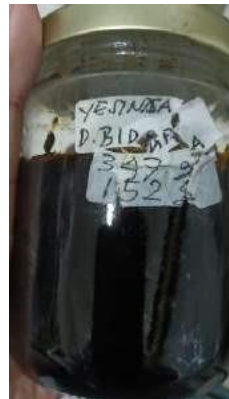
Metode Maserasi



Pemekatan (Rotary evaporator)



Ekstrak daun bidara arab



Lampiran 4. Identifikasi kandungan tanaman dan uji bebas etanol

Uji Flavonoid



Uji Tanin



Uji Alkaloid



Uji Triterpenoid/steroid



Uji bebas etanol

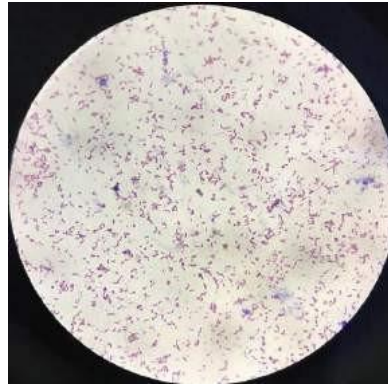


Lampiran 5. Identifikasi bakteri *Escherichia coli*

Isolasi dengan media Endo agar



Identifikasi pewarnaan gram

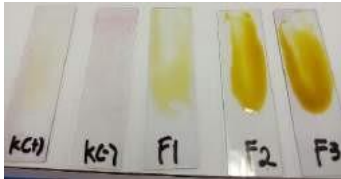


Uji Katalase



Lampiran 6. Alat yang digunakan pada uji sediaan sabun cair cuci tangan

Uji Homogenitas



Uji viskositas



Uji pH



Oven



Uji stabilitas



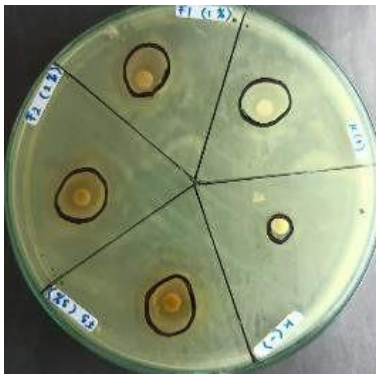
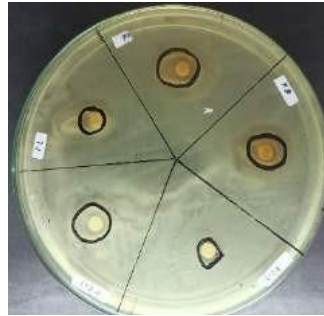
Uji Tinggi busa



Lampiran 7. Lampiran Pembuatan Sabun Cair cuci tangan



Lampiran 8. Replikasi aktivitas antibakteri ekstrak daun bidara arab

Lampiran 9. Uji aktivitas antibakteri sabun cair ekstrak daun bidara arab

Lampiran 10. Perhitungan dan hasil presentase randemen bobot kering terhadap bobot basah daun bidara

Bahan awal : 12 kg. Simplisia kering : 4,5 kg

Bobot basah (gr)	bobot kering (gr)	randemen (% b/b)
12.000	4.500	37,5 %

Perhitungan :

$$\begin{aligned}
 \% \text{ randemen kering} &= \frac{\text{berat kering}}{\text{berat basah}} \times 100 \% \\
 &= \frac{12 \text{ kg}}{4,5 \text{ kg}} \times 100\% \\
 &= 37,5 \%
 \end{aligned}$$

Lampiran 11. Perhitungan dan hasil presentase randemen serbuk halus terhadap bobot kering daun bidara

Bahan kering : 4.500 gram, serbuk : 3.145 gram

Berat kering (gr)	berat serbuk (gr)	randemen (% b/b)
4.500	3.145	69.89

Perhitungan :

$$\begin{aligned}
 \% \text{ randemen kering} &= \frac{\text{berat serbuk}}{\text{berat kerig}} \times 100\% \\
 &= \frac{3.145 \text{ gr}}{4.500 \text{ gr}} \times 100\% \\
 &= 69.89 \%
 \end{aligned}$$

Lampiran 12. Perhitungan susut pengeringan serbuk daun bidara

Replikasi	Berat serbuk	kadar air serbuk(%)
1	2,0	8,8
2	2,0	8,6
3	2,0	8,4
Rata-rata ± SD		8,6

$$\text{Rata-rata susut pengeringan} = \frac{8,8+8,6+8,4}{3} = 8,6$$

Lampiran 13. Perhitungan Kadar air serbuk daun bidara

Replikasi	Berat serbuk (g)	Volume air (mL)	Kadar air (% b/v)
1	20,0	1,5	7,5
2	20,0	1,3	6,5
3	20,0	1,6	8
Rata-rata			7,33

$$\text{Kadar air serbuk} = \frac{\text{Volume air (mL)}}{\text{Berat ekstrak (g)}} \times 100\%$$

$$\text{Replikasi 1} = \frac{1,5}{20} \times 100\% = 7,5 \%$$

$$\text{Replikasi 2} = \frac{1,3}{20} \times 100\% = 6,5\%$$

$$\text{Replikasi 3} = \frac{1,6}{20} \times 100\% = 8,0\%$$

$$\text{Rata-rata susut pengeringan} = \frac{7,5+6,5+8}{3} = 7,33$$

Lampiran 14. Perhitungan dan hasil rendemen ekstrak daun bidara

Bobot serbuk (gr)	Bobot ekstrak (gr)	Rendemen (% b/b)
800	152	19 %

Perhitungan :

$$\begin{aligned} \text{\% Rendemen ekstrak} &= \frac{\text{bobot ekstrak}}{\text{bobot serbuk}} \times 100\% \\ &= \frac{152}{800} \times 100\% \\ &= 19 \% \end{aligned}$$

Lampiran 15. Perhitungan dan hasil penetapan kadar air ekstrak daun bidara

Replikasi	Berat ekstrak (g)	Berat ekstrak akhir (g)	Kadar air (% b/v)
1	10,0003	9,3406	6,59
2	10,0006	9,3696	6,30
3	10,0008	9,3058	6,95
Rata-rata			6,61

$$\text{Kadar air ekstrak} = \frac{\text{Berat sebelum pengeringan} - \text{berat setelah pengeringan}}{\text{berat sebelum pengeringan}} \times 100\%$$

$$\text{Replikasi 1} = \frac{10,0003 - 9,3406}{10,0003} \times 100\% = 6,59\%$$

$$\text{Replikasi 2} = \frac{10,0006 - 9,3696}{10,0006} \times 100\% = 6,30\%$$

$$\text{Replikasi 3} = \frac{10,0008 - 9,3058}{10,0008} \times 100\% = 6,95\%$$

$$\text{Rata-rata kadar air ekstrak} = \frac{6,59 + 6,30 + 6,95}{3} = 6,61 \%$$

Penetapan susut pengeringan ekstrak daun bidara arab

Replikasi	Berat serbuk	Kadar air serbuk (%)
1	2,0	9,9
2	2,0	9,4
3	2,0	9,5
Rata-rata ± SD		9,6 ± 0,16 %

$$\text{Rata-rata susut pengeringan} = \frac{9,9 + 9,4 + 9,5}{3} = 9,6$$

Lampiran 16. Hasil uji bebas etanol ekstrak daun bidara arab

Bahan	Golongan	Pereaksi	Pustaka	Kesimpulan
Ekstrak daun bidara arab	Bebas etanol	Ekstrak daun bidara arab + H ₂ SO ₄ + CH ₃ COOH kemudian dipanaskan	Tidak tercium bau ester yang khas	Tidak mengandung etanol pada ekstrak

Lampiran 17. Hasil pemeriksaan organoleptik ekstrak daun bidara arab

Jenis Pemeriksaan	Bentuk	Warna	Bau
Hasil	Ekstrak Kental	Hijau kehitaman	Bau tidak khas

Lampiran 18. Hasil identifikasi kandungan kimia ekstrak daun bidara arab

Kandungan senyawa	Reaksi	Hasil
Flavonoid	Terbentuknya larutan yang berwarna kuning atau orange	+
Tanin	Terbentuknya warna biru kehitaman	+
Saponin	Terbentuknya busa	+
Alkaloid	(Dragendorff : terbentuk endapan orange kemerahan), (Mayer : terbentuk endapan berwarna coklat kehitaman),	+
Triterpenoid/steroid	Terbentuknya warna merah pada larutan	+

Lampiran 19. Hasil uji aktivitas antibakteri ekstrak daun bidara arab

Formula	Zona Hambat (mm)			Rata-rata ± SD
	I	II	III	
K (+)	19	22	21	20,66±1,52
K (-)	0	0	5	1,66±2,88
F1	19	17	15	17±2
F2	10	13	12	11,66±1,52
F3	7	8	11	8,66±2,08

Tests of Normality

	kelompokpenguji n	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
dayahambat	K (+)	,253	3	.	,964	3	,637
	K (-)	,175	3	.	1,000	3	1,000
	F1	,253	3	.	,964	3	,637
	F2	,175	3	.	1,000	3	1,000
	F3	,175	3	.	1,000	3	1,000

a. Lilliefors Significance Correction

Test of Homogeneity of Variances

dayahambat

Levene Statistic	df1	df2	Sig.
,453	4	10	,769

ANOVA

dayahambat

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	320,000	4	80,000	52,174	,000
Within Groups	15,333	10	1,533		
Total	335,333	14			

dayahambat

Tukey HSD^a

kelompokpenguji	N	Subset for alpha = 0.05		
		1	2	3
K (-)	3	7,0000		
F1	3		12,6667	
F2	3		15,0000	
F3	3			19,0000
K (+)	3			19,6667
Sig.		1,000	,219	,961

Multiple Comparisons


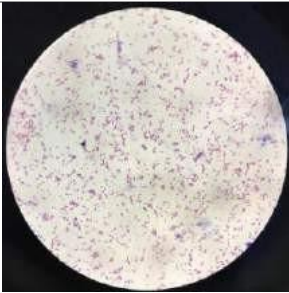

Dependent Variable: dayahambat

Tukey HSD

(I) kelompok pengujian	(J) kelompok pengujian	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
K (+)	K (-)	12,66667*	1,01105	,000	9,3392	15,9941
	F1	7,00000*	1,01105	,000	3,6726	10,3274
	F2	4,66667*	1,01105	,007	1,3392	7,9941
	F3	,66667	1,01105	,961	-2,6608	3,9941
K (-)	K (+)	-12,66667*	1,01105	,000	-15,9941	-9,3392
	F1	-5,66667*	1,01105	,002	-8,9941	-2,3392
	F2	-8,00000*	1,01105	,000	-11,3274	-4,6726
	F3	-12,00000*	1,01105	,000	-15,3274	-8,6726
F1	K (+)	-7,00000*	1,01105	,000	-10,3274	-3,6726
	K (-)	5,66667*	1,01105	,002	2,3392	8,9941
	F2	-2,33333	1,01105	,219	-5,6608	,9941
	F3	-6,33333*	1,01105	,001	-9,6608	-3,0059
F2	K (+)	-4,66667*	1,01105	,007	-7,9941	-1,3392
	K (-)	8,00000*	1,01105	,000	4,6726	11,3274
	F1	2,33333	1,01105	,219	-,9941	5,6608
	F3	-4,00000*	1,01105	,018	-7,3274	-,6726
F3	K (+)	-,66667	1,01105	,961	-3,9941	2,6608
	K (-)	12,00000*	1,01105	,000	8,6726	15,3274
	F1	6,33333*	1,01105	,001	3,0059	9,6608
	F2	4,00000*	1,01105	,018	,6726	7,3274

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

Lampiran 20. Hasil Identifikasi Bakteri *Escherichia coli*

Uji Identifikasi	Reaksi	Hasil	Gambar
Identifikasi dengan isolasi media Endo Agar	Bentuk koloninya bulat dan berwarna seperti logam yang mengkilap	+++	
Pewarnaan Gram	Berbentuk batang atau basil dan berwarna merah	+++	
Uji Katalase	Tidak terbentuknya gelembung gas	---	

Lampiran 21. Hasil uji aktivitas antibakteri sediaan sabun cair ekstrak daun bidara arab (*Ziziphus mauritiana Lam.*)

Formula	Zona Hambat (mm)			Rata-rata ± SD
	I	II	III	
K (+)	18	21	20	19,66 ±1,52
K (-)	6	7	8	7,00±1,00
F1	14	11	13	12,66±1,52
F2	15	14	16	15,00±1,00
F3	18	19	20	19,00±1,00

Tests of Normality

	kelompok penguji n	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
dayahamba	K (+)	,253	3	.	,964	3	,637
t	K (-)	,385	3	.	,750	3	,000
	F1	,175	3	.	1,000	3	1,000
	F2	,253	3	.	,964	3	,637
	F3	,292	3	.	,923	3	,463

a. Lilliefors Significance Correction

Test of Homogeneity of Variances

dayahambat

Levene Statistic	df1	df2	Sig.
,811	4	10	,546

ANOVA

dayahambat

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	654,267	4	163,567	38,336	,000
Within Groups	42,667	10	4,267		
Total	696,933	14			

dayahambat

Tukey HSD^a

kelompokpenguji	N	Subset for alpha = 0.05			
		1	2	3	4
K (-)	3	1,6667			
F3	3		8,6667		
F2	3		11,6667	11,6667	
F1	3			17,0000	17,0000
K (+)	3				20,6667
Sig.		1,000	,434	,061	,264

Multiple Comparisons

Dependent Variable: dayahambat
Tukey HSD

(I) kelompok pengujian	(J) kelompok pengujian	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
K (+)	K (-)	19,00000*	1,68655	,000	13,4494	24,5506
	F1	3,66667	1,68655	,264	-1,8839	9,2172
	F2	9,00000*	1,68655	,002	3,4494	14,5506
	F3	12,00000*	1,68655	,000	6,4494	17,5506
K (-)	K (+)	-19,00000*	1,68655	,000	-24,5506	-13,4494
	F1	-15,33333*	1,68655	,000	-20,8839	-9,7828
	F2	-10,00000*	1,68655	,001	-15,5506	-4,4494
	F3	-7,00000*	1,68655	,013	-12,5506	-1,4494
F1	K (+)	-3,66667	1,68655	,264	-9,2172	1,8839
	K (-)	15,33333*	1,68655	,000	9,7828	20,8839
	F2	5,33333	1,68655	,061	-,2172	10,8839
	F3	8,33333*	1,68655	,004	2,7828	13,8839
F2	K (+)	-9,00000*	1,68655	,002	-14,5506	-3,4494
	K (-)	10,00000*	1,68655	,001	4,4494	15,5506
	F1	-5,33333	1,68655	,061	-10,8839	,2172
	F3	3,00000	1,68655	,434	-2,5506	8,5506
F3	K (+)	-12,00000*	1,68655	,000	-17,5506	-6,4494
	K (-)	7,00000*	1,68655	,013	1,4494	12,5506
	F1	-8,33333*	1,68655	,004	-13,8839	-2,7828
	F2	-3,00000	1,68655	,434	-8,5506	2,5506

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

Lampiran 22. Hasil uji organoleptis sabun cair

Replikasi	Formula	Warna	Aroma	Konsistensi
1	K (+)	Orange	Tidak ada aroma	Kental
2	K (+)	Orange	Tidak ada aroma	Kental
3	K(+)	Orange	Tidak ada aroma	Kental
1	K (-)	Putih	Tidak ada aroma	Kental
2	K(-)	Putih	Tidak ada aroma	Kental
3	K(-)	Putih	Tidak ada aroma	Kental
1	F1	Coklat	Khas aroma bidara	Kental
2	F1	Coklat	Khas aroma bidara	Kental
3	F1	Coklat	Khas aroma bidara	Kental
1	F2	Coklat kehitaman	Khas aroma bidara	Kental
2	F2	Coklat kehitaman	Khas aroma bidara	Kental
3	F2	Coklat kehitaman	Khas aroma bidara	Kental
1	F3	Coklat kehitaman	Khas aroma bidara	Kental
2	F3	Coklat kehitaman	Khas aroma bidara	Kental
3	F3	Coklat kehitaman	Khas aroma bidara	Kental

Lampiran 23. Hasil uji homogenitas

Formula	Replikasi 1	Replikasi 2	Replikasi 3
K (+)	Homogen	Homogen	Homogen
K (-)	Homogen	Homogen	Homogen
F1	Homogen	Homogen	Homogen
F2	Homogen	Homogen	Homogen
F3	Homogen	Homogen	Homogen

Lampiran 24. Hasil pengujian pH sabun cair

Formula	Replikasi 1	Replikasi 2	Replikasi 3	Rata-rata
K +	8,89	8,92	8,97	8,92±0,03
K -	9,32	9,36	9,38	9,35±0,02
F1	9,47	9,45	9,48	9,46±0,01
F2	9,55	9,6	9,63	9,59±0,03
F3	9,68	9,7	9,75	9,71±0,02

Tests of Normality

	kelompokPengujian	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
ujipH	K+	,232	3	.	,980	3	,726
	K-	,253	3	.	,964	3	,637
	f1	,253	3	.	,964	3	,637
	f2	,232	3	.	,980	3	,726
	f3	,276	3	.	,942	3	,537

a. Lilliefors Significance Correction

Test of Homogeneity of Variances

ujipH

Levene Statistic	df1	df2	Sig.
,677	4	10	,623

ANOVA

ujipH

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1,091	4	,273	237,849	,000
Within Groups	,011	10	,001		
Total	1,102	14			

Post Hoc Tests

Multiple Comparisons

Dependent Variable: ujipH

Tukey HSD

(I) kelompok Pengujian	(J) kelompok Pengujian	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
K+	K-	-,42667*	,02765	,000	-,5177	-,3357
	f1	-,54000*	,02765	,000	-,6310	-,4490
	f2	-,66667*	,02765	,000	-,7577	-,5757
	f3	-,78333*	,02765	,000	-,8743	-,6923
K-	K+	,42667*	,02765	,000	,3357	,5177
	f1	-,11333*	,02765	,014	-,2043	-,0223
	f2	-,24000*	,02765	,000	-,3310	-,1490
	f3	-,35667*	,02765	,000	-,4477	-,2657
f1	K+	,54000*	,02765	,000	,4490	,6310
	K-	,11333*	,02765	,014	,0223	,2043
	f2	-,12667*	,02765	,007	-,2177	-,0357
	f3	-,24333*	,02765	,000	-,3343	-,1523
f2	K+	,66667*	,02765	,000	,5757	,7577
	K-	,24000*	,02765	,000	,1490	,3310
	f1	,12667*	,02765	,007	,0357	,2177
	f3	-,11667*	,02765	,012	-,2077	-,0257
f3	K+	,78333*	,02765	,000	,6923	,8743
	K-	,35667*	,02765	,000	,2657	,4477
	f1	,24333*	,02765	,000	,1523	,3343
	f2	,11667*	,02765	,012	,0257	,2077

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

ujipH

Tukey HSD^a

kelompokPengujian	N	Subset for alpha = 0.05				
		1	2	3	4	5
K+	3	8,9267				
K-	3		9,3533			
f1	3			9,4667		
f2	3				9,5933	
f3	3					9,7100
Sig.		1,000	1,000	1,000	1,000	1,000

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 3,000.

Lampiran 25. Hasil uji tinggi busa sabun cair.

Formula		Tinggi busa pada menit ke 0	Tinggi busa setelah 5 menit	Hasil	Rata-rata±SD
K +	Rep 1	6,5	3	3,5	3,566±
	Rep 2	7	3	4	
	Rep 3	6,7	3,5	3,2	
K -	Rep 1	5	3,8	1,2	1,733±
	Rep 2	5,5	3,7	1,8	
	Rep 3	5,5	3,3	2,2	
F1	Rep 1	5,5	3,1	2,4	2,733±
	Rep 2	6,5	3,7	2,8	
	Rep 3	6	3	3	
F2	Rep 1	5,5	2,3	3,2	3,2±
	Rep 2	5	2,5	3	
	Rep 3	6,5	3,1	3,4	
F3	Rep 1	6	2,9	3,6	3,833±
	Rep 2	6	2,1	3,9	
	Rep 3	6,5	2,5	4	

Tests of Normality

	kelompokPenguji	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
ujiTinggiBusa	K+	,227	3	.	,983	3	,747
	K-	,232	3	.	,980	3	,726
	F1	,175	3	.	1,000	3	1,000
	F2	,253	3	.	,964	3	,637
	F3	,238	3	.	,976	3	,702

a. Lilliefors Significance Correction

Test of Homogeneity of Variances

ujiTinggiBusa

Levene Statistic	df1	df2	Sig.
1,252	4	10	,351

ANOVA

ujiTinggiBusa

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	,631	4	,158	,180	,943
Within Groups	8,747	10	,875		
Total	9,377	14			

Multiple Comparisons

Dependent Variable: ujiTinggiBusa
Tukey HSD

(I) kelompok Penguji	(J) kelompok Penguji	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
K+	K-	-,36667	,76362	,988	-2,8798	2,1465
	F1	-,30000	,76362	,994	-2,8131	2,2131
	F2	,20000	,76362	,999	-2,3131	2,7131
	F3	-,10000	,76362	1,000	-2,6131	2,4131
K-	K+	,36667	,76362	,988	-2,1465	2,8798
	F1	,06667	,76362	1,000	-2,4465	2,5798
	F2	,56667	,76362	,941	-1,9465	3,0798
	F3	,26667	,76362	,996	-2,2465	2,7798
F1	K+	,30000	,76362	,994	-2,2131	2,8131
	K-	-,06667	,76362	1,000	-2,5798	2,4465
	F2	,50000	,76362	,962	-2,0131	3,0131
	F3	,20000	,76362	,999	-2,3131	2,7131
F2	K+	-,20000	,76362	,999	-2,7131	2,3131
	K-	-,56667	,76362	,941	-3,0798	1,9465
	F1	-,50000	,76362	,962	-3,0131	2,0131
	F3	-,30000	,76362	,994	-2,8131	2,2131
F3	K+	,10000	,76362	1,000	-2,4131	2,6131
	K-	-,26667	,76362	,996	-2,7798	2,2465
	F1	-,20000	,76362	,999	-2,7131	2,3131
	F2	,30000	,76362	,994	-2,2131	2,8131

ujiTinggiBusa

Tukey HSD^a

kelompokPenguji	N	Subset for alpha = 0.05	
		1	
F2	3	2,7000	
K+	3	2,9000	
F3	3	3,0000	
F1	3	3,2000	
K-	3	3,2667	
Sig.		,941	

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 3,000.

Lampiran 26. Hasil bobot jenis sabun cair.

Formula	Replikasi 1	Replikasi 2	Replikasi 3	Rata-rata
Kontrol (+)	1,0461	1,0407	1,0512	1,046
Kontrol (-)	1,0165	1,0143	1,0098	1,0133
F1	1,0314	1,0213	1,0237	1,0254
F2	1,0298	1,0332	1,0328	1,0319
F3	1,0346	1,0308	1,0434	1,0362

Tests of Normality

	kelompokPengujian	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
ujiBobotjenis	K+	,177	3	.	1,000	3	,968
	K-	,255	3	.	,962	3	,626
	F1	,298	3	.	,916	3	,438
	F2	,346	3	.	,837	3	,206
	F3	,268	3	.	,950	3	,570

a. Lilliefors Significance Correction

Test of Homogeneity of Variances

ujiBobotjenis

Levene Statistic	df1	df2	Sig.
1,063	4	10	,424

ANOVA

ujiBobotjenis

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	,002	4	,000	19,656	,000
Within Groups	,000	10	,000		
Total	,002	14			

Multiple Comparisons

Dependent Variable: ujiBobotjenis
Tukey HSD

(I) kelompok Pengujian	(J) kelompok Pengujian	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
K+	K-	,03247*	,00387	,000	,0197	,0452
	F1	,02053*	,00387	,002	,0078	,0333
	F2	,01407*	,00387	,029	,0013	,0268
	F3	,00973	,00387	,163	-,0030	,0225
K-	K+	-,03247*	,00387	,000	-,0452	-,0197
	F1	-,01193	,00387	,069	-,0247	,0008
	F2	-,01840*	,00387	,005	-,0311	-,0057
	F3	-,02273*	,00387	,001	-,0355	-,0100
F1	K+	-,02053*	,00387	,002	-,0333	-,0078
	K-	,01193	,00387	,069	-,0008	,0247
	F2	-,00647	,00387	,490	-,0192	,0063
	F3	-,01080	,00387	,108	-,0235	,0019
F2	K+	-,01407*	,00387	,029	-,0268	-,0013
	K-	,01840*	,00387	,005	,0057	,0311
	F1	,00647	,00387	,490	-,0063	,0192
	F3	-,00433	,00387	,793	-,0171	,0084
F3	K+	-,00973	,00387	,163	-,0225	,0030
	K-	,02273*	,00387	,001	,0100	,0355
	F1	,01080	,00387	,108	-,0019	,0235
	F2	,00433	,00387	,793	-,0084	,0171

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

ujiBobotjenis

Tukey HSD^a

kelompokPengujian	N	Subset for alpha = 0.05		
		1	2	3
K-	3	1,0135		
F1	3	1,0255	1,0255	
F2	3		1,0319	
F3	3		1,0363	1,0363
K+	3			1,0460
Sig.		,069	,108	,163

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 3,000.

Lampiran 27. Hasil uji viskositas sabun cair

Formula	Replikasi 1	Replikasi 2	Replikasi 3	Rata-rata
K +	9,3	9,9	10,1	9,76
K -	7,8	8,2	8	8
F1	7,4	7	7,1	7,16
F2	6,5	6,8	6,2	6,5
F3	5,8	5	5,4	5,4

Tests of Normality

	kelompokPenguj i	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
ujiViskositas	K+	,292	3	.	,923	3	,463
	K-	,175	3	.	1,000	3	1,000
	F1	,292	3	.	,923	3	,463
	F2	,175	3	.	1,000	3	1,000
	F3	,175	3	.	1,000	3	1,000

a. Lilliefors Significance Correction

Test of Homogeneity of Variances

ujiViskositas

Levene Statistic	df1	df2	Sig.
,635	4	10	,649

ANOVA

ujiViskositas

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	32,460	4	8,115	80,082	,000
Within Groups	1,013	10	,101		
Total	33,473	14			

Multiple Comparisons

Dependent Variable: ujiViskositas

Tukey HSD

(I) kelompok Penguji	(J) kelompok Penguji	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
K+	K-	1,76667*	,25991	,000	,9113	2,6221
	F1	2,60000*	,25991	,000	1,7446	3,4554
	F2	3,26667*	,25991	,000	2,4113	4,1221
	F3	4,36667*	,25991	,000	3,5113	5,2221
K-	K+	-1,76667*	,25991	,000	-2,6221	-,9113
	F1	,83333	,25991	,057	-,0221	1,6887
	F2	1,50000*	,25991	,001	,6446	2,3554
	F3	2,60000*	,25991	,000	1,7446	3,4554
F1	K+	-2,60000*	,25991	,000	-3,4554	-1,7446
	K-	-,83333	,25991	,057	-1,6887	,0221
	F2	,66667	,25991	,151	-,1887	1,5221
	F3	1,76667*	,25991	,000	,9113	2,6221
F2	K+	-3,26667*	,25991	,000	-4,1221	-2,4113
	K-	-1,50000*	,25991	,001	-2,3554	-,6446
	F1	-,66667	,25991	,151	-1,5221	,1887
	F3	1,10000*	,25991	,012	,2446	1,9554
F3	K+	-4,36667*	,25991	,000	-5,2221	-3,5113
	K-	-2,60000*	,25991	,000	-3,4554	-1,7446
	F1	-1,76667*	,25991	,000	-2,6221	-,9113
	F2	-1,10000*	,25991	,012	-1,9554	-,2446

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

ujiViskositas

Tukey HSD^a

kelompokPenguji	N	Subset for alpha = 0.05			
		1	2	3	4
F3	3	5,4000			
F2	3		6,5000		
F1	3		7,1667	7,1667	
K-	3			8,0000	
K+	3				9,7667
Sig.		1,000	,151	,057	1,000

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 3,000.

Lampiran 28. Hasil stabilitas uji organoleptis sediaan sabun cair.

Formula	Pengamatan	Waktu pengamatan	
		Sebelum cycling test	Sesudah cycling test
K – (Basis)	Warna	Putih	Putih
	Bau	Tidak berbau	Tidak berbau
	Bentuk	Kental	Kental
F1	Warna	Coklat	Coklat
	Bau	Bau khas bidara	Bau khas bidara
	Bentuk	Kental	Kental
F2	Warna	Coklat kehitaman	Coklat kehitaman
	Bau	Bau khas bidara	Bau khas bidara
	Bentuk	Kental	Kental
F3	Warna	Coklat kehitaman	Coklat kehitaman
	Bau	Bau khas bidara	Bau khas bidara
	Bentuk	Kental	Kental

Lampiran 29. Hasil stabilitas uji pH sabun cair

Formula	Waktu	
	Sebelum cycling test	Sesudah cycling test
K (-)	9,32	9,32
	9,36	9,36
	9,38	9,38
F1	9,47	9,47
	9,45	9,45
	9,48	9,48
F2	9,55	9,55
	9,6	9,6
	9,63	9,63
F3	9,68	9,02
	9,7	8,92
	9,75	8,83

Tests of Normality

	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
sebelumCyclingtest	,139	12	,200 [*]	,955	12	,710
sesudahCyclingTest	,229	12	,083	,869	12	,064

*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

Paired T-test

Paired Samples Statistics

	Mean	N	Std. Deviation	Std. Error Mean
Pair 1 sebelumCyclingtest	9,5308	12	,14241	,04111
sesudahCyclingTest	9,3342	12	,26719	,07713

Paired Samples Correlations

	N	Correlation	Sig.
Pair 1 sebelumCyclingtest & sesudahCyclingTest	12	-,499	,098

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 Sebelum Cyclingtest – sesudah CyclingTest	,19667	,36008	,10395	-,03212	,42545	1,892	11	,085

ANOVA

Test of Homogeneity of Variances

	Levene Statistic	df1	df2	Sig.
sebelumCyclingtest	,877	3	8	,492
sesudahCyclingTest	1,861	3	8	,215

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
sebelumCyclingtest	Between Groups	,215	3	,072	69,883	,000
	Within Groups	,008	8	,001		
	Total	,223	11			
sesudahCyclingTest	Between Groups	,762	3	,254	85,817	,000
	Within Groups	,024	8	,003		
	Total	,785	11			

Lampiran 30. Hasil stabilitas uji viskositas

Formula	Waktu	
	Sebelum cycling test	Sesudah cycling test
K (-)	7,8	7,2
	8,2	7,9
	8	9
F1	7,4	7
	7	6,5
	7,1	7
F2	6,5	6,2
	6,8	6,1
	6,2	6
F3	5,8	5,4
	5	4,8
	5,4	5

Tests of Normality

	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
sebelumCyclingtest	,096	12	,200*	,966	12	,871
sesudahCyclingtest	,106	12	,200*	,967	12	,876

*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

Paired T-Test

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	sebelumCyclingtest	6,7667	12	1,02366	,29551
	sesudahCyclingtest	6,4917	12	1,19883	,34607

Paired Samples Correlations

		N	Correlation	Sig.
Pair 1	sebelumCyclingtest & sesudahCyclingtest	12	,930	,000

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 Sebelum Cyclingtest – sesudah Cyclingtest	,27500	,44949	,12976	-,01060	,56060	2,119	11	,058

ANOVA

Test of Homogeneity of Variances

	Levene Statistic	df1	df2	Sig.
sebelumCyclingtest	,400	3	8	,757
sesudahCyclingtest	2,694	3	8	,117

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
sebelumCyclingtest	Between Groups	10,860	3	3,620	43,440	,000
	Within Groups	,667	8	,083		
	Total	11,527	11			
sesudahCyclingtest	Between Groups	13,429	3	4,476	15,047	,001
	Within Groups	2,380	8	,298		
	Total	15,809	11			