L A M P I R A N

LAMPIRAN

Lampiran 1. Hasil determinasi

UPT-LABORATORIUM

Jl. Letjen Sutoyo, Mojosongo-Solo 57127 Telp. 0271-852518, Fax. 0271-853275

Nomor : 281/DET/UPT-LAB/25.09.2021
Hal : Hasil determinasi tumbuhan
Lamp. : -

Nama Pemesan : Erika Kiky Septiana
NIM : 24185637A
Program Studi : S1 Farmasi, Universitas Setia Budi, Surakarta
Nama Sampel : Nanas/*Ananas comosus* (L) Merr.

HASIL DETERMINASI TUMBUHAN

Klasifikasi

Kingdom : Plantae
Super Divisi : Spermatophyta
Divisi : Magnoliophyta
Kelas : Liliopsida
Ordo : Bromeliales
Famili : Bromeliaceae
Genus : Ananas
Species : Nanas/*Ananas comosus* (L) Merr.

Hasil Determinasi menurut Steenis, C.G.G.J.V, Bloembergen, H, Eyma, P.J. 1992 :
1b – 2b – 3b – 4b – 6b – 7b – 10b – 92b – 100a – 101b – 102a. familia 23. Bromeliaceae. 1. Ananas. *Ananas comosus* (L) Merr.

Deskripsi:

Habitus : Herba, tinggi 0,5-1,5 m; pada pangkal ada tunas merayap.

Akar : Akar serabut

Daun : Daun tersusun dalam alam roset akar, pangkal melebar menjadi pelepah, bentuk garis, tebal, ulet, 80-120 kali 2-6 cm, ujung lancip serupa duri, sepanjang tepi umumnya dengan duri tempel yang membengkok ke atas, dari sisik bawah bersisik putih.

Bunga : Bunga tersusun dalam bulir yang sangat rapat, terminal dan bertangkai panjang. Poros bulir besar, pada ujung dengan daun pelindung yang lebih besar, tidak berisi bunga, merupakan roset yang rapat. Bunga berkelamin 2, beraturan, berbilangan 3. Daun pelindung pada pangkal bunga dengan basia yang diperlebar, bergigi tajam, merah, kekuning-kuningan atau hijau, panjang 2-5 cm. Buluh kelopak sebagian tenggelam dalam poros bulit, taju kelopak bulat telur segitiga, berdaging, panjang lk 1 cm, mudah rontok. Daun mahkota lepas bentuk garis memanjang, panjang lk 2 cm, putih dan ungu,dari dalam pangkalnya dengan dua pinggiran yang menonjol, agak berkuku. Benangsari 6. Bakal buah (setengah) tenggelam atau menumpang, beruang 3; ruang berbiji 2 sampai banyak. Tangkai putik 1, kepala putik 3.

Buah : Buah semu berdaging, berdaging, hijau sampai oranye, membentuk sebuah "gada" besar, bulat panjang atau bulat telur. Bekas putik menjadai "mata" buah nanas. Ukuran, bentuk, rasa dan warna buah sangat beragam tergantung variasinya.

Surakarta, 25 September 2021

Kepala UPT-LAB	Penanggung jawab
Universitas Setia Budi	Determinasi Tumbuhan
Asik Gunawan, Amdk	Dra. Dewi Sulistyawati. M.Sc.

Lampiran 2. Proses Pembuatan Ekstrak

Proses pengeringan

Pengayakan serbuk

Maserasi dan penyaringan

Lampiran 3. Perhitungan Rendemen Kering Serbuk Kulit Nanas

Bobot Basah (kg)	Bobot Kering (kg)	Rendemen (%b/b)
10	1,4	14

Perhitungan :

% Rendemen kering $= \frac{\boldsymbol{Berat\ kering}}{\boldsymbol{Berat\ basah}}$ x 100%

$= \frac{\mathbf{1,4}}{\mathbf{10}}$ x 100%

= 14%

Lampiran 4. Perhitungan Rendemen Serbuk Halus Terhadap Bobot Kering Kulit Buah Nanas

Berat kering kulit nanas (g)	Berat serbuk kulit nanas (g)	Rendemen (%b/b)
1,4	1	71,42

Perhitungan :

% Rendemen serbuk $= \frac{\boldsymbol{Berat\ serbuk}}{\boldsymbol{Berat\ kering}}$ x 100%

$= \frac{\mathbf{1}}{\mathbf{1,4}}$ x 100%

= 71,42%

Lampiran 5. Alat Sterling Bidwel dan Perhitungan Hasil Penetapan Kadar Air Serbuk Kulit Nanas

No	Bobot serbuk (g)	Volume air (mL)	Kadar air (%v/b)
1	10,128	0,8	7,89
2	10,054	0,6	5,96
3	10,045	0,7	6,96
	Rata – rata ± SD		**6,93 ± 0,96**

Perhitungan :

Kadar air serbuk 1

- Bobot kertas kosong = 0,6892 g
- Bobot kertas + serbuk = 10,8172 g
- Bobot serbuk (10,8172 g – 0,6892 g)= 10,128 g
- Volume air = 0,8 mL

  $= \frac{\mathbf{0,8\ ml}}{\mathbf{10,128\ g}}$ x 100%

  = 7,89%

Kadar air serbuk 2

- Bobot kertas kosong = 0,6854 g
- Bobot kertas + serbuk = 10,7394 g
- Bobot serbuk (10,7394 g – 0,6854 g)= 10,054 g
- Volume air = 0,6 mL

$= \frac{\mathbf{0{,}6\ ml}}{\mathbf{10{,}054\ g}}$ x 100%

= 5,96%

Kadar air serbuk 3

- Bobot kertas kosong = 0,6861 g
- Bobot kertas + serbuk = 10,7311 g
- Bobot serbuk (10,7311 g – 0,6861 g)= 10,045 g
- Volume air = 0,7 mL

$= \frac{\mathbf{0{,}7\ ml}}{\mathbf{10{,}045\ g}}$ x 100%

= 6,96%

Rata – rata kadar air serbuk kulit nanas $= \frac{\mathbf{7{,}89\%+5{,}96\%+6{,}96\%}}{\mathbf{3}}$

= 6,93%




Lampiran 6. Perhitungan dan Hasil Penetapan Susut Pengeringan Serbuk Kulit Nanas

No	Bobot serbuk (g)	Susut pengeringan (%)	Pustaka (%)
1	2	5	
2	2	5	< 10%
3	2	5,5	

Rata – rata ± SD	**5,16 ± 0,28**

Perhitungan

Susut pengeringan I = 5%

Susut pengeringan II = 5%

Susut pengeringan III = 5,5%

Rata-rata susut pengeringan $= \frac{5\%+5\%+5{,}5\%}{3}$

$= 5{,}16\%$



Lampiran 7. Perhitungan dan Hasil Rendemen Ekstrak Kulit Nanas

Bobot serbuk (g)	Bobot ekstrak (g)	Rendemen (%b/b)
700	244	34,85

Perhitungan

% Rendemen ekstrak $= \frac{\boldsymbol{Bobot\ ekstrak}}{\boldsymbol{Bobot\ serbuk}}$ x 100%

$= \frac{\boldsymbol{244\ g}}{\boldsymbol{700\ g}}$ x 100%

= 34,85%

Lampiran 8. Perhitungan dan Hasil Penetapan Kadar Air Ekstrak Kulit Nanas

No	Bobot awal (g)	Bobot akhir (g)	Kadar air (%v/b)
1	2,0156	1,8656	7,44
2	2,0253	1,8663	7,85

3	2,0142	1,8522	8,04
	Rata – rata ± SD		**7,77 ± 0,30**

Perhitungan

Kadar air ekstrak 1

- Bobot kurs kosong = 21,510 g
- Bobot kurs + ekstrak awal = 23,5256 g
- Bobot kurs + ekstrak akhir = 23,3756 g
- Bobot ekstrak awal = 23,5256 g – 21,510 g = 2,0156 g
- Bobot ekstrak akhir = 23,3756 g – 21,510 g = 1,8656 g

$$= \frac{\boldsymbol{Berat\ awal - berat\ akhir}}{\boldsymbol{Berat\ awal}} \mathbf{x\ 100\%}$$

$$= \frac{2{,}0156\ g - 1{,}8656\ g}{2{,}0156\ g} \text{ x } 100\%$$

$$= 7{,}44\%$$

Kadar air ekstrak 2

- Bobot kurs kosong = 21,755 g
- Bobot kurs + ekstrak awal = 23,7803 g
- Bobot kurs + ekstrak akhir = 23,6213 g
- Bobot ekstrak awal = 23,7803 g – 21,755 g = 2,0253 g
- Bobot ekstrak akhir = 23,6213 g – 21,755 g= 1,8663 g

$$= \frac{Berat\ awal - berat\ akhir}{Berat\ awal} \text{ x } 100\%$$

$$= \frac{2{,}0253\ g - 1{,}8663\ g}{2{,}0253\ g} \text{ x } 100\%$$

$$= 6{,}43\%$$

Kadar air ekstrak 3

- Bobot kurs kosong = 21,915 g
- Bobot kurs + ekstrak awal = 23,9292 g
- Bobot kurs + ekstrak akhir = 23,7672 g
- Bobot ekstrak awal = 23,9292 g – 21,915 g = 2,0142 g

- Bobot ekstrak akhir = 23,7672 g – 21,915 g= 1,8522 g

$$= \frac{Berat\ awal - berat\ akhir}{Berat\ awal} \text{ x } 100\%$$

$$= \frac{\mathbf{2{,}0142\ g - 1{,}8522\ g}}{\mathbf{2{,}0142\ g}} \text{ x } 100\%$$

$$= 6{,}81\%$$

Rata-rata kadar air ekstrak kulit nanas $= \frac{\mathbf{7{,}44\% + 7{,}85\% + 8{,}04\%}}{\mathbf{3}}$

$$\mathbf{= 7{,}77\%}$$

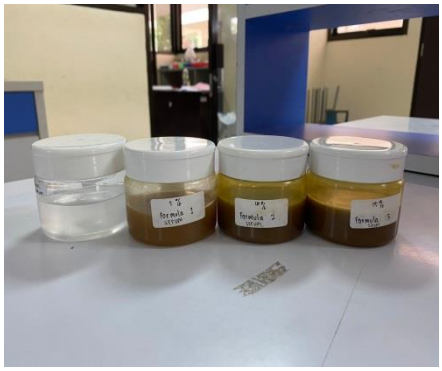
Lampiran 9. Hasil Uji Bebas Etanol

Lampiran 10. Hasil Identifikasi Senyawa Kimia Ekstrak Kulit Nanas

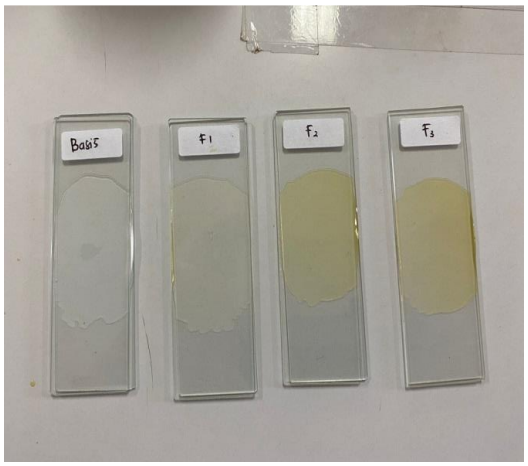
<table>
<tr>
<td>Hasil uji flavonoid
  </td>
<td>Hasil uji tannin
  </td>
</tr>
<tr>
<td>Hasil uji saponin
  </td>
<td>Hasil uji alkaloid
- Rg. Mayer
 
- Rg. Bauchardat
 
- Rg. Dragendorff</td>
</tr>
</table>

	
Hasil uji triterpenoid 	**Hasil uji steroid** 

Lampiran 11. Hasil Uji Organoleptis Sediaan Serum Ekstrak Kulit Nanas



Lampiran 12. Hasil Uji Homogenitas Sediaan Serum Ekstrak Kulit Nanas



Lampiran 13. Hasil Uji Viskositas Serum Ekstrak Kulit Nanas dan Alat *Viscometer*

Waktu	Formula	Uji viskositas			Rata-rata	SD
		R1	R2	R3		
Hari ke-1	1	5	5,5	5,1	5,2	0,26457513
	2	4,6	5,2	4,7	4,83333333	0,32145503
	3	4,5	5,1	4,6	4,73333333	0,32145503
	4	4,4	4,6	4,5	4,5	0,1
Hari ke-21	1	4,7	4,9	4,8	4,8	0,1
	2	4,5	4,8	4,7	4,66666667	0,15275252
	3	4,4	5	4,5	4,63333333	0,32145503
	4	4,3	4	4,2	4,16666667	0,15275252

Alat *viscometer*


dPa·s

Hasil SPSS viskositas

Tests of Normality

VISKOSITAS					Shapiro-Wilk Statistic	df	Sig.
HARIKE1	BASIS	0,314	3		0,893	3	0,363
	F1	0,328	3		0,871	3	0,298
	F2	0,328	3		0,871	3	0,298
	F3	0,175	3		1,000	3	1,000
HARIKE21	BASIS	0,175	3		1,000	3	1,000
	F1	0,253	3		0,964	3	0,637
	F2	0,328	3		0,871	3	0,298
	F3	0,253	3		0,964	3	0,637

a. Lilliefors Significance Correction

Oneway

Test of Homogeneity of Variances

		Levene Statistic	df1	df2	Sig.
HARIKE1	Based on Mean	2,085	3	8	0,181
	Based on Median	0,256	3	8	0,855
	Based on Median and with adjusted df	0,256	3	5,962	0,855
	Based on trimmed mean	1,809	3	8	0,223
HARIKE21	Based on Mean	2,667	3	8	0,119
	Based on Median	0,429	3	8	0,738
	Based on Median and with adjusted df	0,429	3	3,409	0,746
	Based on trimmed mean	2,387	3	8	0,145

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
HARIKE1	Between Groups	0,763	3	0,254	3,550	0,067
	Within Groups	0,573	8	0,072		
	Total	1,337	11			
HARIKE21	Between Groups	0,687	3	0,229	5,722	0,022
	Within Groups	0,320	8	0,040		
	Total	1,007	11			

Post Hoc Tests

HARIKE1

Tukey HSD[a]

VISKOSITAS	N	Subset for alpha = 0.05	
		1	2
F3	3	4,5000	
F2	3	4,7333	4,7333
F1	3	4,8333	4,8333
BASIS	3		5,2000
Sig.		0,467	0,221

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 3.000.

HARIKE21

Tukey HSD[a]

VISKOSITAS	N	Subset for alpha = 0.05	
		1	2
F3	3	4,1667	
F2	3	4,6333	4,6333

F1	3	4,6667	4,6667
BASIS	3		4,8000
Sig.		0,061	0,743

Means for groups in homogeneous subsets are displayed.
a. Uses Harmonic Mean Sample Size = 3.000.

T-Test

Paired Samples Test

							t	df	Sig. (2-tailed)
					Lower	Upper			
Pair 1	BASIS_HARIKE1 - BASIS_HARIKE21	0,40000	0,17321	0,10000	-0,03027	0,83027	4,000	2	0,057

Paired Samples Test

							t	df	Sig. (2-tailed)
					Lower	Upper			
Pair 1	F1_HARIKE1 - F1_HARIKE21	0,16667	0,20817	0,12019	-0,35045	0,68378	1,387	2	0,300

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	F2_HARIKE1	4.7333[a]	3	0,32146	0,18559
	F2_HARIKE21	4.6333[a]	3	0,32146	0,18559

Paired Samples Test

		t	df	Sig. (2-

					Lower	Upper			tailed)
Pair 1	F3_HARIKE1 - F3_HARIKE21	0,33333	0,25166	0,14530	-0,29183	0,95849	2,294	2	0,149

Paired Samples Test

							t	df	Sig. (2-tailed)
					Lower	Upper			
Pair 1	HARIKE1 - HARIKE21	0,25000	0,20226	0,05839	0,12149	0,37851	4,282	11	0,001

Lampiran 14. Hasil Uji pH Sediaan Serum Ekstrak Kulit Nanas

Waktu	Formula	Uji pH			Rata-rata	SD
		R1	R2	R3		
Hari ke-1	1	6,05	6,07	6,08	6,06	±0,01
	2	5,15	5,14	5,12	5,13	±0,01
	3	5,09	5,10	5,08	5,09	±0,01
	4	5,00	5,03	5,02	5,01	±0,01
Hari ke-21	1	5,95	5,99	6,01	5,98	±0,03
	2	5,14	5,12	5,11	5,12	±0,01
	3	4,93	4,92	4,91	4,92	±0,00
	4	4,96	4,97	4,98	4,97	±0,01

Alat pH meter


7.07
20.0 25.1
OHAUS
Starter400

❖ **Hasil Uji SPSS pH**

Tests of Normality

PH					Shapiro-Wilk		
					Statistic	df	Sig.
HARIKE1	BASIS	0,253	3		0,964	3	0,637
	F1	0,253	3		0,964	3	0,637
	F2	0,175	3		1,000	3	1,000
	F3	0,253	3		0,964	3	0,637
HARIKE21	BASIS	0,253	3		0,964	3	0,637
	F1	0,253	3		0,964	3	0,637
	F2	0,175	3		1,000	3	1,000
	F3	0,175	3		1,000	3	1,000

a. Lilliefors Significance Correction

Oneway

Test of Homogeneity of Variances

		Levene Statistic	df1	df2	Sig.
HARIKE1	Based on Mean	0,333	3	8	0,802
	Based on Median	0,100	3	8	0,958
	Based on Median and with adjusted df	0,100	3	7,143	0,958
	Based on trimmed mean	0,313	3	8	0,816
HARIKE21	Based on Mean	2,104	3	8	0,178
	Based on Median	0,843	3	8	0,508
	Based on Median and with adjusted df	0,843	3	3,729	0,541
	Based on trimmed mean	2,003	3	8	0,192

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
HARIKE1	Between Groups	2,207	3	0,736	3679,042	0,000
	Within Groups	0,002	8	0,000		
	Total	2,209	11			
HARIKE21	Between Groups	2,223	3	0,741	2169,130	0,000
	Within Groups	0,003	8	0,000		
	Total	2,226	11			

Post Hoc Tests

Homogeneous Subsets

HARIKE1

Tukey HSD[a]

PH	N	Subset for alpha = 0.05			
		1	2	3	4
F3	3	5,0167			
F3	3		5,0900		
F1	3			5,1367	
BASIS	3				6,0667
Sig.		1,000	1,000	1,000	1,000

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 3.000.

HARIKE21

Tukey HSD[a]

PH	N	Subset for alpha = 0.05			
		1	2	3	4
F3	3	4,9200			
F3	3		4,9700		
F1	3			5,1233	
BASIS	3				5,9833
Sig.		1,000	1,000	1,000	1,000

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size

= 3.000.

T-Test

Paired Samples Test

							t	df	Sig. (2-tailed)
					Lower	Upper			
Pair 1	BASIS_H1 - BASIS_H21	0,08333	0,01528	0,00882	0,04539	0,12128	9,449	2	0,011

Paired Samples Test

							t	df	Sig. (2-tailed)
					Lower	Upper			
Pair 1	F1_H1 - F1_H21	0,01333	0,00577	0,00333	-0,00101	0,02768	4,000	2	0,057

Paired Samples Test

							t	df	Sig. (2-tailed)
					Lower	Upper			
Pair 1	F2_H1 - F2_H21	0,17000	0,01000	0,00577	0,14516	0,19484	29,445	2	0,001

Paired Samples Test

							t	df	Sig. (2-tailed)
					Lower	Upper			
Pair 1	F3_H1 - F3_H21	0,04667	0,01155	0,00667	0,01798	0,07535	7,000	2	0,020

Paired Samples Test

							t	df	Sig. (2-tailed)
					Lower	Upper			

Pair 1	HARIKE1 - HARIKE21	0,07833	0,06177	0,01783	0,03909	0,11758	4,393	11	0,001

Lampiran 15. Hasil Uji Daya Sebar Sediaan Serum Ekstrak Kulit Nanas dan Alat Daya Sebar

Waktu	Basis	Daya sebar			Rata-rata	SD
		R1	R2	R3		
Hari ke-1	0	5,75	5,825	5,925	5,83333333	0,08779711
	50	6,15	6	6,1	6,08333333	0,07637626
	100	6,55	6,225	6,375	6,38333333	0,16266018
	150	6,55	6,7	6,9	6,71666667	0,17559423
Hari ke-21	0	5,825	5,675	5,775	5,75833333	0,07637626
	50	6,1	6,025	6,05	6,05833333	0,03818813
	100	6,3	6,275	6,375	6,31666667	0,05204165
	150	6,725	6,675	6,8	6,73333333	0,06291529

Waktu	Formula 1	Daya sebar			Rata-rata	SD
		R1	R2	R3		
Hari ke-1	0	6	5,925	5,875	5,93333333	0,06291529
	50	6,375	6,15	6,1	6,20833333	0,14648663
	100	6,625	6,425	6,475	6,50833333	0,1040833
	150	6,675	6,7	6,875	6,75	0,10897247
Hari ke-21	0	5,925	5,875	5,775	5,85833333	0,07637626
	50	6,125	6,125	6,1	6,11666667	0,01443376
	100	6,525	6,35	6,375	6,41666667	0,09464847
	150	6,65	6,775	6,9	6,775	0,125

Waktu	Formula 2	Daya sebar			Rata-rata	SD
		R1	R2	R3		
Hari ke-1	0	5,75	5,95	5,8	5,83333333	0,1040833
	50	6,275	6,25	6,125	6,21666667	0,08036376

	100	6,625	6,5	6,375	6,5	0,125
	150	6,675	6,8	6,975	6,81666667	0,15069284
Hari ke-21	**0**	5,95	5,75	5,825	5,84166667	0,1010363
	50	6,175	6,125	6,15	6,15	0,025
	100	6,575	6,45	6,425	6,48333333	0,08036376
	150	6,65	6,775	6,8	6,74166667	0,08036376

Waktu	**Formula 3**	**Daya sebar**			**Rata-rata**	**SD**
		R1	**R2**	**R3**		
Hari ke-1	**0**	6,1	6,15	6,125	6,125	0,025
	50	6,525	6,4	6,375	6,43333333	0,08036376
	100	6,8	6,675	6,65	6,70833333	0,08036376
	150	6,9	6,85	7	6,91666667	0,07637626
Hari ke-21	**0**	6,175	5,95	6,1	6,075	0,11456439
	50	6,4	6,3	6,35	6,35	0,05
	100	6,575	6,625	6,75	6,65	0,09013878
	150	6,85	6,925	7	6,925	0,075

Alat daya sebar


100g
50g
2
3
4

❖ **Hasil SPSS daya sebar beban 150 g**

Tests of Normality

Daya_Sebar_150g					Shapiro-Wilk		
					Statistic	df	Sig.
HARI_KE1	Basis	0,204	3		0,993	3	0,843
	F1	0,334	3		0,860	3	0,266
	F2	0,202	3		0,994	3	0,853
	F3	0,253	3		0,964	3	0,637
HARI_KE21	Basis	0,227	3		0,983	3	0,747
	F1	0,178	3		0,999	3	0,956
	F2	0,314	3		0,893	3	0,363
	F3	0,184	3		0,999	3	0,927

a. Lilliefors Significance Correction

Oneway

Test of Homogeneity of Variances

		Levene Statistic	df1	df2	Sig.
HARI_KE1	Based on Mean	0,572	3	8	0,649
	Based on Median	0,377	3	8	0,772
	Based on Median and with adjusted df	0,377	3	6,842	0,773
	Based on trimmed mean	0,560	3	8	0,656
HARI_KE21	Based on Mean	0,397	3	8	0,759
	Based on Median	0,309	3	8	0,819
	Based on Median and with adjusted df	0,309	3	6,565	0,819
	Based on trimmed mean	0,392	3	8	0,762

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
HARI_KE1	Between Groups	0,071	3	0,024	1,329	0,331
	Within Groups	0,142	8	0,018		
	Total	0,213	11			
HARI_KE21	Between Groups	0,072	3	0,024	3,031	0,093
	Within Groups	0,064	8	0,008		
	Total	0,136	11			

Post hoc test

HARI_KE1

Tukey HSD[a]

Daya_Sebar_150g	N	Subset for alpha = 0.05
		1
Basis	3	6,7167
F1	3	6,7467
F2	3	6,8133
F3	3	6,9167
Sig.		0,324

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 3.000.

HARI_KE21

Tukey HSD[a]

Daya_Sebar_150g	N	Subset for alpha = 0.05
		1
Basis	3	6,7300
F2	3	6,7400

F1	3	6,7733
F3	3	6,9233
Sig.		0,109

Means for groups in homogeneous subsets are displayed.
a. Uses Harmonic Mean Sample Size = 3.000.

T-Test

Paired Samples Test

						t	df	Sig. (2-tailed)
				Lower	Upper			
Pair 1	BASIS_HARIKE1 - BASIS_HARIKE21	-0,01333	0,14012	0,08090	-0,36141	0,33474	-0,165	2	0,884

Paired Samples Test

						t	df	Sig. (2-tailed)
				Lower	Upper			
Pair 1	FORMULA1_HARIKE1 - FORMULA1_HARIKE21	-0,02667	0,04509	0,02603	-0,13868	0,08535	-1,024	2	0,413

Paired Samples Test

						t	df	Sig. (2-tailed)
				Lower	Upper			
Pair 1	FORMULA2_HARIKE1 - FORMULA2_HARIKE21	0,07333	0,08386	0,04842	-0,13500	0,28167	1,515	2	0,269

Paired Samples Test

		t	df	Sig. (2-tailed)

					Lower	Upper			
Pair 1	FORMULA3_HARIKE1 - FORMULA3_HARIKE21	-0,00667	0,06028	0,03480	-0,15640	0,14307	-0,192	2	0,866

Paired Samples Test

							t	df	Sig. (2-tailed)
					Lower	Upper			
Pair 1	HARIKE_1 - HARIKE_21	0,00667	0,08690	0,02509	-0,04855	0,06188	0,266	11	0,795

Lampiran 16. Hasil Uji *Cycling Test* dan Gambar Alat Lemari Pendingin dan Oven

Waktu	Formula	Viskositas			Rata-rata	SD
		R1	R2	R3		
Sebelum	1	5	5,5	5,1	5,2	0,26457513
	2	4,6	5,2	4,7	4,833333333	0,32145503
	3	4,5	5,1	4,6	4,733333333	0,32145503
	4	4,4	4,6	4,5	4,5	0,1
Sesudah	1	5,4	5,1	5	5,166666667	0,2081666
	2	4,5	4,7	4,6	4,6	0,1
	3	4.4	4,5	4,7	4,6	0,14142136
	4	4,4	4,3	4,2	4,3	0,1

❖ **Hasil SPSS viskositas *cycling test***

Tests of Normality

VISKOSITAS					Shapiro-Wilk		
					Statistic	df	Sig.
SEBELUM	BASIS	0,314	3		0,893	3	0,363

	F1	0,328	3		0,871	3	0,298
	F2	0,328	3		0,871	3	0,298
	F3	0,175	3		1,000	3	1,000
SESUDAH	BASIS	0,292	3		0,923	3	0,463
	F1	0,175	3		1,000	3	1,000
	F2	0,253	3		0,964	3	0,637
	F3	0,175	3		1,000	3	1,000

a. Lilliefors Significance Correction

Oneway

Test of Homogeneity of Variances

		Levene Statistic	df1	df2	Sig.
SEBELUM	Based on Mean	2,085	3	8	0,181
	Based on Median	0,256	3	8	0,855
	Based on Median and with adjusted df	0,256	3	5,962	0,855
	Based on trimmed mean	1,809	3	8	0,223
SESUDAH	Based on Mean	1,173	3	8	0,379
	Based on Median	0,306	3	8	0,821
	Based on Median and with adjusted df	0,306	3	4,800	0,821
	Based on trimmed mean	1,093	3	8	0,406

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
SEBELUM	Between Groups	0,763	3	0,254	3,550	0,067
	Within Groups	0,573	8	0,072		
	Total	1,337	11			
SESUDAH	Between Groups	1,217	3	0,406	18,718	0,001
	Within Groups	0,173	8	0,022		
	Total	1,390	11			

Post Hoc Tests

SEBELUM

Tukey HSD[a]

VISKOSITAS	N	Subset for alpha = 0.05	
		1	2
F3	3	4,5000	
F2	3	4,7333	4,7333
F1	3	4,8333	4,8333
BASIS	3		5,2000
Sig.		0,467	0,221

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 3.000.

SESUDAH

Tukey HSD[a]

VISKOSITAS	N	Subset for alpha = 0.05	
		1	2
F3	3	4,3000	
F2	3	4,5333	
F1	3	4,6000	
BASIS	3		5,1667
Sig.		0,135	1,000

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 3.000.

T-Test

Paired Samples Test

					t	df	Sig. (2-tailed)
			Lower	Upper			

Pair 1	BASIS_SEBELUM - BASIS_SESUDAH	0,03333	0,40415	0,23333	-0,97062	1,03729	0,143	2	0,899

Paired Samples Test

							t	df	Sig. (2-tailed)
					Lower	Upper			
Pair 1	F1_SEBELUM - F1_SESUDAH	0,23333	0,23094	0,13333	-0,34035	0,80702	1,750	2	0,222

Paired Samples Test

							t	df	Sig. (2-tailed)
					Lower	Upper			
Pair 1	F2_SEBELUM - F2_SESUDAH	0,20000	0,36056	0,20817	-0,69567	1,09567	0,961	2	0,438

Paired Samples Test

							t	df	Sig. (2-tailed)
					Lower	Upper			
Pair 1	F3_SEBELUM - F3_SESUDAH	0,20000	0,17321	0,10000	-0,23027	0,63027	2,000	2	0,184

Paired Samples Test

							t	df	Sig. (2-tailed)
					Lower	Upper			
Pair 1	SEBELUM - SESUDAH	0,16667	0,27414	0,07914	-0,00751	0,34085	2,106	11	0,059

Waktu	Formula	pH			Rata-rata	SD
		R1	R2	R3		
Sebelum	1	6,05	6,07	6,08	6,06666667	0,01527525
	2	5,15	5,14	5,12	5,13666667	0,01527525
	3	5,09	5,1	5,08	5,09	0,01
	4	5	5,03	5,02	5,01666667	0,01527525
Sesudah	1	5,97	5,98	5,96	5,97	0,01
	2	5,13	5,14	5,11	5,12666667	0,01527525
	3	5	5,03	5,01	5,01333333	0,01527525
	4	4,99	5,02	5	5,00333333	0,01527525

❖ **Hasil SPSS pH *cycling test***

Tests of Normality

PH					Shapiro-Wilk		
					Statistic	df	Sig.
SEBELUM	BASIS	0,253	3		0,964	3	0,637
	F1	0,253	3		0,964	3	0,637
	F2	0,175	3		1,000	3	1,000
	F3	0,253	3		0,964	3	0,637
SESUDAH	BASIS	0,175	3		1,000	3	1,000
	F1	0,253	3		0,964	3	0,637
	F2	0,253	3		0,964	3	0,637
	F3	0,253	3		0,964	3	0,637

a. Lilliefors Significance Correction

Oneway

Test of Homogeneity of Variances

		Levene Statistic	df1	df2	Sig.
SEBELUM	Based on Mean	0,333	3	8	0,802
	Based on Median	0,100	3	8	0,958
	Based on Median and with adjusted df	0,100	3	7,143	0,958
	Based on trimmed mean	0,313	3	8	0,816
SESUDAH	Based on Mean	0,333	3	8	0,802
	Based on Median	0,100	3	8	0,958
	Based on Median and with adjusted df	0,100	3	7,143	0,958
	Based on trimmed mean	0,313	3	8	0,816

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
SEBELUM	Between Groups	2,207	3	0,736	3679,042	0,000
	Within Groups	0,002	8	0,000		
	Total	2,209	11			
SESUDAH	Between Groups	1,942	3	0,647	3236,278	0,000
	Within Groups	0,002	8	0,000		
	Total	1,943	11			

Post Hoc Tests

SEBELUM

Tukey HSD[a]

PH	N	Subset for alpha = 0.05			
		1	2	3	4
F3	3	5,0167			
F2	3		5,0900		
F1	3			5,1367	
Basis	3				6,0667
Sig.		1,000	1,000	1,000	1,000

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 3.000.

SESUDAH

Tukey HSD[a]

PH	N	Subset for alpha = 0.05		
		1	2	3
F3	3	5,0033		
F2	3	5,0133		
F1	3		5,1267	
Basis	3			5,9700
Sig.		0,822	1,000	1,000

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 3.000.

T-Test

Paired Samples Test

							t	df	Sig. (2-tailed)
					Lower	Upper			
Pair 1	BASIS_SEBELUM - BASIS_SESUDAH	0,09667	0,02082	0,01202	0,04496	0,14838	8,043	2	0,015

Paired Samples Test

							t	df	Sig. (2-tailed)
					Lower	Upper			
Pair 1	F1_SEBELUM - F1_SESUDAH	0,01000	0,01000	0,00577	-0,01484	0,03484	1,732	2	0,225

Paired Samples Test

							t	df	Sig. (2-tailed)
					Lower	Upper			
Pair 1	F2_SEBELUM - F2_SESUDAH	0,07667	0,01155	0,00667	0,04798	0,10535	11,500	2	0,007

Paired Samples Test

							t	df	Sig. (2-tailed)
					Lower	Upper			
Pair 1	F3_SEBELUM - F3_SESUDAH	0,01333	0,00577	0,00333	-0,00101	0,02768	4,000	2	0,057

Paired Samples Test

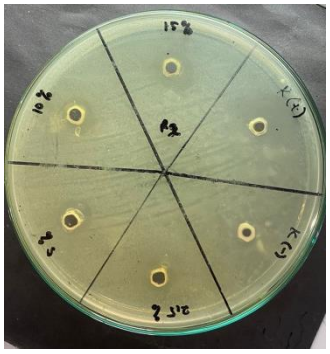
		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	SEBELUM - SESUDAH	.04917	.04144	.01196	.02284	.07550	4.110	11	.002

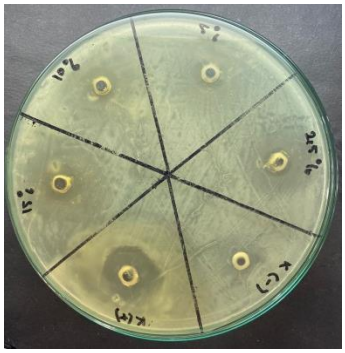
Suhu dingin 4^{o}C	Suhu Oven 40 ^{o}C
	

Lampiran 17. Hasil Uji Aktivitas Daya Hambat Bakteri Ekstrak Kulit Nanas

Konsentrasi ekstrak	Diameter hambat (mm)
Kontrol +	26,16 ± 0,87^{c}
Kontrol -	0,00 ± 0,00^{a}
F1	12 ± 0,90^{b}
F2	14,33 ± 0,76^{b}
F3	16,16 ± 0,52^{b}
F4	18,41 ± 0,38^{b}

Replikasi 1 **Replikasi 2** **Replikasi 3**





❖ **Hasil SPSS antibakteri ekstrak kulit nanas**

Tests of Normality

FORMULA					Shapiro-Wilk Statistic	df	Sig.
DAYAHAMBATEKSTRAK	KONTROL POSITIF	0,204	3		0,993	3	0,843
	kontrol negatif		3			3	
	F1	0,373	3		0,779	3	0,066
	F2	0,253	3		0,964	3	0,637
	F3	0,292	3		0,923	3	0,463
	F4	0,253	3		0,964	3	0,637

a. Lilliefors Significance Correction

Oneway

Test of Homogeneity of Variances

		Levene Statistic	df1	df2	Sig.
DAYAHAMBATEKSTRAK	Based on Mean	13,051	5	12	0,000

	Based on Median	0,959	5	12	0,480
	Based on Median and with adjusted df	0,959	5	2,061	0,579
	Based on trimmed mean	10,536	5	12	0,000

ANOVA

DAYAHAMBATEKSTRAK

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1090,573	5	218,115	24,272	0,000
Within Groups	107,833	12	8,986		
Total	1198,406	17			

Post Hoc Tests

DAYA HAMBAT EKSTRAK

Tukey HSD[a]

FORMULA	N	Subset for alpha = 0.05		
		1	2	3
kontrol negatif	3	0,0000		
F2	3		14,3333	
F1	3		15,6667	
F3	3		16,1667	
F4	3		18,4167	18,4167
KONTROL POSITIF	3			26,1667
Sig.		1,000	0,574	0,069

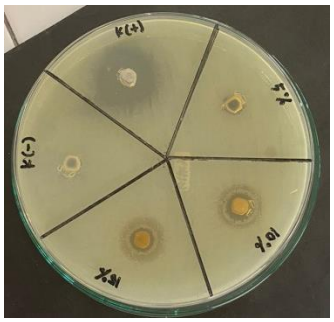
Means for groups in homogeneous subsets are displayed.

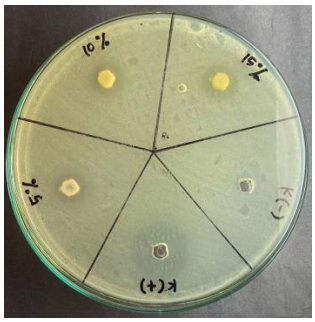
a. Uses Harmonic Mean Sample Size = 3.000.

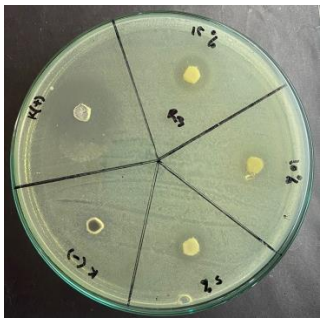
Lampiran 18. Hasil Uji Aktivitas Daya Hambat Bakteri Sediaan Serum

Konsentrasi	Diameter hambat (mm)
Kontrol +	26,91 ± 2,57[d]
Kontrol -	0,00 ± 0,00 [a]
F1	13,91 ± 0,87[b]
F2	16,25 ± 0,25[bc]
F3	18,5 ± 0,25[c]

Replikasi 1 **Replikasi 2** **Replikasi 3**







❖ **Hasil SPSS antibakteri sediaan serum ekstrak kulit nanas**

Tests of Normality

FORMULA		Shapiro-Wilk					
		Statistic	df		Statistic	df	Sig.
DAYAHAMBAT_SERUM	KONTROL POSITIF	0,269	3		0,950	3	0,569
	kontrol negatif		3			3	
	F1	0,204	3		0,993	3	0,843
	F2	0,253	3		0,964	3	0,637
	F3	0,175	3		1,000	3	1,000

a. Lilliefors Significance Correction

Oneway

Test of Homogeneity of Variances

		Levene Statistic	df1	df2	Sig.
DAYAHAMBAT_SERUM	Based on Mean	5,787	4	10	0,011
	Based on Median	1,958	4	10	0,177
	Based on Median and with adjusted df	1,958	4	2,466	0,333
	Based on trimmed mean	5,436	4	10	0,014

ANOVA

DAYAHAMBAT_SERUM

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1146,740	4	286,685	189,001	0,000
Within Groups	15,168	10	1,517		
Total	1161,908	14			

Post Hoc Tests

DAYAHAMBAT_SERUM

Tukey HSD[a]

FORMULA	N	Subset for alpha = 0.05			
		1	2	3	4
kontrol negatif	3	0,0000			
F1	3		13,9167		
F2	3		16,4167	16,4167	
F3	3			18,5000	
KONTROL POSITIF	3				26,9133
Sig.		1,000	0,170	0,302	1,000

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 3.000.

Lampiran 19. Hasil Lampiran Perbandingan Daya Hambat Ekstrak dan Sediaan Serum

Tests of Normality

Formula		Shapiro-Wilk Statistic	df	Sig.
DAYA_HAMBAT	kontrol positif ekstrak	0,204	3	0,993	3	0,843
	kontrol negatif ekstrak		3		3	
	ekstrak 5%	0,253	3	0,964	3	0,637
	ekstrak 10%	0,292	3	0,923	3	0,463
	ekstrak 15%	0,253	3	0,964	3	0,637
	kontrol positif serum	0,269	3	0,950	3	0,569
	kontrol negatif serum		3		3	
	serum 5%	0,204	3	0,993	3	0,843
	serum 10%	0,253	3	0,964	3	0,637
	serum 15%	0,175	3	1,000	3	1,000

a. Lilliefors Significance Correction

Test of Homogeneity of Variances

		Levene Statistic	df1	df2	Sig.
DAYA_HAMBAT	Based on Mean	4,684	9	20	0,002
	Based on Median	1,683	9	20	0,159
	Based on Median and with adjusted df	1,683	9	3,564	0,341
	Based on trimmed mean	4,419	9	20	0,003

ANOVA

DAYA_HAMBAT

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	2236,388	9	248,488	265,619	0,000

Within Groups	18,710	20	0,936		
Total	2255,098	29			

DAYA_HAMBAT

Tukey HSD[a]

Formula	N	Subset for alpha = 0.05			
		1	2	3	4
kontrol negatif ekstrak	3	0,0000			
kontrol negatif serum	3	0,0000			
serum 5%	3		13,9167		
ekstrak 5%	3		14,3333		
ekstrak 10%	3		16,1667	16,1667	
serum 10%	3		16,4167	16,4167	
ekstrak 15%	3			18,4167	
serum 15%	3			18,5000	
kontrol positif ekstrak	3				26,1667
kontrol positif serum	3				26,9133
Sig.		1,000	0,104	0,154	0,992

Means for groups in homogeneous subsets are displayed.
a. Uses Harmonic Mean Sample Size = 3.000.