

LAMPIRAN

Lampiran

Lampiran 1

Hasil percobaan

Replikasi	Daya Sebar Formula 1 (cm)				
	kaca	50 g	200 g	300 g	500 g
I	2,58	2,74	2.85	3,24	4,00
II	2,68	2,65	3	3,40	3.80
II	2,72	2,65	3.15	3,35	3.93
Rata-rata±SD	2,66±0,07	2,68±0,05	3,00±0,15	3,33±0,08	3,91±0,10

Replikasi	Daya sebar Formula 2 (cm)				
	Kaca	50 g	200 g	300 g	500 g
I	2,38	3,40	3,00	4,00	4,14
II	2,10	3,16	3.40	3,88	4,10
II	2,00	3,17	3,59	3,85	4,00
Rata-rata±SD	2,16±0,19	3,16±0,01	3,33±0,30	3,91±0,07	4,08±0,07

Replikasi	Daya sebar Formula 3 (cm)				
	Kaca	50 g	200 g	300 g	500 g
I	1,00	1,00	1,00	1,75	1,75
II	1,25	1,25	1,25	1,75	1,75

II	1,75	1,75	1,75	1,90	1,90
Rata-rata±SD	1,33±0,38	1,33±0,38	1,33±0,38	1,80±0,08	1,80±0,08

Replikasi	Daya Lekat (detik)		
	F1	F2	F3
I	24,17	9,45	4,15
II	21,35	7,25	4,48
III	23,87	8,68	4,06
Rata-rata±SD	23,13±1,54	8,46±1,11	4,23±0,22

Replikasi	pH		
	F1	F2	F3
I	5	5	5
II	5	5	5
III	5	5	5
Rata-rata±SD	5	5	5

Replikasi	Viskositas (dPa-s)		
	F1	F2	F3
I	300	175	185
II	309	190	175

III	300	184	165
Rata-rata±SD	303±5,19	183±7,54	175±10,00

Replikasi	Viskositas (dPa-s)		
	Basis F1	Basis F2	Basis F3
I	275	200	180
II	280	228	180
III	260	220	165
Rata-rata±SD	272±10,40	216±14,42	175±8,66

Replikasi	Diameter Hambat (mm)		
	F1	F2	F3
I	10,90	7,40	5,50
II	9,80	5,80	5,20
III	11,20	6,80	5,30
Rata-rata±SD	10,33±0,73	6,67±0,80	5,33±0,15

Lampiran 2

PERSAMAAN *SIMPLEX LATTICE DESIGN* DAYA SEBAR

RUMUS UMUM : $Y = a(A) + b(B) + ab(A)(B)$

Y = Respon (diameter daya sebar)

a = Koefisien untuk Vaseline Album

b = Koefisien untuk Adeps Lanae

A = Komposisi Vaseline Album

B = Komposisi Adeps Lanae

Persamaan *Simplex Lattice Design* penentuan koefisien a,

Y = 3,11

A = 1

B = 0

$$Y = a(A) + b(B) + ab(A)(B)$$

$$3,11 = a(1) + b(0) + ab(1)(0)$$

$$a = 3,11$$

Penentuan koefisien b,

Y = 1,25

A = 0

B = 1

$$Y = a(A) + b(B) + ab(A)(B)$$

$$1,25 = a(0) + b(1) + ab(1)(0)$$

$$a = 1,25$$

Penentuan koefisien ab,

Y = 3,11

A = 0,5

B = 0,5

$$Y = a(A) + b(B) + ab(A)(B)$$

$$2,66 = 3,11(0,5) + 1,25(0,5) + AB(0,5)(0,5)$$

$$ab = 4,88$$

A. Penentuan *simplex lattice design* untuk daya sebar :

$$Y = a(A) + b(B) + ab(A)(B)$$

$$Y = 3,11(A) + 1,25(B) + 2,66(A)(B)$$

Persentase vaselin album/adeps lanae (%)	Hasil persamaan $Y = 3,11(A) + 1,25(B) + 2,66(A)(B)$
100/0	$Y = 3,11(A) + 1,25(B) + 2,66(A)(B)$ $Y = 3,11$
90/10	$Y = 3,11(A) + 1,25(B) + 2,66(A)(B)$ $Y = 3,1634$
80/20	$Y = 3,11(A) + 1,25(B) + 2,66(A)(B)$ $Y = 3.1636$
70/30	$Y = 3,11(A) + 1,25(B) + 2,66(A)(B)$ $Y = 3.1106$
60/40	$Y = 3,11(A) + 1,25(B) + 2,66(A)(B)$ $Y = 3,0044$
50/50	$Y = 3,11(A) + 1,25(B) + 2,66(A)(B)$ $Y = 2,845$
40/60	$Y = 3,11(A) + 1,25(B) + 2,66(A)(B)$ $Y = 2,6324$
30/70	$Y = 3,11(A) + 1,25(B) + 2,66(A)(B)$ $Y = 2,3666$
20/80	$Y = 3,11(A) + 1,25(B) + 2,66(A)(B)$ $Y = 2,0476$
10/90	$Y = 3,11(A) + 1,25(B) + 2,66(A)(B)$

	$Y = 1,6754$
0/100	$Y = 3,11(A) + 1,25(B) + 2,66(A)(B)$ $Y = 1,25$

PERSAMAAN *SIMPLEX LATTICE DESIGN* DAYA LEKAT

RUMUS UMUM : $Y = a(A) + b(B) + ab(A)(B)$

Y = Respon (diameter daya lekat)

a = Koefisien untuk Vaseline Album

b = Koefisien untuk Adeps Lanae

A = Komposisi Vaseline Album

B = Komposisi Adeps Lanae

Persamaan *Simplex Lattice Design*

Penentuan koefisien a,

Y = 23,13

A = 1

B = 0

$Y = a(A) + b(B) + ab(A)(B)$

$$23,13 = a(1) + b(0) + ab(1)(0)$$

$$a = 23,13$$

Penentuan koefisien b,

Y = 8,46

A = 0

B = 1

$$Y = A(X_1) + B(X_2) + AB(X_1)(X_2)$$

$$1,25 = A(0) + B(1) + AB(1)(0)$$

$$B = 8,46$$

Penentuan koefisien ab,

$$Y = 4,23$$

$$A = 0,5$$

$$B = 0,5$$

$$Y = b(A) + b(B) + ab(A)(B)$$

$$4,23 = 23,13(0,5) + 8,46(0,5) + AB(0,5)(0,5)$$

$$AB = -11,565$$

A. Persamaan *simplex lattice design* untuk daya lekat :

$$Y = a(A) + b(B) + ab(A)(B)$$

$$Y = 23,13(A) + 8,46(B) + 4,23(A)(B)$$

Persentase vaselin album/adeps lanae (%)	Hasil persamaan $Y = 23,13(A) + 8,46(B) - 4,23(A)(B)$
100/0	$Y = 23,13(A) + 8,46(B) - 4,23(A)(B)$ $Y = 23,13$
90/10	$Y = 23,13(A) + 8,46(B) - 4,23(A)(B)$ $Y = 22,0437$
80/20	$Y = 23,13(A) + 8,46(B) - 4,23(A)(B)$ $Y = 20,8728$
70/30	$Y = 23,13(A) + 8,46(B) - 4,23(A)(B)$ $Y = 19,6173$
60/40	$Y = 23,13(A) + 8,46(B) - 4,23(A)(B)$ $Y = 18,2772$
50/50	$Y = 23,13(A) + 8,46(B) - 4,23(A)(B)$

	$Y = 16,8525$
40/60	$Y = 23,13(A) + 8,46(B) - 4,23(A)(B)$ $Y = 15,3432$
30/70	$Y = 23,13(A) + 8,46(B) - 4,23(A)(B)$ $Y = 13,7493$
20/80	$Y = 23,13(A) + 8,46(B) - 4,23(A)(B)$ $y = 12,0708$
10/90	$Y = 23,13(A) + 8,46(B) - 4,23(A)(B)$ $10,3077$
0/100	$Y = 23,13(A) + 8,46(B) - 4,23(A)(B)$ $Y = 8,46$

B. Persamaan *Simplex Lattice Design* untuk pH sediaan

$$\text{RUMUS UMUM : } Y = a(A) + b(B) + ab(A)(B)$$

Y = Respon (diameter daya lekat)

a = Koefisien untuk Vaselin Album

b = Koefisien untuk Adeps Lanae

A = Komposisi Vaselin Album

B = Komposisi Adeps Lanae

Persamaan *Simplex Lattice Design*

Penentuan koefisien a ,

$$Y = 5$$

$$A = 1$$

$$B = 0$$

$$Y = a(A) + b(B) + ab(A)(B)$$

$$5 = a(1) + b(0) + ab(1)(0)$$

$$a = 5$$

Penentuan koefisien b ,

$$Y = 5$$

$$A = 0$$

$$B = 1$$

$$Y = a(A) + b(B) + ab(A)(B)$$

$$5 = a(0) + b(1) + ab(1)(0)$$

$$b = 5$$

Penentuan koefisien ab,

$$Y = 5$$

$$A = 0,5$$

$$B = 0,5$$

$$Y = a(A) + b(B) + ab(A)(B)$$

$$5 = 5(0,5) + 5(0,5) + ab(0,5)(0,5)$$

$$ab = 0,25$$

Proporsi perbandingan	$Y = 5(A) + 5(B) + 0,25(A)(B)$
100/0	5
90/10	5.0225
80/20	5.04
70/30	5.0525
60/40	5.06
50/50	5.0625
40/60	5.06
30/70	5.0525
20/80	5.04
10/90	5.0225
0/100	5

A. Persamaan *Simplex Lattice Design* untuk Viskositas

RUMUS UMUM : $Y = a(A) + b(B) + ab(A)(B)$

Y = Respon (diameter daya hambat bakteri)

a = Koefisien untuk Vaselin Album

b = Koefisien untuk Adeps Lanae

A = Komposisi Vaselin Album

B = Komposisi Adeps Lanae

Persamaan *Simplex Lattice Design*

Penentuan koefisien a,

$$\begin{aligned} Y &= 303 \\ A &= 1 \\ B &= 0 \end{aligned}$$

$$\begin{aligned} Y &= a(A) + b(B) + ab(A)(B) \\ 303 &= a(1) + b(0) + ab(1)(0) \\ a &= 303 \end{aligned}$$

Penentuan koefisien b,

$$\begin{aligned} Y &= 303 \\ A &= 0 \\ B &= 1 \end{aligned}$$

$$\begin{aligned} Y &= a(A) + b(B) + ab(A)(B) \\ 175 &= a(0) + b(1) + ab(1)(0) \\ b &= 175 \end{aligned}$$

Penentuan koefisien ab,

$$\begin{aligned} Y &= 183 \\ A &= 0,5 \\ B &= 0,5 \end{aligned}$$

$$\begin{aligned} Y &= a(A) + b(B) + ab(A)(B) \\ 183 &= 303(0,5) + 175(0,5) + ab(0,5)(0,5) \\ ab &= -224 \end{aligned}$$

Proporsi Vaseline album/adepts lanae	$Y = 303(A) + 175(B) - 224(A)(B)$
100/0	303
90/10	270.04
80/20	241.56
70/30	217.56
60/40	198.04
50/50	183
40/60	172.44
30/70	166.36
20/80	164.76
10/90	167.64
0/100	175

B. Persamaan *Simplex Lattice Design* untuk diameter zona hambat sediaan

RUMUS UMUM : $Y = a(A) + b(B) + ab(A)(B)$

Y = Respon (diameter daya hambat bakteri)

a = Koefisien untuk Vaseline Album

b = Koefisien untuk Adepts Lanae

A = Komposisi Vaseline Album

B = Komposisi Adeps Lanae

Persamaan *Simplex Lattice Design*

Penentuan koefisien a,

$$Y = 10,33$$

$$A = 1$$

$$B = 0$$

$$Y = a(A) + b(B) + ab(A)(B)$$

$$10,33 = a(1) + b(0) + ab(1)(0)$$

$$a = 10,33$$

Penentuan koefisien b,

$$Y = 5,33$$

$$A = 0$$

$$B = 1$$

$$Y = a(A) + b(B) + ab(A)(B)$$

$$5,33 = a(0) + b(1) + ab(1)(0)$$

$$b = 5,33$$

Penentuan koefisien ab,

$$Y = 6,67$$

$$A = 0,5$$

$$B = 0,5$$

$$Y = a(A) + b(B) + ab(A)(B)$$

$$6,67 = 10,33(0,5) + 5,33(0,5) + ab(0,5)(0,5)$$

$$ab = -4,64$$

Persamaan *Simplex Lattice Design* untuk diameter zona hambat

$$Y = 10,33 (A) + 5,33 (B) - 4,64(A)(B)$$

Proporsi Vaseline album/adeps lanae	$Y = 10,33 (A) + 5,33 (B) - 4,64(A)(B)$
100/0	10.33
90/10	9.4124
80/20	8.5876
70/30	7.8556
60/40	7.2164
50/50	

	6.67
40/60	6.2164
30/70	5.8556
20/80	5.5876
10/90	5.4124
0/100	5.33

Tabel 12. X, N dan R masing-masing uji pada berbagai proporsi vaselin album-adepts lanae

Komposisi (%)		Daya Sebar		
Vasel in Album	Adepts lanae	X	N	R ₁
100	0	3.11	0.97199	3.0
90	10	3.1634	0.999895	3.163069
80	20	3.1636	1	3.1636
70	30	3.1106	0.972304	3.024447
60	40	3.0044	0.916806	2.75445
50	50	2.845	0.833508	2.371329
40	60	2.6324	0.722408	1.901667
30	70	2.3666	0.583508	1.380929
20	80	2.0476	0.416806	0.853452
10	90	1.6754	0.222304	0.372447
0	100	1.25	0	0

Komposisi (%)		Daya Lekat		
Vasel in Albu	Adeps lan	X	Normalitas	Respon

m	ae			
100	0	23.13	1	23.13
90	10	22.0437	0.925951	20.41138
80	20	20.8728	0.846135	17.66121
70	30	19.6173	0.760552	14.91998
60	40	18.2772	0.669202	12.23115
50	50	16.8525	0.572086	9.641077
40	60	15.3432	0.469202	7.199067
30	70	13.7493	0.360552	4.95734
20	80	12.0708	0.246135	2.971046
10	90	10.3077	0.125951	1.298264
0	100	8.46	0	0

Komposisi (%)		pH		
Vaselin Album	Adeps lanae	X	Normalitas	Respon
100	0	5	0	0
90	10	5.0225	0.36	1.8081
80	20	5.04	0.64	3.2256
70	30	5.0525	0.84	4.2441
60	40	5.06	0.96	4.8576
50	50	5.0625	1	5.0625
40	60	5.06	0.96	4.8576
30	70	5.0525	0.84	4.2441
20	80	5.04	0.64	3.2256
10	90	5.0225	0.36	1.8081
0	100	5	0	0

Komposisi (%)		Diameter hambatan		
Vaselin Album	Adeps lanae	X	N	R
100	0	10,33	1	10.33
90	10	9,4124	0.81648	7.685036
80	20	8,5876	0.65152	5.594993
70	30	7,8556	0.50512	3.968021
60	40	7,2164	0.37728	2.722603
50	50	6,67	0.268	1.78756

40	60	6,2164	0.17728	1.102043
30	70	5,8556	0.10512	0.615541
20	80	5,5876	0.05152	0.287873
10	90	5,4124	0.01648	0.089196
0	100	6,67	0	0

Lampiran 3



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SURAT KETERANGAN
 No.: UGM/FA/668 /M/03/02

Kepada Yth. :
Sdri/Sdr. Hanifa Kholisatunnisa
NIM 20130350100
Universitas Muhammadiyah Yogyakarta
Di Yogyakarta

Dengan hormat,

Bersama ini kami sampaikan hasil identifikasi sampel daun yang Saudara kirimkan ke Departemen Biologi Farmasi, Fakultas Farmasi UGM, adalah :

No.Pendaftaran	Jenis	Suku
18	<i>Annona muricata</i> L.	Annonaceae

Demikian, semoga dapat digunakan sebagaimana mestinya.

Yogyakarta, 14 Februari 2017
 Ketua
 Departemen Biologi Farmasi

Mengetahui,
 Dekan
 Fakultas Farmasi UGM



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Lampiran 4

Proses ekstraksi dengan pelarut etanol



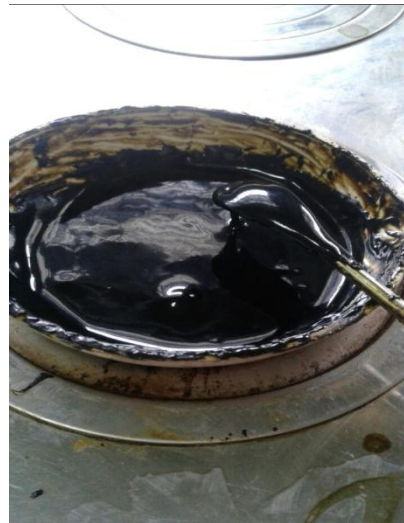
Ekstraksi dengan maserasi



Penyaringan ekstrak



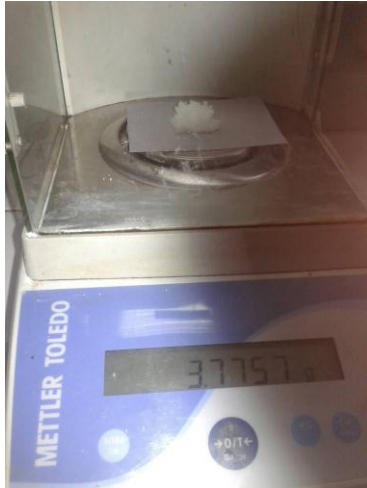
Proses Evaporasi Ekstrak

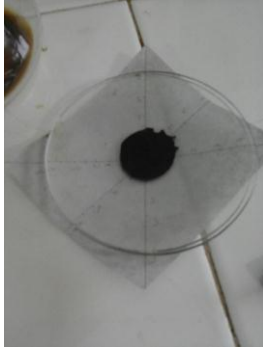


pengentalan Ekstrak

Lampiran 5

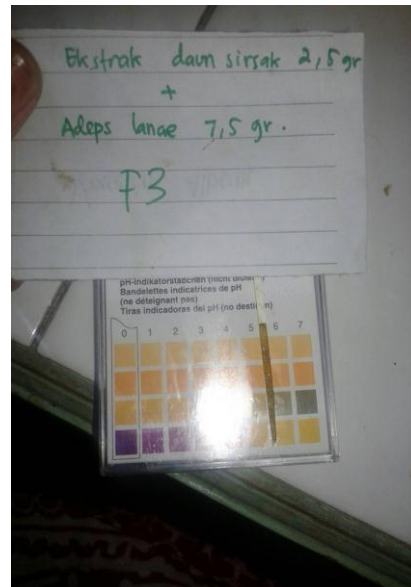
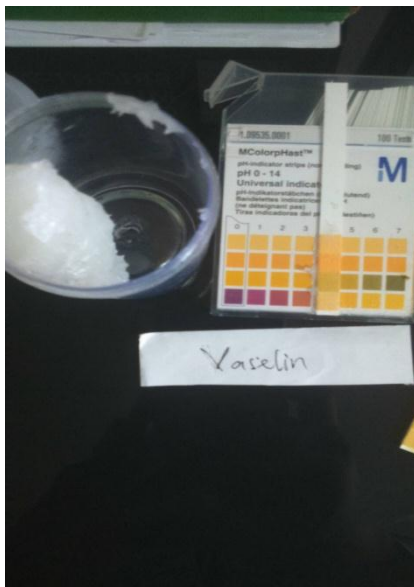
Formulasi salep ekstrak daun sirsak



Lampiran 6**Uji Daya sebar****Lampiran 6****Uji daya lekat**

Lampiran 7

Uji pH salep ekstrak daun sirsak



Lampiran 8

Uji Homogenitas



Lampiran 9

Uji viskositas

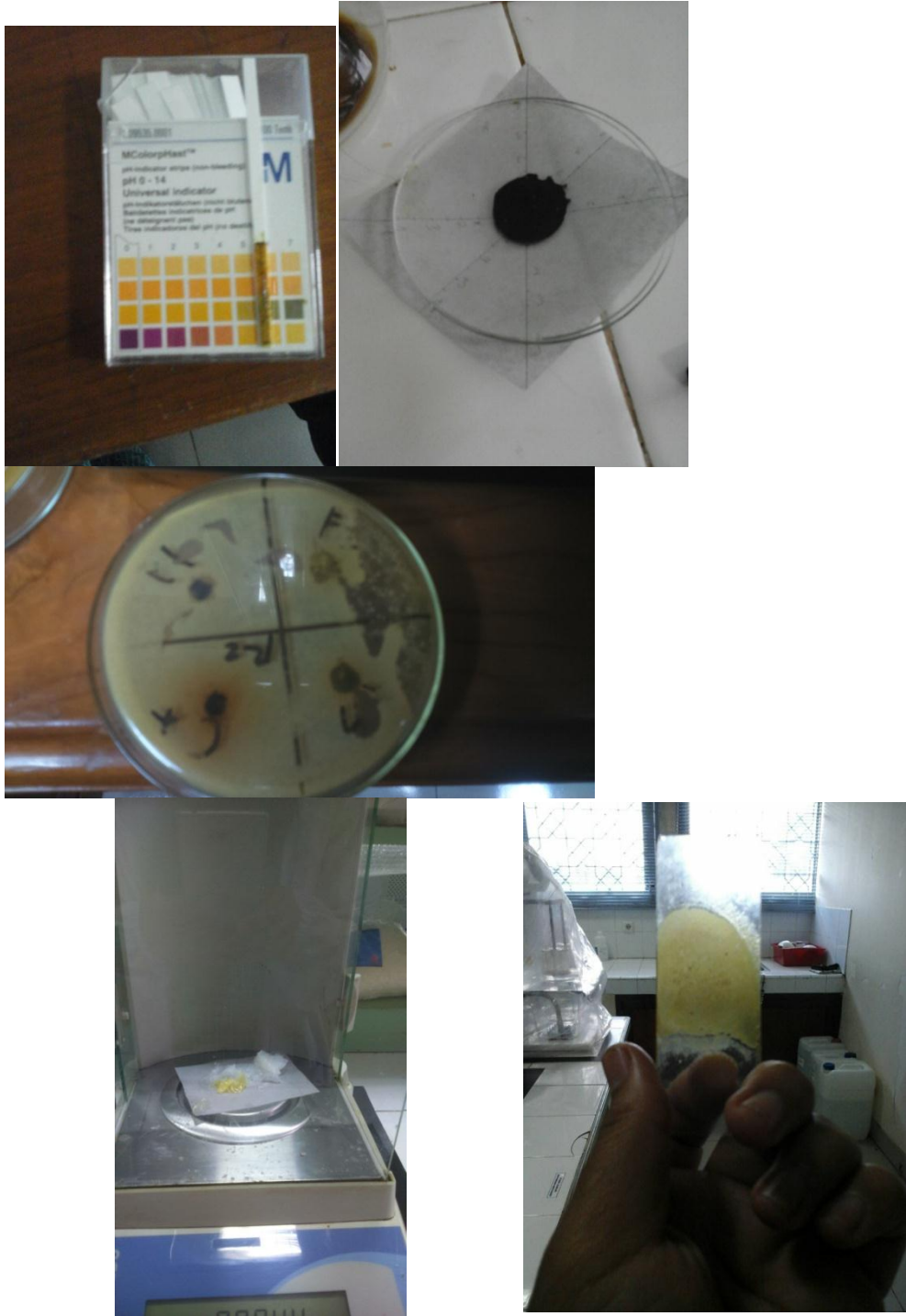


Lampiran 10

Uji antibakteri salep ekstrak daun sirsak



Lanjutan lampiran 10





Lampiran 11

validasi menggunakan One Sample T-Test

Parameter	R ₁	R ₂	R ₃	Rata-Rata
Daya sebar	2,5	2,75	2,5	2,58
Daya lekat	22,42	22	21,97	22,13
Viskositas	265	280	255	266,67
pH	5	5	5	5
Diameter Hambat	9.00	8,7	8	8,5

Daya sebar

One-Sample Kolmogorov-Smirnov Test

		Dayalekat
		3
Normal Parameters ^a	Mean	2.5833
	Std. Deviation	.14434
Most Extreme Differences	Absolute	.385
	Positive	.385
	Negative	-.282
Kolmogorov-Smirnov Z		.667
Asymp. Sig. (2-tailed)		.766

One-Sample Kolmogorov-Smirnov Test

		Dayalekat
		3
Normal Parameters ^a	Mean	2.5833
	Std. Deviation	.14434
Most Extreme Differences	Absolute	.385
	Positive	.385
	Negative	-.282
Kolmogorov-Smirnov Z		.667
Asymp. Sig. (2-tailed)		.766

a. Test distribution is Normal.

One-Sample Test

	Test Value = 3.16					
	T	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
Dayasebar	-6.920	2	.020	-.57667	-.9352	-.2181

Daya lekat

One-Sample Kolmogorov-Smirnov Test

		Dayasebar
N		3
Normal Parameters ^a	Mean	22.1300
	Std. Deviation	.25159
Most Extreme Differences	Absolute	.364
	Positive	.364
	Negative	-.262
Kolmogorov-Smirnov Z		.630
Asymp. Sig. (2-tailed)		.822

One-Sample Kolmogorov-Smirnov Test

		Dayasebar
N		3
Normal Parameters ^a	Mean	22.1300
	Std. Deviation	.25159
Most Extreme Differences	Absolute	.364
	Positive	.364
	Negative	-.262
Kolmogorov-Smirnov Z		.630
Asymp. Sig. (2-tailed)		.822

a. Test distribution is Normal.

One-Sample Test

	Test Value = 22.13					
	T	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
Dayalekat	.000	2	1.000	.00000	-.6250	.6250

Viskositas

One-Sample Kolmogorov-Smirnov Test

		Viskositas
N		3
Normal Parameters ^a	Mean	266.6667
	Std. Deviation	12.58306
Most Extreme Differences	Absolute	.219
	Positive	.219
	Negative	-.189
Kolmogorov-Smirnov Z		.380
Asymp. Sig. (2-tailed)		.999

a. Test distribution is Normal.

One-Sample Test

	Test Value = 270					
	T	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
Viskositas	-.459	2	.691	-3.33333	-34.5914	27.9247

Diameter hambat

One-Sample Kolmogorov-Smirnov Test

		Diameter
N		2
Normal Parameters ^a	Mean	8.8500
	Std. Deviation	.21213
Most Extreme Differences	Absolute	.260
	Positive	.260
	Negative	-.260
Kolmogorov-Smirnov Z		.368
Asymp. Sig. (2-tailed)		.999

a. Test distribution is Normal.

One-Sample Test

	Test Value = 9.1					
	t	Df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
Diamaterhambat	-1.800	2	.214	-.53333	-1.8081	.7414