7. LAMPIRAN

Lampiran 1. Uji Normalitas Berdasarkan Suhu Pengeringan

Tests of Normality

		Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Suhu	Statistic	df	Sig.	Statistic	df	Sig.
Antioksidan	50oC	.087	81	.200*	.978	81	.187
	55oC	.087	81	.199	.970	81	.054
	60oC	.086	81	.200*	.986	81	.518
Polifenol	50oC	.092	81	.086	.981	81	.273
	55oC	.087	81	.196	.974	81	.097
	60oC	.078	81	.200*	.963	81	.019
Warna_L	50oC	.079	81	.200*	.974	81	.104
	55oC	.097	81	.057	.974	81	.092
	60oC	.082	81	.200*	.959	81	.010
Warna_a	50oC	.097	81	.059	.952	81	.004
	55oC	.089	81	.171	.953	81	.005
	60oC	.093	81	.083	.950	81	.003
Warna_b	50oC	.086	81	.200*	.973	81	.087
	55oC	.097	81	.057	.947	81	.002
	60oC	.090	81	.099	.963	81	.020

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

a. Lilliefors Significance Correction

Lampiran 2. Uji Normalitas Berdasarkan Waktu Penyeduhan

Tests of Normality

		Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Waktu_Penyeduhan	Statistic	df	Sig.	Statistic	df	Sig.
Antioksidan	0.5 menit	.146	27	.146	.954	27	.267
	3 menit	.156	27	.089	.939	27	.117
	6 menit	.167	27	.051	.931	27	.072
	9 menit	.154	27	.101	.912	27	.026
	12 menit	.154	27	.102	.953	27	.253
	15 menit	.165	27	.057	.912	27	.026
	18 menit	.144	27	.157	.956	27	.300
	21 menit	.152	27	.112	.951	27	.229
	24 menit	.135	27	.200*	.967	27	.520
Polifenol	0.5 menit	.166	27	.055	.903	27	.016
	3 menit	.155	27	.093	.945	27	.159
	6 menit	.166	27	.054	.895	27	.010
	9 menit	.167	27	.052	.900	27	.014
	12 menit	.163	27	.065	.894	27	.010
	15 menit	.161	27	.070	.861	27	.002
	18 menit	.167	27	.053	.945	27	.159
	21 menit	.137	27	.200*	.951	27	.226
	24 menit	.133	27	.200*	.948	27	.195
Warna_L	0.5 menit	.155	27	.096	.949	27	.201
	3 menit	.167	27	.052	.961	27	.387
	6 menit	.165	27	.056	.891	27	.008
	9 menit	.141	27	.180	.919	27	.037
	12 menit	.110	27	.200*	.960	27	.377
	15 menit	.147	27	.138	.938	27	.112
	18 menit	.122	27	.200*	.974	27	.711
	21 menit	.155	27	.095	.951	27	.226
	24 menit	.162	27	.068	.932	27	.078
Warna_a	0.5 menit	.159	27	.077	.962	27	.416
	3 menit	.113	27	.200*	.948	27	.194
	6 menit	.141	27	.177	.951	27	.223
	9 menit	.138	27	.200*	.936	27	.096
	12 menit	.142	27	.171	.933	27	.082
	15 menit	.130	27	.200*	.914	27	.029
	18 menit	.164	27	.061	.949	27	.208
	21 menit	.156	27	.090	.918	27	.036
	24 menit	.142	27	.170	.945	27	.162
Warna_b	0.5 menit	.158	27	.082	.909	27	.021
	3 menit	.122	27	.200*	.980	27	.855
	6 menit	.136	27	.200*	.972	27	.642
	9 menit	.163	27	.063	.962	27	.410
	12 menit	.137	27	.200*	.916	27	.032
	15 menit	.161	27	.069	.936	27	.096
	18 menit	.122	27	.200*	.922	27	.044
	21 menit	.144	27	.156	.909	27	.022
	24 menit	.151	27	.116	.903	27	.016

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

a. Lilliefors Significance Correction

Lampiran 3. Uji Homogenitas

Test of Homogeneity of Variance

		Levene Statistic	df1	df2	Sig.
Antioksidan	Based on Mean	3.855	8	234	.000
	Based on Median	3.166	8	234	.002
	Based on Median and with adjusted df	3.166	8	185.210	.002
	Based on trimmed mean	3.791	8	234	.000
Polifenol	Based on Mean	10.291	8	234	.000
	Based on Median	8.237	8	234	.000
	Based on Median and with adjusted df	8.237	8	130.839	.000
	Based on trimmed mean	9.725	8	234	.000
Warna_L	Based on Mean	4.168	8	234	.000
	Based on Median	3.204	8	234	.002
	Based on Median and with adjusted df	3.204	8	164.261	.002
	Based on trimmed mean	4.075	8	234	.000
Warna_a	Based on Mean	6.123	8	234	.000
	Based on Median	4.545	8	234	.000
	Based on Median and with adjusted df	4.545	8	160.254	.000
	Based on trimmed mean	5.919	8	234	.000
Warna_b	Based on Mean	11.580	8	234	.000
	Based on Median	9.828	8	234	.000
	Based on Median and with adjusted df	9.828	8	163.105	.000
	Based on trimmed mean	11.474	8	234	.000

Lampiran 4. Uji *two way ANOVA*

Tests of Between-Subjects Effects

Source	Dependent Variable	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	Antioksidan	16797.065[a]	26	646.041	58.176	.000
	Polifenol	1303.883[b]	26	50.149	167.996	.000
	Warna_L	384.071[c]	26	14.772	70.275	.000
	Warna_a	139.435[d]	26	5.363	134.181	.000
	Warna_b	785.553[e]	26	30.214	190.086	.000
Intercept	Antioksidan	1184200.294	1	1184200.294	106636.506	.000
	Polifenol	35520.299	1	35520.299	118989.866	.000
	Warna_L	46743.148	1	46743.148	222370.826	.000
	Warna_a	773.414	1	773.414	19351.027	.000
	Warna_b	6857.070	1	6857.070	43140.711	.000
Suhu	Antioksidan	1589.573	2	794.786	71.570	.000
	Polifenol	69.805	2	34.902	116.920	.000
	Warna_L	28.417	2	14.208	67.594	.000
	Warna_a	11.952	2	5.976	149.515	.000
	Warna_b	60.512	2	30.256	190.352	.000
Waktu_Penyeduhan	Antioksidan	14692.353	8	1836.544	165.380	.000
	Polifenol	1164.778	8	145.597	487.738	.000
	Warna_L	339.058	8	42.382	201.625	.000
	Warna_a	122.250	8	15.281	382.340	.000
	Warna_b	700.796	8	87.599	551.125	.000
Suhu * Waktu_Penyeduhan	Antioksidan	515.139	16	32.196	2.899	.000
	Polifenol	69.300	16	4.331	14.509	.000
	Warna_L	16.596	16	1.037	4.935	.000
	Warna_a	5.234	16	.327	8.185	.000
	Warna_b	24.246	16	1.515	9.534	.000
Error	Antioksidan	2398.684	216	11.105		
	Polifenol	64.479	216	.299		
	Warna_L	45.404	216	.210		
	Warna_a	8.633	216	.040		
	Warna_b	34.332	216	.159		
Total	Antioksidan	1203396.043	243			
	Polifenol	36888.662	243			
	Warna_L	47172.624	243			
	Warna_a	921.482	243			
	Warna_b	7676.955	243			
Corrected Total	Antioksidan	19195.748	242			
	Polifenol	1368.363	242			
	Warna_L	429.475	242			
	Warna_a	148.068	242			
	Warna_b	819.886	242			

a. R Squared = .875 (Adjusted R Squared = .860)

b. R Squared = .953 (Adjusted R Squared = .947)

c. R Squared = .894 (Adjusted R Squared = .882)

d. R Squared = .942 (Adjusted R Squared = .935)

e. R Squared = .958 (Adjusted R Squared = .953)

Lampiran 5. Uji Duncan Berdasarkan Suhu Pengeringan

Antioksidan

Duncan[a,b]

Suhu	N	Subset 1	Subset 2
55oC	81	67.6906	
60oC	81	68.3285	
50oC	81		73.4069
Sig.		.224	1.000

Means for groups in homogeneous subsets are displayed.
Based on observed means.
The error term is Mean Square(Error) = 11.105.

a. Uses Harmonic Mean Sample Size = 81.000.

b. Alpha = ,05.

Polifenol

Duncan[a,b]

Suhu	N	Subset 1	Subset 2	Subset 3
60oC	81	11.5473		
55oC	81		11.9037	
50oC	81			12.8198
Sig.		1.000	1.000	1.000

Means for groups in homogeneous subsets are displayed.
Based on observed means.
The error term is Mean Square(Error) = .299.

a. Uses Harmonic Mean Sample Size = 81.000.

b. Alpha = ,05.

Warna_L

Duncan[a,b]

Suhu	N	Subset 1	Subset 2	Subset 3
60oC	81	13.4465		
55oC	81		13.8774	
50oC	81			14.2841
Sig.		1.000	1.000	1.000

Means for groups in homogeneous subsets are displayed.
Based on observed means.
The error term is Mean Square(Error) = .210.

a. Uses Harmonic Mean Sample Size = 81.000.

b. Alpha = ,05.

Warna_a

Duncan[a,b]

Suhu	N	Subset 1	2	3
60oC	81	1.5936		
55oC	81		1.6635	
50oC	81			2.0951
Sig.		1.000	1.000	1.000

Means for groups in homogeneous subsets are displayed.
Based on observed means.
The error term is Mean Square(Error) = .040.

a. Uses Harmonic Mean Sample Size = 81.000.

b. Alpha = ,05.

Warna_b

Duncan[a,b]

Suhu	N	Subset 1	2	3
55oC	81	4.6873		
60oC	81		5.3404	
50oC	81			5.9086
Sig.		1.000	1.000	1.000

Means for groups in homogeneous subsets are displayed.
Based on observed means.
The error term is Mean Square(Error) = .159.

a. Uses Harmonic Mean Sample Size = 81.000.

b. Alpha = ,05.

Lampiran 6. Uji Duncan Berdasarkan Waktu Penyeduhan

Antioksidan

Duncan[a,b]

Waktu_Penyeduhan	N	Subset 1	2	3	4	5	6	7	8
0.5 menit	27	55.3070							
3 menit	27		62.6904						
6 menit	27			65.7289					
24 menit	27				67.5215				
9 menit	27					71.0907			
21 menit	27					71.1396			
18 menit	27						74.3959		
12 menit	27							76.9759	
15 menit	27								83.4281
Sig.		1.000	1.000	1.000	1.000	.957	1.000	1.000	1.000

Means for groups in homogeneous subsets are displayed.
Based on observed means.
The error term is Mean Square(Error) = 11.105.

a. Uses Harmonic Mean Sample Size = 27.000.

b. Alpha = ,05.

Polifenol

Duncan[a,b]

Waktu_Penyeduhan	N	Subset 1	2	3	4	5	6	7
0.5 menit	27	8.0652						
3 menit	27		9.8904					
6 menit	27			11.3448				
24 menit	27				11.7015			
9 menit	27				11.7522			
21 menit	27					13.0044		
12 menit	27					13.0433		
18 menit	27						13.8781	
15 menit	27							16.1322
Sig.		1.000	1.000	1.000	.733	.794	1.000	1.000

Means for groups in homogeneous subsets are displayed.
Based on observed means.
The error term is Mean Square(Error) = .299.

a. Uses Harmonic Mean Sample Size = 27.000.

b. Alpha = ,05.

Warna_L

Duncan[a,b]

Waktu_Penyeduhan	N	Subset 1	2	3	4	5	6	7
24 menit	27	11.7689						
21 menit	27		12.5370					
18 menit	27			13.5148				
12 menit	27				13.8322			
15 menit	27				13.8400			
6 menit	27				14.0763	14.0763		
9 menit	27					14.1541		
3 menit	27						15.0670	
0.5 menit	27							16.0337
Sig.		1.000	1.000	1.000	.065	.534	1.000	1.000

Means for groups in homogeneous subsets are displayed.
Based on observed means.
The error term is Mean Square(Error) = .210.

a. Uses Harmonic Mean Sample Size = 27.000.

b. Alpha = ,05.

Warna_a

Duncan[a,b]

Waktu_Penyeduhan	N	Subset 1	2	3	4	5	6	7
0.5 menit	27	.6670						
3 menit	27		.8811					
24 menit	27			1.4552				
6 menit	27			1.4822				
9 menit	27				1.8170			
21 menit	27				1.9196			
12 menit	27					2.2630		
18 menit	27						2.7126	
15 menit	27							2.8585
Sig.		1.000	1.000	.620	.061	1.000	1.000	1.000

Means for groups in homogeneous subsets are displayed.
Based on observed means.
The error term is Mean Square(Error) = .040.

a. Uses Harmonic Mean Sample Size = 27.000.

b. Alpha = ,05.

Warna_b

Duncan[a,b]

Waktu_Penyeduhan	N	Subset 1	2	3	4	5	6	7	8	9
0.5 menit	27	2.2074								
3 menit	27		3.7033							
6 menit	27			4.2622						
24 menit	27				4.9544					
9 menit	27					5.1900				
21 menit	27						5.9163			
12 menit	27							6.3233		
18 menit	27								7.1856	
15 menit	27									8.0663
Sig.		1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000

Means for groups in homogeneous subsets are displayed.
Based on observed means.
The error term is Mean Square(Error) = .159.

a. Uses Harmonic Mean Sample Size = 27.000.

b. Alpha = ,05.

Lampiran 7. Uji Korelasi Antara Antioksidan, Polifenol, *Lightness*, a* dan b*

Correlations

		Antioksidan	Polifenol	Warna_L	Warna_a	Warna_b
Antioksidan	Pearson Correlation	1	.867**	-.331**	.842**	.853**
	Sig. (2-tailed)		.000	.000	.000	.000
	N	243	243	243	243	243
Polifenol	Pearson Correlation	.867**	1	-.423**	.876**	.876**
	Sig. (2-tailed)	.000		.000	.000	.000
	N	243	243	243	243	243
Warna_L	Pearson Correlation	-.331**	-.423**	1	-.299**	-.400**
	Sig. (2-tailed)	.000	.000		.000	.000
	N	243	243	243	243	243
Warna_a	Pearson Correlation	.842**	.876**	-.299**	1	.882**
	Sig. (2-tailed)	.000	.000	.000		.000
	N	243	243	243	243	243
Warna_b	Pearson Correlation	.853**	.876**	-.400**	.882**	1
	Sig. (2-tailed)	.000	.000	.000	.000	
	N	243	243	243	243	243

**. Correlation is significant at the 0.01 level (2-tailed).

Lampiran 8. Data Aktivitas Antioksidan 1/T (Kelvin) dan In(k)

Suhu (°C)	Suhu (K)	Waktu (menit)	1/T	k	In(k)
	323	0,5	0,003096	58,41889	4,067639
	323	3	0,003096	64,39333	4,16501
	323	6	0,003096	69,74222	4,244806
	323	9	0,003096	77,24444	4,346975
50	323	12	0,003096	82,03444	4,407139
	323	15	0,003096	89,34778	4,492536
	323	18	0,003096	76,73556	4,340365
	323	21	0,003096	72,67778	4,286036
	323	24	0,003096	70,06778	4,249463
	328	0,5	0,003049	51,74556	3,946339
	328	3	0,003049	62,44667	4,134313
	328	6	0,003049	62,75778	4,139283
	328	9	0,003049	67,12	4,206482
55	328	12	0,003049	75,25667	4,320904
	328	15	0,003049	80,71333	4,390904
	328	18	0,003049	71,41222	4,268469
	328	21	0,003049	71,02	4,262962
	328	24	0,003049	66,74333	4,200854
	333	0,5	0,003003	55,75667	4,020997
	333	3	0,003003	61,23111	4,114655
	333	6	0,003003	64,68667	4,169555
	333	9	0,003003	68,90778	4,232769
60	333	12	0,003003	73,63667	4,299143
	333	15	0,003003	80,22333	4,384814
	333	18	0,003003	75,04	4,318021
	333	21	0,003003	69,72111	4,244503
	333	24	0,003003	65,75333	4,18591

Lampiran 9. Data Total Fenolik 1/T (Kelvin) dan In(k)

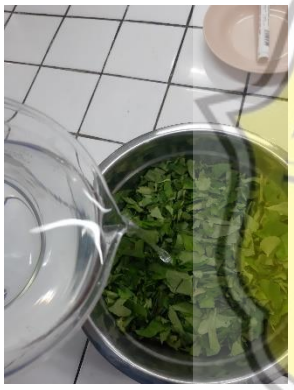
Suhu (°)C	Suhu K	Waktu (menit)	1/T	k	In(k)
	323	0,5	0,0031	8,64	2,15589
	323	3	0,0031	10,29	2,33128
	323	6	0,0031	12,24	2,50453
	323	9	0,0031	13,12	2,57414
50	323	12	0,0031	15,07	2,71271
	323	15	0,0031	17,42	2,85787
	323	18	0,0031	13,79	2,62394
	323	21	0,0031	13,18	2,57887
	323	24	0,0031	11,63	2,4533
	328	0,5	0,00305	7,46	2,01015
	328	3	0,00305	9,58	2,25945
	328	6	0,00305	11,03	2,40072
	328	9	0,00305	11,55	2,44707
55	328	12	0,00305	12,56	2,53069
	328	15	0,00305	15,97	2,77092
	328	18	0,00305	14,06	2,64341
	328	21	0,00305	13,21	2,58114
	328	24	0,00305	11,70	2,4593
	333	0,5	0,003	8,10	2,09132
	333	3	0,003	9,80	2,28261
	333	6	0,003	10,77	2,37635
	333	9	0,003	10,58	2,35918
60	333	12	0,003	11,50	2,44215
	333	15	0,003	15,00	2,70798
	333	18	0,003	13,78	2,62346
	333	21	0,003	12,62	2,53519
	333	24	0,003	11,78	2,4665

Lampiran 10. Dokumentasi Pengeringan Daun Pegagan

Daun Pegagan

Daun Pegagan dipotong kecil-kecil

Pembuatan larutan $CaCl_2$ 0,5%



Perendaman larutan $CaCl_2$ 0,5%

Steam blanching

Di dinginkan

Persiapan untuk dimasukkan di oven

Daun Pegagan mulai di oven

Daun Pegagan sudah kering

Lampiran 11. Hasil Seduhan Minuman Herbal Daun Pegagan

Suhu 50ºC

Suhu 55ºC

Suhu 60ºC