7. LAMPIRAN

Lampiran 1. Uji Normalitas Total Fenolik, Antioksidan, Lightness, a, dan b Berdasarkan Suhu Pengeringan

Tests of Normality

		Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	SuhuPengeringan	Statistic	df	Sig.	Statistic	df	Sig.
AktivitasAntioksidan	35C	.083	81	.200*	.975	81	.117
	40C	.072	81	.200*	.977	81	.151
	45C	.090	81	.162	.981	81	.283
TotalFenolik	35C	.061	81	.200*	.967	81	.036
	40C	.097	81	.058	.968	81	.039
	45C	.049	81	.200*	.971	81	.067
Lightness	35C	.051	81	.200*	.992	81	.920
	40C	.096	81	.061	.962	81	.016
	45C	.064	81	.200*	.981	81	.276
WarnaA	35C	.059	81	.200*	.981	81	.285
	40C	.098	81	.053	.947	81	.002
	45C	.097	81	.057	.970	81	.055
WarnaB	35C	.076	81	.200*	.974	81	.100
	40C	.094	81	.074	.972	81	.068
	45C	.060	81	.200*	.973	81	.091

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

a. Lilliefors Significance Correction

Lampiran 2. Uji Normalitas Total Fenolik, Antioksidan, Lightness, a, dan b Berdasarkan Waktu Penyeduhan

Tests of Normality

		Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	WaktuPenyeduhan	Statistic	df	Sig.	Statistic	df	Sig.
AktivitasAntioksidan	0.5menit	.122	27	.200*	.943	27	.143
	12menit	.148	27	.135	.955	27	.289
	15menit	.140	27	.184	.954	27	.262
	18menit	.163	27	.065	.921	27	.041
	21menit	.161	27	.069	.955	27	.281
	24menit	.163	27	.062	.949	27	.203
	3menit	.130	27	.200*	.903	27	.016
	6menit	.155	27	.093	.935	27	.092
	9menit	.142	27	.170	.920	27	.040
TotalFenolik	0.5menit	.145	27	.152	.960	27	.378
	12menit	.157	27	.087	.937	27	.102
	15menit	.134	27	.200*	.944	27	.157
	18menit	.103	27	.200*	.982	27	.897
	21menit	.095	27	.200*	.987	27	.973
	24menit	.147	27	.139	.950	27	.217
	3menit	.149	27	.126	.917	27	.034
	6menit	.158	27	.084	.950	27	.217
	9menit	.163	27	.063	.937	27	.103
Lightness	0.5menit	.136	27	.200*	.888	27	.007
	12menit	.165	27	.058	.921	27	.043
	15menit	.158	27	.081	.940	27	.123
	18menit	.159	27	.076	.950	27	.216
	21menit	.164	27	.062	.920	27	.040
	24menit	.146	27	.143	.928	27	.062
	3menit	.150	27	.125	.936	27	.099
	6menit	.163	27	.065	.944	27	.152
	9menit	.133	27	.200*	.930	27	.069
WarnaA	0.5menit	.138	27	.200*	.956	27	.297
	12menit	.158	27	.084	.945	27	.162
	15menit	.162	27	.067	.929	27	.066
	18menit	.153	27	.104	.954	27	.264
	21menit	.154	27	.102	.923	27	.048
	24menit	.140	27	.187	.941	27	.127
	3menit	.157	27	.085	.901	27	.014
	6menit	.137	27	.200*	.941	27	.131
	9menit	.163	27	.062	.935	27	.091
WarnaB	0.5menit	.159	27	.077	.937	27	.101
	12menit	.120	27	.200*	.934	27	.089
	15menit	.146	27	.143	.936	27	.098
	18menit	.133	27	.200*	.947	27	.183
	21menit	.166	27	.054	.915	27	.030
	24menit	.102	27	.200*	.968	27	.552
	3menit	.160	27	.073	.906	27	.018
	6menit	.147	27	.137	.956	27	.298
	9menit	.157	27	.085	.936	27	.098

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

a. Lilliefors Significance Correction

Lampiran 3. Uji Homogenitas Total Fenolik, Antioksidan, Lightness, a* dan b* antar Suhu Pengeringan

AktivitasAntioksidan

Duncan[a,b]

SuhuPengeringan	N	Subset 1	2	3
45C	81	62.8980		
35C	81		66.6914	
40C	81			70.6301
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) = 3.298.

a. Uses Harmonic Mean Sample Size = 81.000.

b. Alpha = .05.

TotalFenolik

Duncan[a,b]

SuhuPengeringan	N	Subset 1	2	3
45C	81	11.3993		
35C	81		11.6490	
40C	81			11.8168
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) = .025.

a. Uses Harmonic Mean Sample Size = 81.000.

b. Alpha = .05.

Lightness

Duncan[a,b]

SuhuPengeringan	N	Subset 1	2	3
45C	81	11.5257		
35C	81		11.6925	
40C	81			12.3278
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) = .287.

a. Uses Harmonic Mean Sample Size = 81.000.

b. Alpha = .05.

WarnaA

Duncan[a,b]

SuhuPengeringan	N	Subset 1	2	3
45C	81	11.2281		
35C	81		11.7314	
40C	81			12.1869
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) = .235.

a. Uses Harmonic Mean Sample Size = 81.000.

b. Alpha = .05.

WarnaB

Duncan[a,b]

SuhuPengeringan	N	Subset 1	2	3
45C	81	2.7405		
35C	81		3.2142	
40C	81			3.5716
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) = .057.

a. Uses Harmonic Mean Sample Size = 81.000.

b. Alpha = .05.

Lampiran 4. Uji Duncan Total Fenolik, Antioksidan, Lightness, a* dan b* Antar Waktu Penyeduhan

AktivitasAntioksidan

Duncan[a,b]

		Subset						
WaktuPenyeduhan	N	1	2	3	4	5	6	7
0.5menit	27	52.4237						
24menit	27		58.7637					
21menit	27			63.2722				
3menit	27			63.3993				
18menit	27				68.3807			
6menit	27				68.7633			
15menit	27					71.3352		
9menit	27						74.0785	
12menit	27							80.2419
Sig.		1.000	1.000	.903	.713	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) = 14.612.

a. Uses Harmonic Mean Sample Size = 27.000.

b. Alpha = .05.

TotalFenolik

Duncan[a,b]

		Subset								
WaktuPenyeduhan	N	1	2	3	4	5	6	7	8	9
24menit	27	10.4800								
0.5menit	27		10.9226							
21menit	27			11.2174						
3menit	27				11.3633					
18menit	27					11.6359				
6menit	27						11.7778			
15menit	27							12.0485		
9menit	27								12.3685	
12menit	27									12.7811
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) = .059.

a. Uses Harmonic Mean Sample Size = 27.000.

b. Alpha = .05.

Lightness

Duncan[a,b]

WaktuPenyeduhan	N	Subset 1	2	3	4	5	6	7	8	9
24menit	27	7.2578								
21menit	27		9.2363							
18menit	27			10.2304						
15menit	27				10.8400					
12menit	27					11.8181				
9menit	27						12.4870			
6menit	27							13.3319		
3menit	27								14.4744	
0.5menit	27									16.9619
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) = .537.

a. Uses Harmonic Mean Sample Size = 27.000.

b. Alpha = .05.

WarnaA

Duncan[a,b]

WaktuPenyeduhan	N	Subset 1	2	3	4	5	6	7	8	9
24menit	27	7.9952								
0.5menit	27		8.9807							
21menit	27			10.5044						
3menit	27				11.0841					
18menit	27					11.6819				
6menit	27						12.4289			
15menit	27							13.0911		
9menit	27								13.5996	
12menit	27									16.0733
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) = .486.

a. Uses Harmonic Mean Sample Size = 27.000.

b. Alpha = .05.

WarnaB

Duncan[a,b]

WaktuPenyeduhan	N	Subset 1	2	3	4	5	6	7
24menit	27	1.2270						
21menit	27		2.3311					
0.5menit	27		2.3526					
3menit	27			2.8411				
18menit	27			2.8844				
6menit	27				3.5385			
15menit	27					3.9093		
9menit	27						4.2896	
12menit	27							5.2052
Sig.		1.000	.854	.710	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) = .183.

a. Uses Harmonic Mean Sample Size = 27.000.

b. Alpha = .05.

Lampiran 5. Uji *Two Way Anova*

Tests of Between-Subjects Effects

Source	Dependent Variable	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	AktivitasAntioksidan	17714.127[a]	26	681.313	206.603	.000
	TotalFenolik	119.915[b]	26	4.612	182.359	.000
	Lightness	1877.582[c]	26	72.215	251.418	.000
	WarnaA	1362.505[d]	26	52.404	223.017	.000
	WarnaB	338.767[e]	26	13.029	228.084	.000
Intercept	AktivitasAntioksidan	1082371.968	1	1082371.968	328222.088	.000
	TotalFenolik	32820.458	1	32820.458	1297689.304	.000
	Lightness	34114.847	1	34114.847	118771.948	.000
	WarnaA	33352.312	1	33352.312	141938.093	.000
	WarnaB	2450.259	1	2450.259	42892.313	.000
WaktuPenyeduhan	AktivitasAntioksidan	15007.117	8	1875.890	568.851	.000
	TotalFenolik	111.541	8	13.943	551.277	.000
	Lightness	1813.987	8	226.748	789.432	.000
	WarnaA	1299.457	8	162.432	691.265	.000
	WarnaB	308.186	8	38.523	674.358	.000
SuhuPengeringan	AktivitasAntioksidan	2421.592	2	1210.796	367.166	.000
	TotalFenolik	7.151	2	3.576	141.375	.000
	Lightness	29.020	2	14.510	50.516	.000
	WarnaA	37.260	2	18.630	79.283	.000
	WarnaB	28.158	2	14.079	246.454	.000
WaktuPenyeduhan * SuhuPengeringan	AktivitasAntioksidan	285.417	16	17.839	5.409	.000
	TotalFenolik	1.223	16	.076	3.023	.000
	Lightness	34.576	16	2.161	7.524	.000
	WarnaA	25.789	16	1.612	6.859	.000
	WarnaB	2.423	16	.151	2.651	.001
Error	AktivitasAntioksidan	712.299	216	3.298		
	TotalFenolik	5.463	216	.025		
	Lightness	62.042	216	.287		
	WarnaA	50.755	216	.235		
	WarnaB	12.339	216	.057		
Total	AktivitasAntioksidan	1100798.394	243			
	TotalFenolik	32945.836	243			
	Lightness	36054.471	243			
	WarnaA	34765.573	243			
	WarnaB	2801.364	243			
Corrected Total	AktivitasAntioksidan	18426.426	242			
	TotalFenolik	125.378	242			
	Lightness	1939.624	242			
	WarnaA	1413.260	242			
	WarnaB	351.106	242			

a. R Squared = .961 (Adjusted R Squared = .957)

b. R Squared = .956 (Adjusted R Squared = .951)

c. R Squared = .968 (Adjusted R Squared = .964)

d. R Squared = .964 (Adjusted R Squared = .960)

e. R Squared = .965 (Adjusted R Squared = .961)

Lampiran 6. Uji Korelasi Antara Antioksidan, Polifenol, Lightness, a* dan b*

Correlations

		AktivitasAntioksidan	TotalFenolik	Lightness	WarnaA	WarnaB
AktivitasAntioksidan	Pearson Correlation	1	.887**	-.119	.876**	.846**
	Sig. (2-tailed)		.000	.065	.000	.000
	N	243	243	243	243	243
TotalFenolik	Pearson Correlation	.887**	1	.155*	.935**	.942**
	Sig. (2-tailed)	.000		.016	.000	.000
	N	243	243	243	243	243
Lightness	Pearson Correlation	-.119	.155*	1	.106	.253**
	Sig. (2-tailed)	.065	.016		.098	.000
	N	243	243	243	243	243
WarnaA	Pearson Correlation	.876**	.935**	.106	1	.933**
	Sig. (2-tailed)	.000	.000	.098		.000
	N	243	243	243	243	243
WarnaB	Pearson Correlation	.846**	.942**	.253**	.933**	1
	Sig. (2-tailed)	.000	.000	.000	.000	
	N	243	243	243	243	243

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

*. Correlation is significant at the 0.05 level (2-tailed).

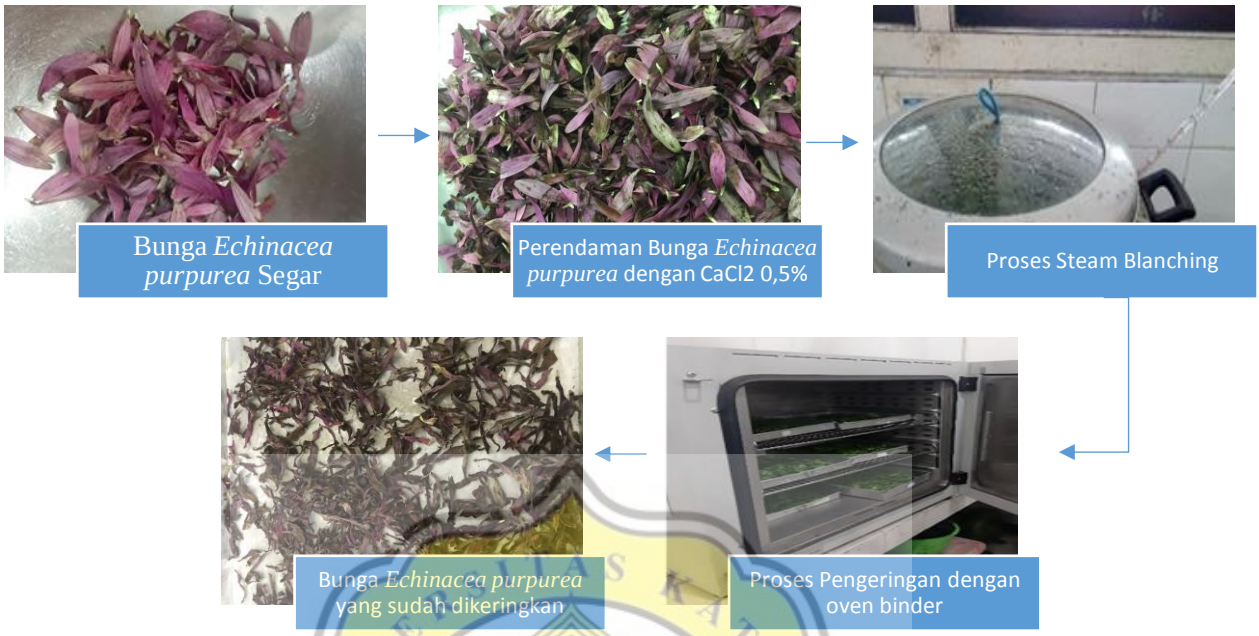
Lampiran 7. Aktivitas Antioksidan, 1/T dan ln(k)

Suhu (°C)	Suhu (°Kelvin)	Waktu	k	ln (k)
		0.5	51.913	3.94958
		3	63.579	4.15228
		6	68.850	4.23193
		9	74.549	4.31146
35	308.5	12	80.392	4.38692
		15	72.148	4.27872
		18	68.401	4.22539
		21	62.596	4.13669
		24	57.794	4.05689
		0.5	57.133	4.04539
		3	68.353	4.22469
		6	75.130	4.31922
		9	77.616	4.35177
40	313.5	12	82.210	4.40928
		15	74.794	4.31474
		18	71.198	4.26546
		21	67.240	4.20827
		24	61.997	4.12708
		0.5	48.224	3.87587
		3	58.266	4.06501
		6	62.310	4.13212
		9	70.071	4.24951
45	318.5	12	78.123	4.35829
		15	67.063	4.20564
		18	65.543	4.18271
		21	59.981	4.09403
		24	56.500	4.03424

Lampiran 8. Aktivitas Total Fenolik, 1/T dan ln(k)

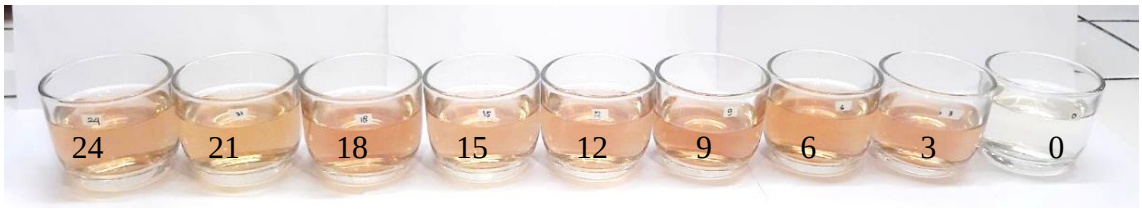
Suhu (°C)	Suhu (°Kelvin)	Waktu	k	ln (k)
		0.5	51.913	3.94958
		3	63.579	4.15228
		6	68.850	4.23193
		9	74.549	4.31146
35	308.5	12	80.392	4.38692
		15	72.148	4.27872
		18	68.401	4.22539
		21	62.596	4.13669
		24	57.794	4.05689
		0.5	57.133	4.04539
		3	68.353	4.22469
		6	75.130	4.31922
		9	77.616	4.35177
40	313.5	12	82.210	4.40928
		15	74.794	4.31474
		18	71.198	4.26546
		21	67.240	4.20827
		24	61.997	4.12708
		0.5	48.224	3.87587
		3	58.266	4.06501
		6	62.310	4.13212
		9	70.071	4.24951
45	318.5	12	78.123	4.35829
		15	67.063	4.20564
		18	65.543	4.18271
		21	59.981	4.09403
		24	56.500	4.03424

Lampiran 9. Proses Pembuatan Minuman Herbal Bunga *Echinacea purpurea*

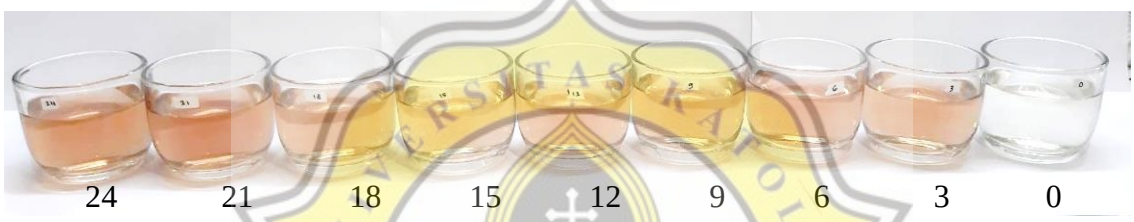


Lampiran 10. Sampel Uji Minuman Hebal Bunga *Echinacea purpurea* Warna L, a*, dan b*

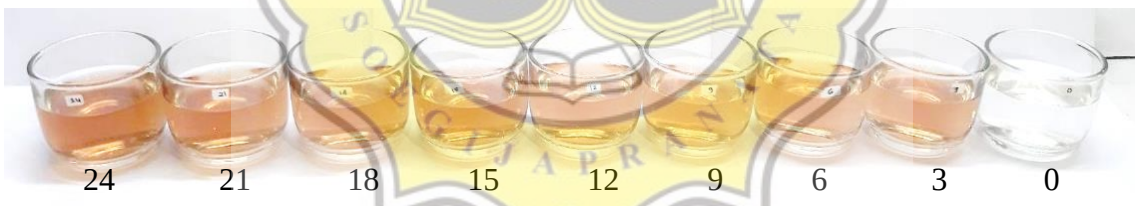
Sampel Uji Warna L, a*, dan b* dengan suhu pengerigan 35^{o}C pada waktu penyeduhan berbeda



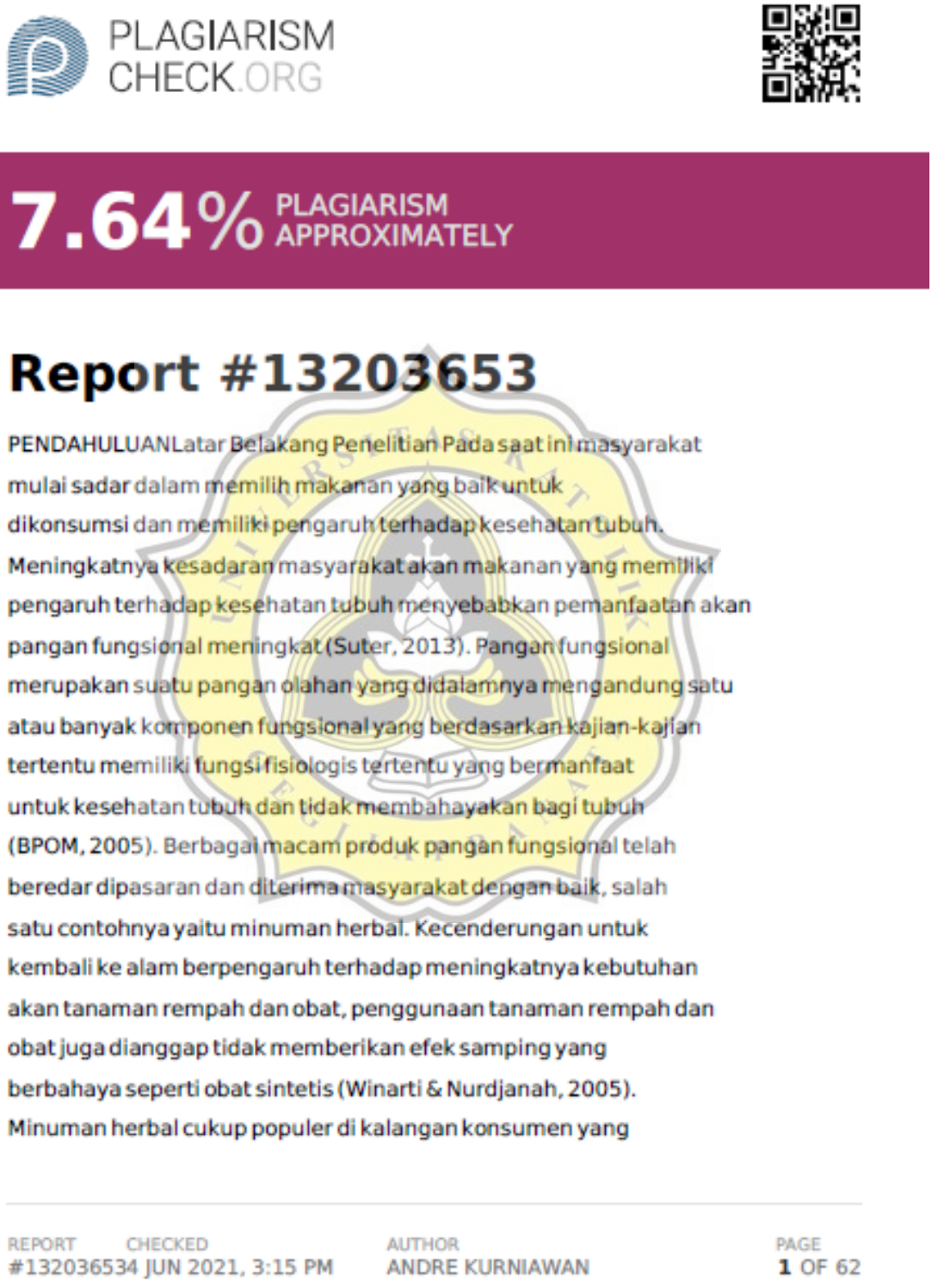
Sampel Uji Warna L, a*, dan b* dengan suhu pengerigan 40^{o}C pada waktu penyeduhan berbeda



Sampel Uji Warna L, a*, dan b* dengan suhu pengerigan 45^{o}C pada waktu penyeduhan berbeda



Lampiran 11. Plagiasi Tugas Akhir



PLAGIARISM CHECK.ORG

7.64% PLAGIARISM APPROXIMATELY

Report #13203653

PENDAHULUANLatar Belakang Penelitian Pada saat ini masyarakat mulai sadar dalam memilih makanan yang baik untuk dikonsumsi dan memiliki pengaruh terhadap kesehatan tubuh. Meningkatnya kesadaran masyarakat akan makanan yang memiliki pengaruh terhadap kesehatan tubuh menyebabkan pemanfaatan akan pangan fungsional meningkat (Suter, 2013). Pangan fungsional merupakan suatu pangan olahan yang didalamnya mengandung satu atau banyak komponen fungsional yang berdasarkan kajian-kajian tertentu memiliki fungsi fisiologis tertentu yang bermanfaat untuk kesehatan tubuh dan tidak membahayakan bagi tubuh (BPOM, 2005). Berbagai macam produk pangan fungsional telah beredar dipasaran dan diterima masyarakat dengan baik, salah satu contohnya yaitu minuman herbal. Kecenderungan untuk kembali ke alam berpengaruh terhadap meningkatnya kebutuhan akan tanaman rempah dan obat, penggunaan tanaman rempah dan obat juga dianggap tidak memberikan efek samping yang berbahaya seperti obat sintetis (Winarti & Nurdjanah, 2005). Minuman herbal cukup populer di kalangan konsumen yang

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