

## 7. LAMPIRAN

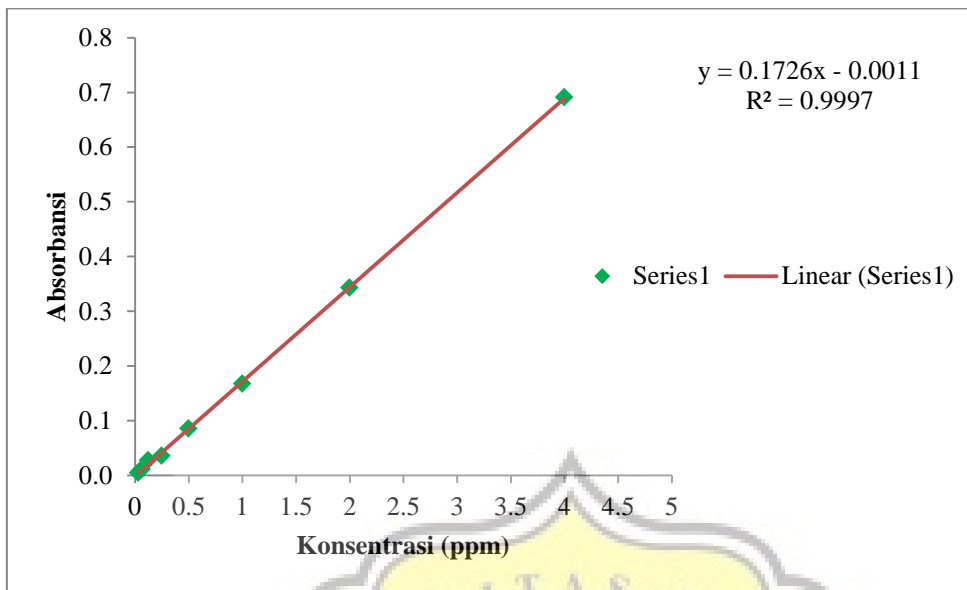
### Lampiran 1. Penentuan Panjang Gelombang Maksimal



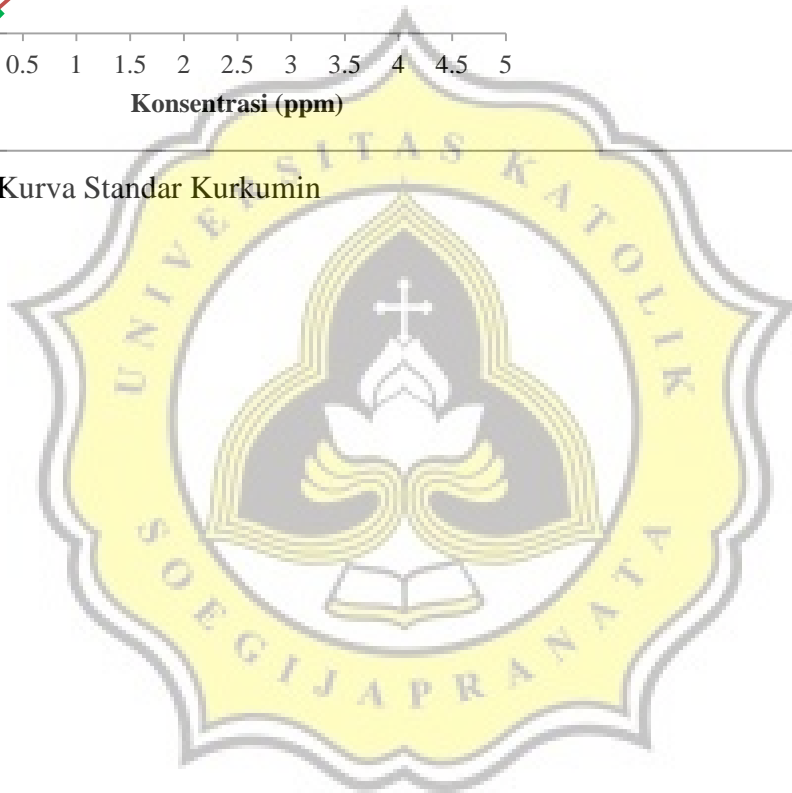
Gambar 14. Penentuan Panjang Gelombang Maksimal Larutan DPPH



Gambar 15. Penentuan Panjang Gelombang Maksimal Larutan Standar Kurkumin

**Lampiran 2. Kurva Standar Kurkumin**

Gambar 16. Kurva Standar Kurkumin



### Lampiran 3. Hasil Pengolahan SPSS

#### 3.a. Uji Normalitas

		Tests of Normality <sup>a</sup>					
		Kolmogorov-Smirnov <sup>b</sup>			Shapiro-Wilk		
	Perlakuan	Statistic	df	Sig.	Statistic	df	Sig.
Aw_Basah	Kontrol	.158	6	.200 <sup>c</sup>	.965	6	.856
	HB_3	.158	6	.200 <sup>c</sup>	.968	6	.880
	HB_5	.164	6	.200 <sup>c</sup>	.979	6	.948
	HB_10	.172	6	.200 <sup>c</sup>	.954	6	.772
	AS_HB_3	.213	6	.200 <sup>c</sup>	.894	6	.337
	AS_HB_5	.189	6	.200 <sup>c</sup>	.965	6	.854
	AS_HB_10	.178	6	.200 <sup>c</sup>	.951	6	.752
Aw_Kering	Kontrol	.128	6	.200 <sup>c</sup>	.972	6	.902
	HB_3	.261	6	.200 <sup>c</sup>	.880	6	.269
	HB_5	.225	6	.200 <sup>c</sup>	.938	6	.642
	HB_10	.282	6	.146	.930	6	.579
	AS_HB_3	.266	6	.200 <sup>c</sup>	.912	6	.453
	AS_HB_5	.205	6	.200 <sup>c</sup>	.934	6	.613
	AS_HB_10	.280	6	.156	.900	6	.372
Antioksidan_Sebelum_Wet	Kontrol	.189	6	.200 <sup>c</sup>	.958	6	.804
	HB_3	.218	6	.200 <sup>c</sup>	.940	6	.660
	HB_5	.177	6	.200 <sup>c</sup>	.945	6	.702
	HB_10	.235	6	.200 <sup>c</sup>	.942	6	.674
	AS_HB_3	.270	6	.197	.874	6	.241
	AS_HB_5	.187	6	.200 <sup>c</sup>	.962	6	.835
	AS_HB_10	.213	6	.200 <sup>c</sup>	.961	6	.830
Antioksidan_Sesudah_Wet	Kontrol	.313	6	.067	.737	6	.015
	HB_3	.309	6	.075	.738	6	.015
	HB_5	.282	6	.147	.825	6	.097
	HB_10	.202	6	.200 <sup>c</sup>	.939	6	.653
	AS_HB_3	.206	6	.200 <sup>c</sup>	.942	6	.673
	AS_HB_5	.211	6	.200 <sup>c</sup>	.879	6	.265
	AS_HB_10	.243	6	.200 <sup>c</sup>	.907	6	.415
Antioksidan_Sebelum_Dry	Kontrol	.266	6	.200 <sup>c</sup>	.838	6	.125
	HB_3	.318	6	.058	.691	6	.005
	HB_5	.262	6	.200 <sup>c</sup>	.839	6	.128
	HB_10	.299	6	.100	.787	6	.044
	AS_HB_3	.316	6	.061	.707	6	.007
	AS_HB_5	.255	6	.200 <sup>c</sup>	.883	6	.284
	AS_HB_10	.243	6	.200 <sup>c</sup>	.869	6	.222
Antioksidan_Sesudah_Dry	Kontrol	.313	6	.067	.737	6	.015
	HB_3	.308	6	.078	.743	6	.017
	HB_5	.283	6	.144	.821	6	.090
	HB_10	.213	6	.200 <sup>c</sup>	.926	6	.553
	AS_HB_3	.249	6	.200 <sup>c</sup>	.881	6	.274
	AS_HB_5	.207	6	.200 <sup>c</sup>	.896	6	.353
	AS_HB_10	.285	6	.140	.885	6	.291

Kurkumin_Sebelum_Wet	Kontrol	.126	6	.200'	.994	6	.997
	HB_3	.177	6	.200'	.977	6	.933
	HB_5	.286	6	.137	.803	6	.062
	HB_10	.195	6	.200'	.942	6	.677
	AS_HB_3	.301	6	.096	.791	6	.049
	AS_HB_5	.294	6	.114	.806	6	.066
	AS_HB_10	.306	6	.082	.761	6	.026
Kurkumin_Sesudah_Wet	Kontrol	.197	6	.200'	.922	6	.519
	HB_3	.135	6	.200'	.974	6	.916
	HB_5	.319	6	.057	.689	6	.005
	HB_10	.239	6	.200'	.889	6	.314
	AS_HB_3	.299	6	.102	.755	6	.022
	AS_HB_5	.310	6	.074	.714	6	.009
	AS_HB_10	.307	6	.079	.762	6	.026
Kurkumin_Sebelum_Dry	Kontrol	.202	6	.200'	.901	6	.382
	HB_3	.308	6	.079	.748	6	.019
	HB_5	.209	6	.200'	.971	6	.902
	HB_10	.176	6	.200'	.937	6	.632
	AS_HB_3	.318	6	.059	.699	6	.006
	AS_HB_5	.300	6	.098	.785	6	.043
	AS_HB_10	.302	6	.093	.781	6	.039
Kurkumin_Sesudah_Dry	Kontrol	.207	6	.200'	.923	6	.526
	HB_3	.231	6	.200'	.879	6	.264
	HB_5	.319	6	.057	.689	6	.005
	HB_10	.269	6	.200'	.893	6	.335
	AS_HB_3	.293	6	.117	.771	6	.031
	AS_HB_5	.310	6	.074	.714	6	.009
	AS_HB_10	.305	6	.085	.774	6	.034

a. Lilliefors Significance Correction

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

#### Tests of Normality

Proses 2	Kolmogorov-Smirnov <sup>a</sup>			Shapiro-Wilk			
	Statistic	df	Sig.	Statistic	df	Sig.	
Antioksidan	Seduh	.134	36	.101	.947	36	.085
	Rebus	.137	36	.087	.931	36	.028

a. Lilliefors Significance Correction

#### Tests of Normality

Proses	Kolmogorov-Smirnov <sup>a</sup>			Shapiro-Wilk			
	Statistic	df	Sig.	Statistic	df	Sig.	
Kurkumin	Seduh	.237	72	.000	.868	72	.000
	Rebus	.241	72	.000	.823	72	.000

a. Lilliefors Significance Correction

## 3.b. Uji T

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Kontrol_Aw	Equal variances assumed	6.042	.034	109.467	10	.000	.604333	.005521	.592033	.616634
	Equal variances not assumed			109.467	6.309					
HB_3_Aw	Equal variances assumed	10.934	.008	73.541	10	.000	.578333	.007864	.560811	.595856
	Equal variances not assumed			73.541	6.007					
HB_5_Aw	Equal variances assumed	8.903	.014	115.962	10	.000	.605833	.005224	.594193	.617474
	Equal variances not assumed			115.962	6.835					
HB_10_Aw	Equal variances assumed	.344	.571	241.203	10	.000	.601667	.002494	.596109	.607225
	Equal variances not assumed			241.203	8.316					
AS_HB_3_Aw	Equal variances assumed	3.772	.081	210.764	10	.000	.532500	.002527	.526871	.538129
	Equal variances not assumed			210.764	7.333					
AS_HB_5_Aw	Equal variances assumed	3.318	.099	129.887	10	.000	.559000	.004304	.549411	.568589
	Equal variances not assumed			129.887	7.020					
AS_HB_10_Aw	Equal variances assumed	.400	.541	109.428	10	.000	.560000	.005118	.548597	.571403
	Equal variances not assumed			109.428	9.458					

## Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Kontrol_Antioksidan_Wet Basis	Equal variances assumed	380.048	.000	9.667	10	.000	24.703333	2.555349	19.009661	30.397005
	Equal variances not assumed			9.667	5.170	.000	24.703333	2.555349	18.199018	31.207648
HB_3_Antioksidan_Wet Basis	Equal variances assumed	733.220	.000	14.802	10	.000	21.775000	1.471072	18.497247	25.052753
	Equal variances not assumed			14.802	5.037	.000	21.775000	1.471072	18.001904	25.548096
HB_5_Antioksidan_Wet Basis	Equal variances assumed	59.383	.000	17.129	10	.000	25.063333	1.463235	21.803043	28.323623
	Equal variances not assumed			17.129	5.418	.000	25.063333	1.463235	21.387612	28.739055
HB_10_Antioksidan_Wet Basis	Equal variances assumed	18.308	.002	18.480	10	.000	25.366667	1.372622	22.308273	28.425060
	Equal variances not assumed			18.480	5.500	.000	25.366667	1.372622	21.932608	28.800726
AS_HB_3_Antioksidan_WetBasis	Equal variances assumed	.504	.494	22.135	10	.000	22.033333	.995422	19.815394	24.251272
	Equal variances not assumed			22.135	9.586	.000	22.033333	.995422	19.802352	24.264314
AS_HB_5_Antioksidan_WetBasis	Equal variances assumed	7.895	.018	25.965	10	.000	27.866667	1.073228	25.475366	30.257967
	Equal variances not assumed			25.965	5.938	.000	27.866667	1.073228	25.233957	30.499376
AS_HB_10_Antioksidan_WetBasis	Equal variances assumed	.320	.584	57.834	10	.000	22.243333	.384609	21.386370	23.100297
	Equal variances not assumed			57.834	9.144	.000	22.243333	.384609	21.375365	23.111302

## Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Kontrol_Antioksidan_Dry Basis	Equal variances assumed	56.583	.000	52.670	10	.000	444.343333	8.436351	425.545972	463.140695
	Equal variances not assumed			52.670	6.064				423.752905	464.933762
HB_3_Antioksidan_Dry Basis	Equal variances assumed	35742.220	.000	16.181	10	.000	352.013333	21.755359	303.539373	400.487294
	Equal variances not assumed			16.181	5.042				296.227743	407.798924
HB_5_Antioksidan_Dry Basis	Equal variances assumed	62.054	.000	59.045	10	.000	460.463333	7.798472	443.087255	477.839412
	Equal variances not assumed			59.045	5.400				440.855513	480.071154
HB_10_Antioksidan_Dry Basis	Equal variances assumed	123.599	.000	78.141	10	.000	484.055000	6.194645	470.252472	497.857528
	Equal variances not assumed			78.141	5.630				468.652743	499.457257
AS_HB_3_Antioksidan_DryBasis	Equal variances assumed	4724.922	.000	9.266	10	.000	482.725000	52.094792	366.650571	598.799429
	Equal variances not assumed			9.266	5.003				348.837815	616.612185
AS_HB_5_Antioksidan_DryBasis	Equal variances assumed	28.937	.000	137.256	10	.000	534.873333	3.896912	526.190472	543.556195
	Equal variances not assumed			137.256	5.789				525.253092	544.493574
AS_HB_10_Antioksidan_DryBasis	Equal variances assumed	61.136	.000	112.754	10	.000	537.830000	4.769950	527.201888	548.458112
	Equal variances not assumed			112.754	5.033				525.592600	550.067400



## Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Kontrol_Kurkumin_Dry Basis	Equal variances assumed	31.274	.000	1.095	10	.299	665.890333	607.958318	-688.725216	2020.505883
	Equal variances not assumed			1.095	5.161	.322	665.890333	607.958318	-882.332051	2214.112718
HB_3_Kurkumin_Dry Basis	Equal variances assumed	672.425	.000	.621	10	.549	1551.130000	2499.106858	-4017.227087	7119.487087
	Equal variances not assumed			.621	5.063	.562	1551.130000	2499.106858	-4849.047209	7951.307209
HB_5_Kurkumin_Dry Basis	Equal variances assumed	8302.091	.000	.597	10	.564	3831.537500	6419.450358	-1.047189E4	1.813496E4
	Equal variances not assumed			.597	5.011	.577	3831.537500	6419.450358	-1.265899E4	2.032207E4
HB_10_Kurkumin_Dry Basis	Equal variances assumed	.162	.696	39.735	10	.000	1.390117E4	349.844351	1.312166E4	1.468067E4
	Equal variances not assumed			39.735	9.995	.000	1.390117E4	349.844351	1.312162E4	1.468072E4
AS_HB_3_Kurkumin_Dry Basis	Equal variances assumed	4175.599	.000	.332	10	.747	2643.987833	7959.901027	-1.509178E4	2.037975E4
	Equal variances not assumed			.332	5.357	.752	2643.987833	7959.901027	-1.741425E4	2.270222E4
AS_HB_5_Kurkumin_Dry Basis	Equal variances assumed	352.104	.000	4.883	10	.001	1.673680E4	3427.413945	9100.047661	2.437356E4
	Equal variances not assumed			4.883	6.705	.002	1.673680E4	3427.413945	8559.416322	2.491419E4
AS_HB_10_Kurkumin_DryBasis	Equal variances assumed	192.743	.000	4.153	10	.002	1.184855E4	2852.943896	5491.790696	1.820530E4
	Equal variances not assumed			4.153	5.543	.007	1.184855E4	2852.943896	4725.712384	1.897138E4

**Independent Samples Test**

		Levene's Test for Equality of Variances		t-Test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Anfoksolan	Equal variances assumed	7.491	.008	-5.820	70	.000	-10.782500	1.852773	-14.477739	-7.087261
	Equal variances not assumed			-5.820	82.243	.000	-10.782500	1.852773	-14.485853	-7.079147

**Independent Samples Test**

		Levene's Test for Equality of Variances		t-Test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Kukumin	Equal variances assumed	82.145	.000	-7.588	142	.000	-338.646958	44.630756	-436.873528	-250.420388
	Equal variances not assumed			-7.588	80.732	.000	-338.646958	44.630756	-427.452631	-249.841286

### 3.c. Uji Duncan Hasil Aktivitas Air

**Aw\_Basah**

Duncan

Perlakuan	N	Subset		
		1	2	3
AS_HB_3	6	.95850		
HB_5	6	.96483	.96483	
AS_HB_10	6		.96817	.96817
HB_10	6		.96833	.96833
Kontrol	6		.96983	.96983
AS_HB_5	6		.97017	.97017
HB_3	6			.97433
Sig.		.126	.248	.182

Means for groups in homogeneous subsets are displayed.  
Based on observed means.  
The error term is Mean Square(Error) = 4,88E-005.

**Aw\_Kering**

Duncan

Perlakuan	N	Subset			
		1	2	3	4
HB_5	6	.35900			
Kontrol	6	.36550			
HB_10	6	.36667			
HB_3	6		.39600		
AS_HB_10	6			.40817	
AS_HB_5	6			.41117	
AS_HB_3	6				.42600
Sig.		.225	1.000	.612	1.000

Means for groups in homogeneous subsets are displayed.  
Based on observed means.  
The error term is Mean Square(Error) = ,000.

### 3.d. Uji Duncan Hasil Aktivitas Antioksidan

#### Antioksidan\_Sebelum\_Wet

Duncan

Perlakuan	N	Subset		
		1	2	3
AS_HB_5	6	8.5506E1		
HB_3	6	8.6003E1	8.6003E1	
Kontrol	6	8.6578E1	8.6578E1	8.6578E1
HB_5	6	8.6626E1	8.6626E1	8.6626E1
AS_HB_3	6		8.6801E1	8.6801E1
HB_10	6		8.6948E1	8.6948E1
AS_HB_10	6			8.7530E1
Sig.		.067	.131	.128

Means for groups in homogeneous subsets are displayed.  
Based on observed means.  
The error term is Mean Square(Error) = ,894.

#### Antioksidan\_Sesudah\_Wet

Duncan

Perlakuan	N	Subset	
		1	2
AS_HB_5	6	5.7640E1	
HB_5	6	6.1563E1	6.1563E1
HB_10	6	6.1581E1	6.1581E1
Kontrol	6	6.1875E1	6.1875E1
HB_3	6		6.4228E1
AS_HB_3	6		6.4768E1
AS_HB_10	6		6.5286E1
Sig.		.059	.110

Means for groups in homogeneous subsets are displayed.  
Based on observed means.  
The error term is Mean Square(Error) = 11,972.

**Antioksidan\_Sebelum\_Dry**

Duncan

Perlakuan	N	Subset		
		1	2	3
HB_3	6	4.1907E2		
Kontrol	6		5.0863E2	
HB_5	6		5.2435E2	
HB_10	6		5.4826E2	5.4826E2
AS_HB_3	6		5.5049E2	5.5049E2
AS_HB_5	6			5.9529E2
AS_HB_10	6			6.0616E2
Sig.		1.000	.228	.096

Means for groups in homogeneous subsets are displayed.  
Based on observed means.  
The error term is Mean Square(Error) = 2897,030.

**Antioksidan\_Sesudah\_Dry**

Duncan

Perlakuan	N	Subset	
		1	2
AS_HB_5	6	6.0416E1	
HB_5	6	6.3891E1	6.3891E1
HB_10	6	6.4208E1	6.4208E1
Kontrol	6	6.4295E1	6.4295E1
HB_3	6		6.7063E1
AS_HB_3	6		6.7768E1
AS_HB_10	6		6.8338E1
Sig.		.101	.071

Means for groups in homogeneous subsets are displayed.  
Based on observed means.  
The error term is Mean Square(Error) = 13,367.

### 3.e. Uji Duncan Hasil Kadar Kurkumin

#### Kurkumin\_Sebelum\_Dry

Duncan

Perlakuan	N	Subset			
		1	2	3	4
Kontrol	6	4.7537E4			
HB_3	6	4.7999E4			
HB_5	6		6.7830E4		
AS_HB_3	6			7.8961E4	
HB_10	6			8.1729E4	
AS_HB_10	6			8.3476E4	8.3476E4
AS_HB_5	6				9.2230E4
Sig.		.922	1.000	.372	.071

Means for groups in homogeneous subsets are displayed.  
Based on observed means.  
The error term is Mean Square(Error) = 66278937,306.

#### Kurkumin\_Sesudah\_Dry

Duncan

Perlakuan	N	Subset		
		1	2	3
HB_3	6	4.6448E4		
Kontrol	6	4.6871E4		
HB_5	6		6.3998E4	
HB_10	6		6.7828E4	6.7828E4
AS_HB_10	6		7.1628E4	7.1628E4
AS_HB_5	6			7.5494E4
AS_HB_3	6			7.6317E4
Sig.		.915	.073	.054

Means for groups in homogeneous subsets are displayed.  
Based on observed means.  
The error term is Mean Square(Error) = 46172515,810.

### 3.f. Uji Duncan Hasil Aktivitas Antioksidan Produk Aplikasi

#### Antioksidan

Duncan				
Konsentrasi	N	Substet		
		1	2	3
1%	24	1.1235E1		
4%	24		2.0892E1	
8%	24			2.7799E1
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) = 44,857.

#### Antioksidan

Duncan		
Perlakuan	N	Substet
		1
AS HB 10	18	1.6569E1
AS HB 5	18	1.9489E1
HB 10	18	2.1231E1
AS HB 3	18	2.2612E1
Sig.		.083

Means for groups in homogeneous subsets are displayed.  
Based on observed means.  
The error term is Mean Square(Error) = 88,992.

### 3.g. Uji Duncan Hasil Kadar Kurkumin Produk Aplikasi

#### Kurkumin

Duncan			
Perlakuan	N	Substet	
		1	2
AS HB 5	36	2.4791E2	
AS HB 3	36	3.1058E2	
AS HB 10	36	3.1725E2	
HB 10	36		5.7944E2
Sig.		.348	1.000

Means for groups in homogeneous subsets are displayed.  
Based on observed means.  
The error term is Mean Square(Error) = 85525,944.

**Kurkumin**

Duncan

Konsentrasi	N	Subset	
		1	2
8%	48	1.9676E2	
4%	48	2.8081E2	
1%	48		6.1381E2
Sig.		.118	1.000

Means for groups in homogeneous subsets are displayed.  
Based on observed means.  
The error term is Mean Square(Error) = 68375,938.

