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LAMPIRAN

Lampiran 1. Data Hasil Pengujian Stabilitas emulsi w/o/w

Between-Subjects Factors

		Value Label	N
IPK	1.00	1	6
	2.00	2	6
NaCl	1.00	1	6
	2.00	2	6

Tests of Between-Subjects Effects

Dependent Variable: Stabilitas

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	496.229 ^a	3	165.410	75.616	.000	.966
Intercept	29057.521	1	29057.521	13283.438	.000	.999
IPK	266.021	1	266.021	121.610	.000	.938
NaCl	157.688	1	157.688	72.086	.000	.900
IPK * NaCl	72.521	1	72.521	33.152	.000	.806
Error	17.500	8	2.188			
Total	29571.250	12				
Corrected Total	513.729	11				

a. R Squared = .966 (Adjusted R Squared = .953)

Lampiran 2. Data Hasil Pengujian PH emulsi w/o/w

Between-Subjects Factors

		Value Label	N
Ipk	1.00	1	6
	2.00	2	6
NaCl	1.00	1	6
	2.00	2	6

Tests of Between-Subjects Effects

Dependent Variable: pH

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	3.929 ^a	3	1.310	261.944	.000	.990
Intercept	556.241	1	556.241	111248.167	.000	1.000
Ipk	3.741	1	3.741	748.167	.000	.989
NaCl	.188	1	.188	37.500	.000	.824
Ipk * NaCl	.001	1	.001	.167	.694	.020
Error	.040	8	.005			
Total	560.210	12				
Corrected Total	3.969	11				

a. R Squared = .990 (Adjusted R Squared = .986)

Lampiran 3. Data Hasil Pengujian Warna L emulsi w/o/w

Between-Subjects Factors

		Value Label	N
lpk	1.00	1	6
	2.00	2	6
NaCl	1.00	1	6
	2.00	2	6

Tests of Between-Subjects Effects

Dependent Variable: L

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	16.823 ^a	3	5.608	14.493	.001	.845
Intercept	37375.957	1	37375.957	96599.501	.000	1.000
lpk	14.852	1	14.852	38.385	.000	.828
NaCl	1.896	1	1.896	4.900	.058	.380
lpk * NaCl	.075	1	.075	.194	.671	.024
Error	3.095	8	.387			
Total	37395.876	12				
Corrected Total	19.918	11				

a. R Squared = .845 (Adjusted R Squared = .786)

Lampiran 4. Data Hasil Pengujian Warna a emulsiw/o/w

Between-Subjects Factors

		Value Label	N
lpk	1.00	1	6
	2.00	2	6
NaCl	1.00	1	6
	2.00	2	6

Tests of Between-Subjects Effects

Dependent Variable: a

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	24.612 ^a	3	8.204	5350.397	.000	1.000
Intercept	940.755	1	940.755	613536.005	.000	1.000
lpk	24.567	1	24.567	16022.223	.000	1.000
NaCl	.042	1	.042	27.397	.001	.774
lpk * NaCl	.002	1	.002	1.571	.245	.164
Error	.012	8	.002			
Total	965.379	12				
Corrected Total	24.624	11				

a. R Squared = 1.000 (Adjusted R Squared = .999)

Lampiran 5. Data Hasil Pengujian Warna b emulsi w/o/w

Between-Subjects Factors

		Value Label	N
lpk	1.00	1	6
	2.00	2	6
NaCl	1.00	1	6
	2.00	2	6

Tests of Between-Subjects Effects

Dependent Variable: b

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	3.036 ^a	3	1.012	3571.882	.000	.999
Intercept	30.784	1	30.784	108649.529	.000	1.000
lpk	2.980	1	2.980	10517.765	.000	.999
NaCl	.056	1	.056	197.765	.000	.961
lpk * NaCl	3.333E-5	1	3.333E-5	.118	.740	.014
Error	.002	8	.000			
Total	33.822	12				
Corrected Total	3.038	11				

a. R Squared = .999 (Adjusted R Squared = .999)

Lampiran 6. Data Hasil Pengujian Viskositas emulsi w/o/w

Between-Subjects Factors

		Value Label	N
lpk	1.00	1	6
	2.00	2	6
NaCl	1.00	1	6
	2.00	2	6

Tests of Between-Subjects Effects

Dependent Variable: Viskositas

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	8.495 ^a	3	2.832	548.952	.000	.995
Intercept	1048.883	1	1048.883	203337.578	.000	1.000
lpk	8.317	1	8.317	1612.279	.000	.995
NaCl	.166	1	.166	32.118	.000	.801
lpk * NaCl	.013	1	.013	2.457	.156	.235
Error	.041	8	.005			
Total	1057.419	12				
Corrected Total	8.536	11				

a. R Squared = .995 (Adjusted R Squared = .993)

Lampiran 7. Data Hasil Pengujian Stabilitas emulsi mikropartikel

Between-Subjects Factors

		Value Label	N
MSG	1.00	1	9
	2.00	2	9
	3.00	3	9
NaCl	1.00	1	9
	2.00	2	9
	3.00	3	9

Tests of Between-Subjects Effects

Dependent Variable: Stabilitas

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	139.383 ^a	8	17.423	28.649	.000	.927
Intercept	30670.370	1	30670.370	50432.400	.000	1.000
A	93.354	2	46.677	76.753	.000	.895
B	6.436	2	3.218	5.292	.016	.370
A * B	39.593	4	9.898	16.276	.000	.783
Error	10.947	18	.608			
Total	30820.700	27				
Corrected Total	150.330	26				

a. R Squared = .927 (Adjusted R Squared = .895)

Lampiran 8. Data Hasil Pengujian pH emulsi mikropartikel

Between-Subjects Factors

		Value Label	N
MSG	1.00	1	9
	2.00	2	9
	3.00	3	9
NaCl	1.00	1	9
	2.00	2	9
	3.00	3	9

Tests of Between-Subjects Effects

Dependent Variable: pH

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	7.650 ^a	8	.956	31.678	.000	.934
Intercept	1203.336	1	1203.336	39865.107	.000	1.000
A	5.948	2	2.974	98.523	.000	.916
B	.352	2	.176	5.837	.011	.393
A * B	1.349	4	.337	11.177	.000	.713
Error	.543	18	.030			
Total	1211.529	27				
Corrected Total	8.193	26				

a. R Squared = .934 (Adjusted R Squared = .904)

pH

Duncan^{a,b}

MSG	N	Subset		
		1	2	3
1	9	6.1489		
3	9		6.5900	
2	9			7.2889
Sig.		1.000	1.000	1.000

Duncan^{a,b}

NaCl	N	Subset	
		1	2
3	9	6.5211	
1	9		6.7133
2	9		6.7933
Sig.		1.000	.342

Lampiran 9. Data Hasil Pengujian Warna L emulsi mikropartikel

Between-Subjects Factors

		Value Label	N
MSG	1.00	1	9
	2.00	2	9
	3.00	3	9
NaCl	1.00	1	9
	2.00	2	9
	3.00	3	9

Tests of Between-Subjects Effects

Dependent Variable: Warna L

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model ^a	448.856	8	56.107	141.450	.000	.984
Intercept	94675.015	1	94675.015	238683.193	.000	1.000
A	408.267	2	204.133	514.636	.000	.983
B	24.091	2	12.045	30.367	.000	.771
A * B	16.499	4	4.125	10.399	.000	.698
Error	7.140	18	.397			
Total	95131.011	27				
Corrected Total	455.996	26				

a. R Squared = .984 (Adjusted R Squared = .977)

Duncan^{a,b}

MSG	N	Subset		
		1	2	3
3	9	53.7589		
2	9		61.3522	
1	9			62.5356
Sig.		1.000	1.000	1.000

Duncan^{a,b}

NaCl	N	Subset	
		1	2
3	9	57.9100	
2	9		59.6233
1	9		60.1133
Sig.		1.000	.116

Lampiran 10. Data Hasil Pengujian Warna a emulsi mikropartikel

Between-Subjects Factors

Lampiran 10		Value Label	N
MSG	1.00	1	9
	2.00	2	9
	3.00	3	9
NaCl	1.00	1	9
	2.00	2	9
	3.00	3	9

Tests of Between-Subjects Effects

Dependent Variable: Wana a

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	183.566 ^a	8	22.946	1.998	.106	.470
Intercept	1471.277	1	1471.277	128.092	.000	.877
A	147.354	2	73.677	6.414	.008	.416
B	11.140	2	5.570	.485	.624	.051
A * B	25.072	4	6.268	.546	.704	.108
Error	206.749	18	11.486			
Total	1861.592	27				
Corrected Total	390.315	26				

a. R Squared = .470 (Adjusted R Squared = .235)

Wana aDuncan^{a,b}

MSG	N	Subset	
		1	2
2	9	- 10.2544	
1	9	-7.3589	-7.3589
3	9		-4.5322
Sig.		.087	.094

Wana aDuncan^{a,b}

NaCl	N	Subset
		1
3	9	-8.1722
1	9	-7.3744
2	9	-6.5989
Sig.		.364

Lampiran 11. Data Hasil Pengujian Warna b emulsi mikropartikel

Between-Subjects Factors

		Value Label	N
MSG	1.00	1	9
	2.00	2	9
	3.00	3	9
NaCl	1.00	1	9
	2.00	2	9
	3.00	3	9

Tests of Between-Subjects Effects

Dependent Variable: Warna b

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	9.614 ^a	8	1.202	15.094	.000	.870
Intercept	121.646	1	121.646	1527.787	.000	.988
A	9.175	2	4.587	57.615	.000	.865
B	.123	2	.062	.774	.476	.079
A * B	.316	4	.079	.993	.437	.181
Error	1.433	18	.080			
Total	132.693	27				
Corrected Total	11.048	26				

a. R Squared = .870 (Adjusted R Squared = .813)

Duncan^{a,b}

MSG	N	Subset	
		1	2
2	9	1.3122	
1	9		2.3967
3	9		2.6589
Sig.		1.000	.064

Warna b

Duncan^{a,b}

NaCl	N	Subset
		1
2	9	2.0678
3	9	2.0822
1	9	2.2178
Sig.		.300

Lampiran 12. Data Hasil Pengujian Viskositas emulsi mikropartikel

Between-Subjects Factors

		Value Label	N
MSG	1.00	1	9
	2.00	2	9
	3.00	3	9
NaCl	1.00	1	9
	2.00	2	9
	3.00	3	9

Tests of Between-Subjects Effects

Dependent Variable: Viskositas

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	20.209 ^a	8	2.526	1003.027	.000	.998
Intercept	2228.414	1	2228.414	884811.531	.000	1.000
A	16.423	2	8.212	3260.472	.000	.997
B	.071	2	.036	14.163	.000	.611
A * B	3.715	4	.929	368.737	.000	.988
Error	.045	18	.003			
Total	2248.669	27				
Corrected Total	20.254	26				

a. R Squared = .998 (Adjusted R Squared = .997)

Duncan^{a,b}

MSG	N	Subset		
		1	2	3
1	9	8.4100		
3	9		8.6667	
2	9			10.1778
Sig.		1.000	1.000	1.000

Duncan^{a,b}

NaCl	N	Subset	
		1	2
2	9	9.0122	
1	9		9.1178
3	9		9.1244
Sig.		1.000	.781

Lampiran 13 Data hasil pengujian warna sayur sup

Between-Subjects Factors

		Value Label	N
MSG	1.00	1	6
	2.00	2	6
	3.00	3.00	6
NaCl	1.00	1	6
	2.00	2	6
	3.00	3.00	6

Tests of Between-Subjects Effects

Dependent Variable: Warna

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	658.444 ^a	8	82.306	41.153	.000	.973
Intercept	12693.556	1	12693.556	6346.778	.000	.999
A	577.778	2	288.889	144.444	.000	.970
B	16.444	2	8.222	4.111	.054	.477
A * B	64.222	4	16.056	8.028	.005	.781
Error	18.000	9	2.000			
Total	13370.000	18				
Corrected Total	676.444	17				

a. R Squared = .973 (Adjusted R Squared = .950)

Duncan^{a,b}

MSG	N	Subset		
		1	2	3
3.00	6	21.0000		
1	6		24.3333	
2	6			34.3333
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) = 2.000.

a. Uses Harmonic Mean Sample Size = 6.000.

b. Alpha = .05.

Duncan^{a,b}

NaCl	N	Subset	
		1	2
3.00	6	25.3333	
1	6	26.6667	26.6667
2	6		27.6667
Sig.		.137	.252

Means for groups in homogeneous subsets are displayed.

Based on observed means.

The error term is Mean Square(Error) = 2.000.

a. Uses Harmonic Mean Sample Size = 6.000.

b. Alpha = .05.

Between-Subjects Factors

		Value Label	N
MSG	1.00	1	6
	2.00	2	6
	3.00	3.00	6
NaCl	1.00	1	6
	2.00	2	6
	3.00	3.00	6

Lampiran 14. Data Hasil Pengujian Aroma sayur sup

Tests of Between-Subjects Effects

Dependent Variable: Aroma

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	216.000 ^a	8	27.000	60.750	.000	.982
Intercept	7442.000	1	7442.000	16744.500	.000	.999
A	79.000	2	39.500	88.875	.000	.952
B	120.333	2	60.167	135.375	.000	.968
A * B	16.667	4	4.167	9.375	.003	.806
Error	4.000	9	.444			
Total	7662.000	18				
Corrected Total	220.000	17				

a. R Squared = .982 (Adjusted R Squared = .966)

Aroma

Duncan^{a,b}

MSG	N	Subset		
		1	2	3
1	6	18.1667		
3.00	6		19.6667	
2	6			23.1667
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) = .444.

a. Uses Harmonic Mean Sample Size = 6.000.

b. Alpha = .05.

Aroma

Duncan^{a,b}

NaCl	N	Subset		
		1	2	3
3.00	6	17.1667		
1	6		20.3333	
2	6			23.5000
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) = .444.

a. Uses Harmonic Mean Sample Size = 6.000.

b. Alpha = .05.

Lampiran 15. Data Hasil Pengujian Rasa Asam Sayur Sup

Between-Subjects Factors

		Value Label	N
MSG	1.00	1	6
	2.00	2	6
	3.00	3.00	6
NaCl	1.00	1	6
	2.00	2	6
	3.00	3.00	6

Tests of Between-Subjects Effects

Dependent Variable: Rasa Asam

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	.694 ^a	8	.087	78.125	.000	.986
Intercept	61.976	1	61.976	55778.000	.000	1.000
A	.568	2	.284	255.500	.000	.983
B	.008	2	.004	3.500	.075	.438
A * B	.119	4	.030	26.750	.000	.922
Error	.010	9	.001			
Total	62.680	18				
Corrected Total	.704	17				

a. R Squared = .986 (Adjusted R Squared = .973)

Rasa Asam

Duncan^{a,b}

MSG	N	Subset		
		1	2	3
3.00	6	1.6833		
1	6		1.7833	
2	6			2.1000
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) = .001.

a. Uses Harmonic Mean Sample Size = 6.000.

b. Alpha = .05.

Rasa Asam

Duncan^{a,b}

NaCl	N	Subset	
		1	2
1	6	1.8333	
2	6	1.8500	1.8500
3.00	6		1.8833
Sig.		.409	.117

Means for groups in homogeneous subsets are displayed.

Based on observed means.

The error term is Mean Square(Error) = .001.

a. Uses Harmonic Mean Sample Size = 6.000.

b. Alpha = .05.

Lampiran 16. Data Hasil Pengujian Rasa Asin Sayur Sup

Between-Subjects Factors

		Value Label	N
MSG	1.00	1	6
	2.00	2	6
	3.00	3.00	6
NaCl	1.00	1	6
	2.00	2	6
	3.00	3.00	6

Tests of Between-Subjects Effects

Dependent Variable: Rasa Asin

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	33.238 ^a	8	4.155	186.962	.000	.994
Intercept	1868.642	1	1868.642	84088.900	.000	1.000
A	27.954	2	13.977	628.975	.000	.993
B	1.108	2	.554	24.925	.000	.847
A * B	4.176	4	1.044	46.975	.000	.954
Error	.200	9	.022			
Total	1902.080	18				
Corrected Total	33.438	17				

a. R Squared = .994 (Adjusted R Squared = .989)

Rasa Asin

Duncan^{a,b}

MSG	N	Subset	
		1	2
1	6	9.2500	
3.00	6	9.3667	
2	6		11.9500
Sig.		.208	1.000

Means for groups in homogeneous subsets are displayed.

Based on observed means.

The error term is Mean

Square(Error) = .022.

a. Uses Harmonic Mean Sample Size = 6.000.

b. Alpha = .05.

Rasa Asin

Duncan^{a,b}

NaCl	N	Subset		
		1	2	3
1	6	9.9167		
3.00	6		10.1333	
2	6			10.5167
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) = .022.

a. Uses Harmonic Mean Sample Size = 6.000.

b. Alpha = .05.

Lampiran 1. Data Hasil Pengujian Rasa Manis Sayur Sup

		Value Label	N
MSG	1.00	1	6
	2.00	2	6
	3.00	3.00	6
NaCl	1.00	1	6
	2.00	2	6
	3.00	3.00	6

Tests of Between-Subjects Effects

Dependent Variable: Rasa manis

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	2.168 ^a	8	.271	243.875	.000	.995
Intercept	39.902	1	39.902	35912.000	.000	1.000
A	1.741	2	.871	783.500	.000	.994
B	.374	2	.187	168.500	.000	.974
A * B	.052	4	.013	11.750	.001	.839
Error	.010	9	.001			
Total	42.080	18				
Corrected Total	2.178	17				

a. R Squared = .995 (Adjusted R Squared = .991)

Duncan^{a,b}

MSG	N	Subset		
		1	2	3
3.00	6	1.0500		
1	6		1.6833	
2	6			1.7333
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) = .001.

a. Uses Harmonic Mean Sample Size = 6.000.

b. Alpha = .05.

Duncan^{a,b}

NaCl	N	Subset		
		1	2	3
3.00	6	1.3000		
2	6		1.5167	
1	6			1.6500
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) = .001.

a. Uses Harmonic Mean Sample Size = 6.000.

b. Alpha = .05.

Lampiran 18. Data Hasil Pengujian Rasa Pahit Sayur Sup

Between-Subjects Factors

		Value Label	N
MSG	1.00	1	6
	2.00	2	6
	3.00	3.00	6
NaCl	1.00	1	6
	2.00	2	6
	3.00	3.00	6

Tests of Between-Subjects Effects

Dependent Variable: Rasa Pahit

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	.350 ^a	8	.044	39.375	.000	.972
Intercept	2.880	1	2.880	2592.000	.000	.997
A	.303	2	.152	136.500	.000	.968
B	.043	2	.022	19.500	.001	.812
A * B	.003	4	.001	.750	.582	.250
Error	.010	9	.001			
Total	3.240	18				
Corrected Total	.360	17				

a. R Squared = .972 (Adjusted R Squared = .948)

Duncan^{a,b}

MSG	N	Subset		
		1	2	3
3.00	6	.2333		
2	6		.4167	
1	6			.5500
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) = .001.

a. Uses Harmonic Mean Sample Size = 6.000.

b. Alpha = .05.

Duncan^{a,b}

NaCl	N	Subset	
		1	2
3.00	6	.3500	
2	6	.3833	
1	6		.4667
Sig.		.117	1.000

Means for groups in homogeneous subsets are displayed.

Based on observed means.

The error term is Mean Square(Error) = .001.

a. Uses Harmonic Mean Sample Size = 6.000.

b. Alpha = .05.

Lampiran 19. Data Hasil Pengujian Rasa Umami Sayur Sup

Between-Subjects Factors

		Value Label	N
MSG	1.00	1	6
	2.00	2	6
	3.00	3.00	6
NaCl	1.00	1	6
	2.00	2	6
	3.00	3.00	6

Tests of Between-Subjects Effects

Dependent Variable: Rasa Umami

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	391.700 ^a	8	48.962	625.053	.000	.998
Intercept	6193.845	1	6193.845	79070.362	.000	1.000
A	348.863	2	174.432	2226.787	.000	.998
B	3.803	2	1.902	24.277	.000	.844
A * B	39.033	4	9.758	124.574	.000	.982
Error	.705	9	.078			
Total	6586.250	18				
Corrected Total	392.405	17				

a. R Squared = .998 (Adjusted R Squared = .997)

Duncan^{a,b}

MSG	N	Subset		
		1	2	3
1	6	13.1333		
3.00	6		18.6000	
2	6			23.9167
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) = .078.

a. Uses Harmonic Mean Sample Size = 6.000.

b. Alpha = .05.

Duncan^{a,b}

NaCl	N	Subset		
		1	2	3
1	6	17.9500		
3.00	6		18.6333	
2	6			19.0667
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) = .078.

a. Uses Harmonic Mean Sample Size = 6.000.

b. Alpha = .05.

Lampiran 20. Dokumentasi penelitian

1. Peersiapan bahan





2. Uji stabilitas emulsi



3. Uji pH





4. Uji viskositas



5. Uji warna





6. Uji jumlah partikel



7. Uji sensorik



Lampiran 21. Lembaran kuisisioner**Kuisisioner uji organoleptik metode hedonik**

Nama :

Tanggal :

No.Hp :

Di hadapan anda disajikan 8 sampel emulsi w/o/w yang diaplikasikan ke makanan berkuah yaitu sayur sup, anda diminta memberikan penilaian terhadap warna dan aroma pada sampel berdasarkan tingkat kesukaan/ketidaksukaan anda terhadap sampel tersaji.

Kode Sampel	Warna	Aroma
110		
120		
420		
460		
240		
280		
360		
390		

Keterangan:

1. Tidak suka
2. Agak suka
3. Netral
4. Suka
5. Sangat suka

Kuisisioner pengujian organoleptik skala garis

Kode Sampel :

Nama :

Tanggal :

No.HP :

Di hadapan anda disajikan 8 sampel Emulsi W/O/W, yang diaplikasikan ke makanan Berkuah yaitu sayur sup, anda diminta memberikan penilaian terhadap Rasa (manis, asin, asam, pahit dan umami), dengan memberi tanda **Garis Vertikal (|)** pada skala bergaris di bawah ini:

Rasa manis

Tidak manis ————— Sangat manis

Rasa manis

Tidak asam ————— Sangat asam

Rasa pahit

Tidak pahit ————— Sangat pahit

Rasa asin

Tidak Asin ————— Sangat asin

Rasa umami

Tidak Umami ————— Sangat umami

Lampiran 22. Jumlah partikel

**Perlakuan
(MSG kontrol (M1))**

No	M1N1		No	M1N2		No	M1N3	
	Diameter	Luas Area		Diameter	Luas Area		Diameter	Luas Area
1	47,51	1773,49	1	8,57	57,66	1	14,92	174,92
2	17,91	252,11	2	11,42	102,41	2	11,77	108,87
3	16,1	203,70	3	9,28	67,59	3	21,00	346,37
4	21,24	354,48	4	8,29	53,96	4	14,75	170,94
5	9,43	69,91	5	13,49	142,86	5	12,92	131,16
6	8,61	58,31	6	16,52	214,38	6	16,69	218,65
7	9,18	66,30	7	12,00	113,03	7	14,27	159,95
8	14,98	176,36	8	13,94	152,67	8	16,91	224,71
9	22,20	387,09	9	20,47	329,10	9	16,91	224,70
10	28,08	619,42	10	26,25	541,26	10	19,02	284,07
11	12,26	118,06	11	23,45	431,71	11	20,41	327,10
12	17,52	241,21	12	22,06	382,27	12	14,89	174,19
13	14,53	166,03	13	6,95	37,92	13	12,10	114,99
14	13,63	146,02	14	11,61	105,80	14	12,14	115,71
15	17,02	227,68	15	10,15	80,99	15	11,66	106,83
16	16,99	226,79	16	9,11	65,22	16	10,83	92,13
17	15,48	188,23	17	7,16	40,27	17	8,97	63,15
18	16,50	213,89	18	9,36	68,79	18	8,99	63,42
19	14,99	176,69	19	8,43	55,83	19	13,76	148,74
20	21,43	361,02	20	11,77	108,81	20	16,84	222,65
21	11,39	102,04	21	10,66	89,19	21	16,97	226,07
22	12,56	123,98	22	11,48	103,57	22	12,91	130,84
23	35,22	974,41	23	10,00	78,47	23	13,83	150,19
24	11,03	95,70	24	8,51	56,89	24	11,38	101,65
25	10,16	81,07	25	26,64	557,50	25	21,59	366,00
26	13,36	140,32	26	26,44	549,19	26	21,24	354,43
27	21,40	359,93	27	36,93	1070,95	27	11,04	95,74
28	16,28	208,32	28	13,85	150,71	28	20,20	320,33
29	27,91	612,20	29	6,67	34,93	29	31,07	757,96
30	10,43	85,59	30	15,74	194,58	30	12,39	120,56
31	11,66	106,82	31	12,47	122,15	31	29,63	689,46
32	10,44	85,61	32	24,73	480,25	32	20,49	329,71
33	13,83	150,38	33	15,23	182,20	33	15,71	193,82
34	11,30	100,43	34	21,20	353,03	34	12,48	122,42

35	15,41	186,57	35	12,16	116,10	35	15,75	194,92
36	14,06	155,43	36	11,08	96,44	36	14,64	168,44
37	10,46	86,02	37	17,33	235,86	37	14,63	168,18
38	15,15	180,38	38	27,68	601,56	38	16,53	214,51
39	34,24	921,18	39	18,58	271,06	39	11,71	107,61
40	8,37	55,09	40	19,33	293,34	40	9,25	67,20
41	12,56	123,92	41	21,17	351,89	41	10,60	88,18
42	12,69	126,56	42	17,33	235,86	42	15,00	176,67
43	15,07	178,54	43	17,77	248,06	43	16,28	208,22
44	14,53	166,03	44	21,07	348,52	44	12,31	118,95
45	23,32	427,31	45	20,92	343,65	45	15,91	198,93
46	23,91	449,1	46	20,31	323,87	46	23,62	438,14
47	25,55	513,09	47	29,04	662,56	47	12,35	119,81
48	17,93	252,61	48	24,64	477,00	48	15,39	186,09
49	21,80	373,57	49	31,33	770,98	49	19,36	294,39
50	8,48	56,51	50	16,38	210,82	50	48,56	1852,13
51	7,104	39,63	51	25,87	525,47	51	17,22	232,98
52	7,49	44,104	52	16,20	206,17	52	17,93	252,53
53	6,88	37,25	53	12,02	113,50	53	9,95	77,72
54	8,09	51,44	54	12,30	118,86	54	10,21	81,85
55	7,22	41,01	55	11,79	109,11	55	18,47	267,99
56	8,76	60,36	56	9,31	68,12	56	11,83	109,88
57	16,91	224,76	57	17,70	246,10	57	11,92	111,55
58	6,32	31,37	58	14,20	158,32	58	15,40	186,36
59	9,20	66,49	59	11,76	108,61	59	10,26	82,66
60	7,14	40,14	60	18,45	267,38	60	12,90	130,70
61	8,13	51,92	61	24,95	488,78	61	7,17	40,40
62	8,87	61,86	62	19,36	294,51	62	21,12	350,47
63	22,41	394,72	63	13,13	135,35	63	16,40	211,31
64	7,56	44,97	64	19,11	286,74	64	23,63	438,37
65	8,27	53,77	65	20,64	334,65	65	13,07	134,19
66	4,44	15,50	66	15,56	190,11	66	17,11	229,99
67	14,44	152,13	67	28,95	658,06	67	11,69	107,24
68	8,49	56,68	68	18,72	275,30	68	23,34	428,00
69	13,36	140,23	69	11,87	110,57	69	16,38	210,85
70	8,91	62,40	70	10,60	88,31	70	11,21	98,68
71	8,08	51,34	71	9,45	70,16	71	8,83	61,24
72	13,99	153,72	72	6,66	34,84	72	9,97	78,08
73	8,38	55,21	73	11,67	106,96	73	11,72	107,87
74	8,35	54,79	74	9,93	77,44	74	10,82	91,99
75	17,79	248,59	75	15,31	184,21	75	12,53	123,25

76	21,59	366,28	76	14,15	157,26	76	8,33	54,53
77	9,53	71,42	77	13,61	145,41	77	30,51	730,90
78	11,19	98,43	78	27,56	596,38	78	26,68	559,22
79	11,32	100,77	79	12,66	125,82	79	14,90	174,39
80	16,11	203,86	80	11,32	100,65	80	9,82	75,76
81	12,32	119,32	81	8,45	56,04	81	15,90	198,53
82	7,44	43,55	82	12,22	117,25	82	14,99	176,37
83	8,10	51,56	83	8,90	62,16	83	22,22	387,60
84	11,66	106,77	84	14,18	157,97	84	12,41	120,97
85	11,65	106,63	85	14,09	155,94	85	14,57	166,71
86	19,72	305,54	86	15,84	197,07	86	20,12	317,81
87	14,65	168,66	87	9,99	78,39	87	18,32	263,71
88	16,94	225,48	88	13,55	144,25	88	28,55	640,06
89	11,32	99,20	89	11,48	103,44	89	20,60	333,17
90	7,94	49,55	90	7,55	44,73	90	24,50	471,56
91	5,42	23,10	91	7,78	47,53	91	18,67	273,65
92	9,32	67,01	92	11,40	102,05	92	15,77	195,33
93	8,98	63,42	93	8,67	59,06	93	17,87	250,76
94	15,82	196,56	94	8,90	62,16	94	22,73	405,64
95	14,06	155,26	95	15,45	187,54	95	24,54	473,16
96	18,22	200,99	96	13,69	147,20	96	13,90	151,67
97	10,54	87,40	97	18,04	255,72	97	30,60	735,53
98	7,93	49,43	98	8,61	58,18	98	20,81	340,04
99	7,55	44,02	99	8,79	60,73	99	13,34	139,78
100	11,81	109,57	100	10,19	81,53	100	25,66	517,17
101	8,37	55,09	101	18,31	263,24	101	14,14	157,09
102	16,06	202,64	102	16,70	218,97	102	18,87	279,58
103	15,61	191,45	103	22,78	407,67	103	13,34	139,78
104	9,79	75,37	104	19,17	288,67	104	13,67	146,78
105	10,65	89,24	105	21,35	358,07	105	11,28	99,98
106	8,62	58,46	106	11,67	106,96	106	9,24	67,00
107	7,25	41,38	107	12,81	128,96	107	12,47	122,04
108	9,54	71,48	108	13,37	140,32	108	10,53	87,04
109	6,74	35,69	109	13,33	139,60	109	13,58	144,93
110	7,10	39,68	110	16,13	204,44	110	17,67	245,13
111	15,96	200,06	111	16,02	201,54	111	13,48	142,66
112	14,67	169,04	112	18,72	275,33	112	15,21	181,68
113	33,04	857,80	113	19,02	284,20	113	16,73	219,80
114	16,91	224,69	114	21,23	353,91	114	19,96	312,81
115	12,91	130,91	115	22,42	394,72	115	19,78	307,18
116	8,08	51,30	116	0,83	0,54	116	18,80	277,50

117	7,17	40,41	117	21,71	370,16	117	12,82	129,05
118	6,67	35,01	118	10,97	94,44	118	19,41	295,98
119	5,89	27,31	119	15,79	195,85	119	22,37	392,93
120	5,38	22,79	120	9,26	67,38	120	13,06	134,03
121	9,60	72,46	121	18,17	259,24	121	13,35	140,07
122	7,79	36,25	122	20,59	333,12	122	13,54	143,99
123	8,13	51,96	123	16,03	201,84	123	14,15	157,15
124	5,66	25,19	124	21,94	378,22	124	16,05	202,29
125	5,99	28,21	125	10,36	84,36	125	14,66	168,77
126	6,67	35,03	126	12,47	122,11	126	19,52	299,33
127	8,56	57,68	127	13,29	138,77	127	10,41	85,05
128	16,07	203,05	128	15,41	186,58	128	13,22	137,35
129	14,38	162,42	129	22,07	382,67	129	12,07	114,45
130	14,27	159,94	130	18,47	268,02	130	9,99	78,39
131	11,06	95,09	131	16,46	212,86	131	9,73	74,41
132	5,30	22,13	132	16,14	204,57	132	11,20	98,50
133	9,77	74,97	133	9,99	78,40	133	15,42	186,83
134	17,93	252,73	134	24,01	452,90	134	13,65	146,31
135	11,69	107,43	135	16,45	212,42	135	12,58	124,30
136	8,76	60,27	136	7,83	48,12	136	8,49	56,62
137	12,06	114,40	137	6,34	31,53	137	12,43	121,41
138	14,77	171,51	138	6,50	33,21	138	16,11	203,86
139	10,60	88,40	139	7,99	50,19	139	12,69	126,55
140	9,22	66,78	140	10,69	89,70	140	15,59	190,94
141	9,53	71,42	141	10,52	86,89	141	17,32	235,60
142	11,47	103,40	142	11,01	95,16	142	11,83	109,83
143	9,16	65,98	143	17,65	244,74	143	10,00	78,47
144	8,31	54,26	144	17,19	232,13	144	15,37	185,48
145	6,97	38,25	145	32,04	806,20	145	9,42	69,68
146	7,64	45,95	146	15,90	198,53	146	9,99	78,39
147	7,70	46,64	147	16,16	205,07	147	9,33	68,37
148	9,07	64,75	148	14,60	167,36	148	9,38	69,07
149	7,60	45,45	149	19,43	296,37	149	11,78	108,90
150	15,49	188,48	150	23,24	424,10	150	20,74	337,94
151	8,97	78,20	151	18,52	269,52	151	17,13	230,54
152	24,32	464,63	152	21,68	369,21	152	12,16	116,10
153	8,34	54,68	153	11,65	106,65	153	14,69	169,43
154	10,17	81,23	154	15,19	181,17	154	13,09	134,57
155	14,27	159,97	155	8,75	60,09	155	14,55	166,38
156	17,48	240,19	156	12,44	121,55	156	23,48	433,18
157	34,36	927,75	157	12,05	114,10	157	12,81	128,89

158	12,91	130,91	158	13,34	139,80	158	21,54	364,49
159	12,87	129,15	159	13,12	135,29	159	17,23	233,21
160	114,42	163,53	160	10,76	90,91	160	11,90	111,27
161	9,46	70,29	161	9,85	76,26	161	12,04	113,94
162	23,63	438,63	162	10,73	90,43	162	26,03	532,06
163	13,24	137,70	163	14,45	163,99	163	25,57	513,63
164	11,22	98,95	164	12,60	124,73	164	11,75	108,46
165	25,92	527,70	165	10,67	89,49	165	9,81	75,58
166	13,53	143,80	166	7,63	45,78	166	12,86	129,85
167	13,80	149,66	167	21,31	356,80	167	12,49	122,48
168	18,23	261,13	168	24,88	486,21	168	12,94	131,55
169	12,194	116,79	169	14,96	175,70	169	12,41	120,91
170	25,14	496,41	170	12,06	114,27	170	11,90	111,18
171	16,61	216,86	171	12,30	118,85	171	9,51	71,05
172	22,83	409,52	172	11,44	102,81	172	10,16	81,14
173	18,20	260,28	173	8,16	52,30	173	7,74	47,11
174	11,13	97,33	174	7,93	49,44	174	12,10	114,91
175	14,13	156,92	175	11,33	100,77	175	11,10	96,74
176	12,64	125,54	176	14,88	173,87	176	12,56	123,92
177	13,22	137,35	177	10,13	80,66	177	12,97	132,15
178	12,48	122,38	178	9,83	75,97	178	16,63	217,11
179	12,42	121,28	179	12,07	114,39	179	13,17	136,20
180	16,08	203,29	180	14,55	166,19	180	14,97	176,11
181	16,80	221,89	181	19,00	283,66	181	14,02	154,34
182	9,47	70,54	182	32,66	837,56	182	9,54	71,49
183	12,54	123,57	183	13,32	139,35	183	11,58	105,26
184	34,64	942,66	184	27,88	610,70	184	7,90	49,00
185	18,41	266,33	185	20,08	316,56	185	13,43	141,57
186	14,39	162,70	186	12,97	132,15	186	10,83	92,13
187	17,47	239,74	187	8,63	58,47	187	11,25	99,41
188	21,80	373,43	188	10,55	87,41	188	19,75	306,36
189	15,13	179,96	189	24,23	461,13	189	9,24	67,00
190	10,56	87,61	190	35,40	984,02	190	12,81	128,89
191	13,22	137,34	191	19,24	290,76	191	12,69	126,56
192	20,90	343,26	192	11,69	107,29	192	8,21	52,97
193	12,22	117,33	193	13,33	139,47	193	9,53	71,28
195	9,33	68,43	195	12,39	120,66	194	8,64	58,60
196	14,01	154,33	196	10,57	87,72	195	9,99	78,39
197	12,59	124,52	197	10,83	92,09	196	10,77	91,12
198	7,44	43,51	198	12,29	118,61	197	18,17	259,37
199	17,11	230,02	199	10,42	85,36	198	19,00	283,66

200	14,99	176,62	200	8,94	62,73	199	23,35	428,17
201	8,63	58,50	201	6,89	37,25	200	17,19	232,12
202	9,46	70,41	202	9,88	76,64	201	20,26	322,27
203	6,56	33,87	203	10,73	90,47	202	18,50	268,84
204	8,22	53,16	204	9,52	71,22	203	19,24	290,75
205	15,66	192,67	205	6,44	32,53	204	13,19	136,70
206	8,56	58,82	206	10,24	82,38	205	11,77	108,87
207	5,87	27,12	207	10,41	85,17	206	16,88	223,80
208	9,82	75,83	208	10,36	84,27	207	16,16	205,18
209	9,04	64,25	209	11,30	100,37	208	12,78	128,23
210	10,21	81,97	210	11,77	108,81	209	15,24	182,43
211	7,60	45,46	211	12,33	119,41	210	21,14	350,91
212	9,73	74,42	212	11,94	111,95	211	12,78	128,23
213	7,47	43,92	213	11,65	106,56	212	13,88	151,22
214	15,23	182,32	214	16,45	212,49	213	12,17	116,39
215	22,40	394,37	215	12,34	119,56	214	16,66	218,05
216	18,65	273,34	216	36,26	1032,56	215	13,06	134,03
217	18,15	258,94	217	15,38	185,79	216	13,83	150,20
218	10,35	84,16	218	13,64	146,21	217	18,05	255,99
219	6,30	312,26	219	30,45	728,35	218	12,04	113,77
220	7,20	40,75	220	17,18	231,73	219	13,61	145,46
221	7,35	42,46	221	10,25	82,46	220	19,08	286,00
222	5,90	27,36	222	12,81	128,89	221	13,83	150,23
223	9,37	68,99	223	14,86	173,37	222	18,77	276,66
224	9,79	75,34	224	10,70	89,97	223	22,42	394,69
225	8,33	54,52	225	9,97	78,08	224	16,05	202,23
226	6,74	35,74	226	13,49	142,95	225	15,57	190,30
227	9,32	68,28	227	18,63	272,64	226	12,91	130,84
228	14,20	158,55	228	9,17	66,11	227	12,08	114,63
229	9,69	73,86	229	6,40	32,14	228	11,85	110,25
230	10,29	83,30	230	16,66	217,92	229	16,91	224,53
231	9,32	68,28	231	9,58	72,01	230	18,25	261,71
232	10,22	82,06	232	12,42	121,22	231	11,42	102,50
233	8,97	63,33	233	12,17	116,35	232	9,47	70,41
234	15,15	180,44	234	8,25	53,47	233	11,58	105,26
235	8,06	51,06	235	12,93	131,31	234	11,85	110,22
236	7,21	40,85	236	14,42	163,20	235	27,73	604,09
237	16,09	203,58	237	21,86	375,34	236	18,87	279,55
238	16,09	125,89	238	17,40	237,89	237	11,14	97,39
239	12,66	125,89	239	14,91	174,57	238	18,87	279,55
240	12,99	132,59	240	13,44	141,77	239	11,14	97,39

241	14,26	159,92	241	11,07	96,22	240	10,21	81,85
242	26,53	331,09	242	9,49	70,74	241	17,93	252,52
243	12,28	118,51	243	25,95	529,09	242	20,21	320,75
245	10,96	94,48	245	17,46	239,54	243	11,43	102,53
246	24,68	178,57	246	27,18	580,01	244	18,54	269,98
247	20,61	333,68	247	13,61	145,54	245	18,32	263,64
248	13,16	136,15	248	14,32	161,13	246	9,66	73,22
249	13,80	149,65	249	8,19	52,65	247	9,16	65,87
250	10,41	85,11	250	8,67	59,04	248	13,64	146,07
251	10,21	81,97	251	8,32	54,39	249	12,19	116,63
252	9,24	67,19	252	8,00	50,21	250	13,07	134,19
253	9,86	231,63	253	9,93	77,44	251	6,78	36,08
254	11,78	109,10	254	10,67	89,38	252	9,13	65,50
255	720,00	40,75	255	16,71	219,17	253	9,51	71,05
256	29,21	670,51	256	8,34	54,57	254	16,73	219,92
257	26,77	562,99	257	16,45	212,59	255	15,35	185,09
258	26,28	542,44	258	19,54	299,92	256	15,67	192,93
259	19,43	296,68	259	17,16	231,18	257	15,91	198,74
260	17,77	248,09	260	17,24	233,51	258	13,54	143,93
261	9,43	69,91	261	11,62	106,07	259	24,52	472,09
262	8,54	57,30	262	15,33	184,57	260	17,93	252,63
263	10,96	94,46	263	11,72	107,94	261	16,97	226,20
264	14,49	165,09	264	15,92	199,03	262	20,01	314,37
265	20,73	337,55	265	11,14	97,41	263	18,57	270,93
266	15,51	188,93	266	19,09	286,29	264	21,13	350,61
267	11,75	108,54	267	8,68	59,15	265	12,81	128,84
268	18,20	260,43	268	8,99	63,44	266	16,73	219,80
269	11,57	105,29	269	8,26	53,57	267	13,45	142,10
270	15,31	184,12	270	17,25	233,79	268	18,97	282,62
271	15,69	193,55	271	12,06	114,27	269	16,56	215,43
272	13,05	133,94	272	7,58	45,07	270	13,72	147,76
273	10,61	93,12	273	8,99	63,44	271	11,38	101,74
274	11,21	98,83	274	5,60	24,64	272	13,48	142,77
275	19,74	306,13	275	9,11	65,22	273	14,32	161,08
276	9,95	77,82	276	18,46	267,70	274	11,03	95,60
277	7,17	40,41	277	9,10	64,99	275	7,86	48,49
278	7,99	50,16	278	8,20	52,84	276	23,60	437,61
279	9,46	70,31	279	19,54	299,77	277	24,06	454,65
280	9,07	64,66	280	17,59	243,10	278	44,67	1567,25
281	12,06	114,30	281	13,72	147,76	279	23,91	449,09
282	18,40	266,04	282	23,09	418,68	280	15,72	194,13

283	10,78	91,29	283	12,28	118,46	281	30,50	730,80
284	8,48	56,49	284	18,31	263,24	282	28,48	637,17
285	8,72	59,81	285	15,16	180,39	283	22,67	403,81
286	15,26	183,04	286	8,66	58,96	284	18,39	265,49
287	23,26	424,97	287	6,86	36,94	285	23,26	425,06
288	12,47	122,23	288	11,71	107,75	286	29,34	676,19
289	10,12	80,56	289	8,43	55,76	287	10,17	81,20
290	10,70	89,95	290	14,43	163,64	288	19,05	285,10
291	9,79	75,39	291	17,29	234,68	289	23,01	415,69
292	20,73	337,78	292	18,31	263,24	290	21,13	350,83
293	24,02	453,47	293	11,71	107,66	291	20,65	334,97
294	8,75	60,15	294	15,48	188,24	292	19,70	304,89
295	17,66	245,10	295	18,12	257,97	293	17,19	232,11
296	20,04	315,72	296	11,10	96,85	294	13,23	137,46
297	20,16	319,27	297	11,87	110,57	295	14,34	161,57
298	42,97	145,07	298	22,23	388,06	296	9,42	69,72
299			299	11,54	104,67	297	10,04	79,17
300			300	11,68	107,15	298	14,76	171,02
301			301	14,55	166,19	299	8,73	59,92
302			302	16,73	219,92	300	10,48	86,27
303			303	29,27	672,83	301	8,31	54,22
304			304	11,19	98,34	302	12,94	131,59
305			305	16,59	216,25	303		
306			306	19,59	301,49	304		
307			307	10,19	81,61	305		
308			308	13,21	136,96	306		
309			309	13,83	150,19	307		
310			310	10,26	82,66	308		
311			311	16,87	223,46	309		
312			312	15,51	188,83	310		
Jumlah								
Rata-rata	16,181218	167,697243		14,62	194,78		15,49	212,21

**Perlakuan
(MSG 80 mesh (M2))**

M2N1				M2N2			M2N3	
No	Diameter	Luas Area	No	Diameter	Luas Area	No	Diameter	Luas Area
1	9,51	71,10	1	12,33	119,38	1	18,25	261,58
2	13,86	151,09	2	22,14	385,00	2	7,28	41,66
3	21,27	355,43	3	11,65	106,64	3	13,06	134,02
4	15,54	189,71	4	12,12	115,45	4	15,37	185,53
5	14,13	156,92	5	11,32	100,71	5	7,84	48,24
6	23,93	449,80	6	8,80	60,81	6	9,07	64,56
7	9,96	77,96	7	11,86	110,49	7	8,95	62,88
8	10,73	90,43	8	9,66	73,25	8	12,48	122,37
9	11,93	111,83	9	8,01	50,35	9	14,42	163,22
10	18,56	270,54	10	7,06	39,11	10	14,24	159,18
11	27,29	585,10	11	6,11	29,36	11	12,22	117,25
12	10,46	85,88	12	12,36	120,05	12	13,34	139,80
13	20,91	343,26	13	8,89	62,02	13	8,65	58,75
14	15,58	190,64	14	11,66	106,78	14	8,47	56,30
15	21,65	368,22	15	12,15	116,02	15	5,43	23,19
16	28,00	615,76	16	11,55	104,73	16	9,99	78,36
17	25,16	497,17	17	10,01	78,74	17	7,39	42,87
18	11,27	99,75	18	8,54	57,23	18	15,38	185,87
19	12,24	117,73	19	8,97	63,16	19	15,71	193,74
20	15,68	193,04	20	14,97	175,96	20	10,96	94,32
21	16,99	226,79	21	20,52	330,64	21	11,34	101,03
22	11,17	98,08	22	20,53	330,92	22	7,34	42,31
23	10,66	89,19	23	15,89	198,30	23	16,88	223,74
24	7,66	46,07	24	11,69	107,40	24	9,69	73,79
25	11,01	95,20	25	20,96	345,19	25	7,23	41,05
26	14,43	163,49	26	6,04	28,61	26	7,63	45,72
27	13,54	143,92	27	7,34	42,37	27	7,54	44,62
28	12,46	122,01	28	5,77	26,17	28	14,88	173,81
29	13,93	152,38	29	7,73	46,91	29	13,91	151,98
30	14,37	162,21	30	11,23	99,06	30	18,90	280,59
31	11,24	99,15	31	18,20	260,27	31	18,33	263,82
32	12,12	115,38	32	11,75	108,46	32	8,08	51,29
33	14,58	166,91	33	3,59	10,10	33	7,63	45,75
34	8,95	62,92	34	10,10	80,17	34	14,14	157,09
35	11,78	108,99	35	5,82	26,59	35	15,40	186,38
36	16,78	221,19	36	5,94	27,74	36	14,74	170,59

37	8,23	53,13	37	8,06	50,97	37	7,67	46,23
38	12,89	130,47	38	14,29	160,28	38	7,66	46,14
39	16,68	218,52	39	15,50	188,76	39	8,19	52,68
40	15,17	180,80	40	12,57	124,16	40	8,64	58,64
41	13,64	146,21	41	13,27	138,21	41	8,95	62,92
42	29,14	666,73	42	12,95	131,65	42	8,05	50,95
43	17,94	252,85	43	10,99	94,89	43	15,58	190,69
44	31,56	782,28	44	12,76	127,88	44	9,08	64,74
45	31,87	797,58	45	13,48	142,65	45	15,37	185,53
46	32,92	851,24	46	13,80	149,56	46	18,48	268,09
47	35,02	963,06	47	10,84	92,33	47	7,62	45,63
48	9,14	65,61	48	12,54	123,43	48	8,82	61,11
49	7,81	47,86	49	13,03	133,26	49	13,24	137,64
50	11,16	97,74	50	11,78	108,90	50	11,10	96,78
51	8,52	56,99	51	11,94	111,95	51	15,44	187,27
52	17,59	243,03	52	20,56	332,08	52	9,69	73,78
53	9,83	75,92	53	16,49	213,68	53	27,32	586,00
54	9,48	70,65	54	12,13	115,49	54	11,70	107,56
55	10,23	82,26	55	18,61	271,98	55	10,48	86,21
56	14,73	170,47	56	10,13	80,57	56	11,77	108,87
57	11,49	103,76	57	11,38	101,74	57	10,01	78,74
58	12,59	124,41	58	26,03	532,12	58	16,14	204,54
59	11,78	108,90	59	13,32	139,41	59	23,43	431,06
60	12,82	129,02	60	12,20	116,89	60	7,86	48,53
61	16,46	212,69	61	13,59	145,03	61	18,33	263,80
62	16,63	217,23	62	17,43	238,65	62	13,79	149,39
63	23,87	447,58	63	15,48	188,24	63	7,06	39,11
64	26,90	568,39	64	12,68	126,33	64	19,64	303,09
65	16,25	207,34	65	10,85	92,42	65	10,56	87,66
66	13,73	148,07	66	15,61	191,42	66	12,28	118,47
67	12,21	117,10	67	7,30	41,90	67	10,00	78,49
68	22,41	394,37	68	8,25	53,42	68	11,50	103,80
69	19,49	298,35	69	27,48	593,09	69	6,80	36,35
70	23,31	426,77	70	20,54	331,25	70	15,72	194,13
71	15,10	179,05	71	19,10	286,56	71	5,48	23,62
72	21,88	375,85	72	28,01	616,01	72	9,06	64,42
73	13,41	141,15	73	16,16	205,18	73	10,15	80,84
74	13,41	141,15	74	15,65	192,27	74	23,98	451,51
75	12,59	124,43	75	13,52	143,48	75	11,68	107,15
76	15,36	185,20	76	14,47	164,52	76	8,42	55,66
77	10,56	87,56	77	14,04	154,86	77	13,69	147,22

78	7,42	43,26	78	36,67	1055,96	78	8,95	62,98
79	7,21	40,86	79	12,81	128,95	79	9,49	70,73
80	16,31	208,94	80	29,31	674,65	80	6,93	37,69
81	13,77	148,92	81	13,37	140,39	81	34,45	932,05
82	16,54	214,82	82	17,38	237,15	82	26,12	536,00
83	7,78	47,58	83	10,43	85,48	83	18,47	268,02
84	25,53	511,97	84	14,94	175,42	84	19,29	292,32
85	26,66	558,40	85	16,33	209,35	85	7,78	47,50
86	11,03	95,58	86	20,43	327,76	86	12,81	128,88
87	8,19	52,68	87	19,12	287,00	87	15,59	190,80
88	13,35	139,97	88	18,35	264,43	88	16,78	221,26
89	14,89	174,20	89	12,47	122,22	89	12,41	120,89
90	10,22	82,06	90	20,84	341,06	90	21,41	359,98
91	21,32	356,90	91	23,95	450,49	91	11,84	110,10
92	13,51	143,31	92	17,65	244,77	92	9,61	72,54
93	19,26	291,47	93	21,41	360,09	93	27,98	614,83
94	26,17	537,95	94	26,46	549,84	94	28,76	649,52
95	14,66	168,77	95	19,71	305,20	95	15,49	188,42
96	12,56	123,87	96	8,14	52,04	96	19,24	290,80
97	15,92	199,14	97	7,85	48,42	97	14,55	166,38
98	14,81	172,27	98	11,33	100,80	98	14,15	157,15
99	24,18	459,20	99	16,85	222,99	99	20,85	341,50
100	17,77	247,98	100	11,86	110,52	100	9,53	71,38
101	21,35	358,07	101	15,83	196,87	101	11,04	95,67
102	18,55	270,37	102	15,33	184,64	102	7,39	42,89
103	14,70	169,60	103	8,27	53,78	103	23,83	446,04
104	27,21	581,64	104	10,45	85,78	104	18,39	265,51
105	21,38	359,10	105	7,88	48,72	105	12,12	115,46
106	38,34	1154,26	106	8,36	54,88	106	13,20	136,89
107	16,44	212,22	107	15,34	184,86	107	14,30	160,60
108	15,13	179,73	108	11,55	104,73	108	12,00	113,11
109	15,92	199,03	109	10,53	87,11	109	15,44	187,31
110	10,75	90,80	110	11,11	97,03	110	20,76	338,40
111	12,97	132,14	111	13,06	133,97	111	13,88	151,41
112	11,49	103,66	112	11,73	108,13	112	7,01	38,62
113	14,09	155,92	113	6,86	36,94	113	13,53	143,74
114	13,33	139,46	114	7,55	44,79	114	11,61	105,79
115	7,48	43,98	115	7,67	46,16	115	7,88	48,74
116	7,44	43,43	116	11,00	94,97	116	10,38	84,64
117	21,71	370,02	117	7,08	39,39	117	10,21	81,84
118	18,45	267,37	118	11,69	107,30	118	30,66	738,39

119	13,54	143,93	119	9,02	63,83	119	8,66	58,86
120	22,04	381,37	120	8,88	61,97	120	9,94	77,56
121	19,04	284,74	121	8,24	53,35	121	7,91	49,20
122	23,63	438,48	122	10,58	87,99	122	10,99	94,79
123	10,81	91,74	123	18,98	282,81	123	20,64	334,62
124	18,89	280,37	124	5,88	27,14	124	8,15	52,12
125	18,16	258,94	125	19,03	284,52	125	7,18	40,51
126	30,12	712,64	126	23,51	434,06	126	12,07	114,46
127	20,23	321,57	127	23,41	430,25	127	7,16	40,27
128	26,25	541,35	128	9,53	71,28	128	22,81	408,66
129	16,99	226,79	129	8,66	58,86	129	15,45	187,36
130	16,74	220,06	130	11,14	97,42	130	11,95	112,06
131	12,65	125,77	131	8,85	61,57	131	30,12	712,66
132	14,87	173,56	132	21,31	356,81	132	13,01	132,95
133	18,08	256,67	133	16,11	203,95	133	13,61	145,49
134	25,37	505,70	134	16,10	203,50	134	7,28	41,59
135	17,04	227,96	135	11,62	106,12	135	11,55	104,83
136	18,31	263,30	136	15,28	183,47	136	11,10	96,81
137	19,65	303,24	137	10,30	83,30	137	19,54	299,92
138	32,99	854,76	138	12,44	121,55	138	16,17	205,25
139	20,78	339,10	139	21,16	351,58	139	19,14	287,69
140	19,02	284,07	140	14,66	168,77	140	12,95	131,61
141	8,20	52,81	141	17,77	248,06	141	9,21	66,66
142	5,21	21,34	142	17,68	245,64	142	11,33	100,77
143	6,63	34,55	143	9,51	70,97	143	15,33	184,64
144	9,18	66,13	144	13,69	147,27	144	28,61	642,80
145	9,85	76,25	145	14,89	174,23	145	15,58	190,69
146	16,18	205,73	146	20,88	342,37	146	10,66	89,30
147	11,87	110,72	147	21,20	352,99	147	10,30	83,28
148	9,69	73,75	148	16,83	222,34	148	8,92	62,56
149	11,81	109,58	149	21,04	347,82	149	9,79	75,34
150	13,14	135,51	150	24,05	454,41	150	5,93	27,61
151	14,09	155,85	151	22,12	384,23	151	9,92	77,27
152	11,20	98,52	152	13,58	144,75	152	10,69	89,81
153	12,26	118,03	153	11,47	103,33	153	8,93	62,69
154	14,69	169,44	154	21,05	347,97	154	7,84	48,22
155	18,34	264,16	155	9,55	71,67	155	11,64	106,39
156	15,10	179,15	156	12,66	125,85	156	13,96	152,97
157	14,89	174,20	157	12,33	119,32	157	10,69	89,81
158	10,59	88,13	158	11,48	103,44	158	15,12	179,55
159	10,21	81,91	159	10,60	88,18	159	18,74	275,82

160	9,75	74,65	160	10,93	93,89	160	14,79	171,78
161	9,77	74,94	161	11,25	99,46	161	16,92	224,76
162	12,12	115,36	162	11,12	97,20	162	9,44	69,98
163	9,79	75,35	163	8,17	52,47	163	9,44	69,99
164	8,98	63,34	164	5,76	26,06	164	10,22	82,06
165	8,58	57,76	165	7,84	48,24	165	7,30	41,80
166	8,27	53,73	166	10,54	87,24	166	10,87	92,74
167	9,52	71,13	167	19,36	294,44	167	10,09	79,88
167	8,67	58,99	168	11,96	112,43	168	7,50	44,20
168	9,66	73,34	169	13,20	136,76	169	6,59	34,12
169	4,96	19,35	170	12,24	117,74	170	9,63	72,80
170	4,81	18,20	171	19,60	301,65	171	16,65	217,67
171	6,64	34,62	172	13,69	147,20	172	13,25	137,87
172	8,56	57,59	173	12,87	130,12	173	8,44	55,90
173	17,47	239,59	174	12,14	115,75	174	11,18	98,17
174	10,09	79,92	175	11,49	103,66	175	13,06	133,97
175	8,43	55,78	176	17,04	228,04	176	12,75	127,61
176	10,86	92,63	177	7,95	49,58	177	10,43	85,37
177	7,41	43,17	178	22,45	395,81	178	8,02	50,55
178	15,51	188,91	179	20,84	341,21	179	9,44	70,03
179	12,06	114,27	180	23,80	444,96	180	6,00	28,26
180	16,38	210,81	181	10,05	79,36	181	9,74	74,49
181	14,61	167,56	182	13,69	147,22	182	12,46	122,01
182	9,51	70,97	183	9,27	67,52	183	24,07	455,05
183	15,64	192,16	184	12,82	128,99	184	11,66	106,69
184	9,64	73,05	185	15,57	190,30	185	18,73	275,61
185	13,42	141,51	186	25,65	516,62	186	14,84	173,05
186	9,02	63,86	187	31,39	773,65	187	14,75	170,76
187	10,19	81,53	188	24,59	474,80	188	15,19	181,10
188	10,55	87,41	189	19,79	307,58	189	18,71	274,92
189	16,43	212,09	190	22,50	397,56	190	7,08	39,33
190	24,18	459,12	191	23,51	433,92	191	8,58	57,88
191	23,94	450,30	192	20,84	341,03	192	22,25	388,95
192	20,07	316,49	193	17,47	239,64	193	15,41	186,44
193	31,63	785,71	194	19,01	283,85	194	16,50	213,83
194	10,22	82,00	195	20,80	339,94	195	22,78	407,68
195	10,51	86,82	196	19,01	283,88	196	16,21	206,29
196	12,75	127,61	197	10,69	89,81	197	15,36	185,23
197	12,31	118,95	198	12,10	114,91	198	16,60	216,37
198	9,77	74,96	199	9,82	75,72	199	27,88	610,51
199	11,85	110,21	200	13,80	149,66	200	7,10	39,54

200	9,15	65,81	201	16,41	211,47	201	12,50	122,66
201	10,33	83,79	202	16,41	211,47	202	17,78	248,17
202	12,12	115,41	203	10,23	82,26	203	14,89	174,23
203	11,90	111,27	204	12,53	123,29	204	14,94	175,23
204	18,37	265,04	205	17,33	235,89	205	15,00	176,67
205	14,39	162,59	206	18,26	262,00	206	16,08	203,11
206	13,83	150,23	207	8,13	51,92	207	16,01	201,29
207	11,44	102,75	208	9,89	76,76	208	8,63	58,51
208	15,99	200,76	209	13,00	132,80	209	8,39	55,23
209	14,47	164,42	210	6,97	38,20	210	9,44	69,92
210	11,44	102,80	211	24,29	463,53	211	13,34	139,84
211	13,19	136,72	212	14,49	164,92	212	11,69	107,34
212	11,82	109,72	213	16,94	225,32	213	9,72	74,17
213	18,25	261,49	214	9,83	75,83	214	8,34	54,57
214	15,30	183,84	215	10,57	87,82	215	10,13	80,57
215	18,99	283,21	216	14,39	162,69	216	12,50	122,68
216	11,96	112,39	217	34,20	918,75	217	19,14	287,66
217	7,10	39,58	218	24,45	469,35	218	8,63	58,47
218	13,01	133,02	219	21,81	373,57	219	10,76	90,93
219	16,13	204,30	220	18,98	283,04	220	7,76	47,28
220	15,50	188,61	221	27,04	574,20	221	16,14	204,57
221	14,39	162,52	222	27,18	580,30	222	14,64	168,29
222	11,07	96,18	223	27,75	604,66	223	8,01	50,34
223	14,89	174,23	224	23,17	421,60	224	14,58	167,05
224	13,25	137,95	225	14,37	162,16	225	8,82	61,17
225	13,53	143,69	226	20,43	327,85	226	9,82	75,76
226	12,14	115,79	227	15,15	180,16	227	14,63	168,11
227	14,55	166,19	228	14,93	175,13	228	9,20	66,50
228	9,87	76,50	229	19,93	311,88	229	9,63	72,77
229	13,25	137,93	230	10,27	82,84	230	8,59	58,00
230	13,84	150,40	231	9,17	66,00	231	13,13	135,46
231	18,08	256,60	232	8,82	61,11	232	17,22	232,83
232	7,22	40,96	233	9,51	71,05	233	15,96	199,96
233	10,32	83,70	234	5,80	26,40	234	9,85	76,28
234	20,53	331,15	235	7,90	49,00	235	17,34	236,06
235	13,32	139,44	236	10,13	80,57	236	10,15	80,84
236	9,71	74,04	237	9,44	70,00	237	8,54	57,30
237	17,40	237,69	238	6,78	36,08	238	9,33	68,44
238	9,71	74,03	239	12,42	121,20	239	18,77	276,69
239	9,99	78,39	240	14,13	156,92	240	21,02	347,17
240	10,33	83,80	241	8,64	58,60	241	17,81	249,08

241	8,35	54,78	242	10,00	78,56	242	9,86	76,34
242	19,18	288,85	243	8,31	54,22	243	21,40	359,84
243	12,73	127,24	244	26,60	555,71	244	24,65	477,42
244	13,42	141,53	245	13,93	152,31	245	17,79	248,62
245	10,53	87,11	246	8,17	52,47	246	17,21	232,74
246	14,60	167,47	247	13,73	148,09	247	13,34	139,83
247	16,00	201,12	248	37,32	1093,87	248	22,80	408,19
248	10,37	84,54	249	25,76	521,27	249	19,47	297,64
249	12,26	118,00	250	25,13	495,97	250	14,56	166,43
250	13,95	152,82	251	18,33	263,91	251	10,59	88,13
251	12,75	127,70	252	15,69	193,43	252	21,33	357,32
252	8,97	63,15	253	16,29	208,43	253	22,35	392,19
253	8,56	57,57	254	16,71	219,43	254	9,63	72,89
254	13,26	138,08	255	17,02	227,46	255	10,00	78,56
255	14,79	171,89	256	25,32	503,69	256	12,51	123,00
256	14,79	171,76	257	10,81	91,83	257	24,90	487,03
257	16,68	218,56	258	15,40	186,18	258	20,43	327,87
258	28,43	634,70	259	17,32	235,55	259	9,35	68,65
259	14,92	174,81	260	11,32	100,67	260	12,34	119,63
260	16,06	202,64	261	8,08	51,30	261	15,41	186,58
261	16,96	225,90	262	6,62	34,47	262	10,15	80,91
262	7,70	46,54	263	8,81	60,91	263	11,12	97,12
263	6,65	34,74	264	7,35	42,47	264	12,80	128,61
264	7,92	49,31	265	8,27	53,66	265	20,73	337,43
265	10,59	88,06	266	6,22	30,39	266	16,81	222,00
266	15,61	191,45	267	5,98	28,07	267	11,46	103,16
267	16,53	214,71	268	4,46	15,64	268	9,37	68,90
268	14,41	163,14	269	5,30	22,04	269	10,55	87,34
269	22,55	399,39	270	7,80	47,74	270	26,15	536,98
270	12,56	123,92	271	11,05	95,94	271	11,50	103,94
271	11,16	97,76	272	7,84	48,24	272	12,73	127,29
272	10,39	84,78	273	13,85	150,75	273	19,55	300,04
273	13,01	133,02	274	9,66	73,26	274	16,65	217,74
274	9,59	72,24	275	18,12	257,75	275	12,91	130,94
275	10,25	82,57	276	10,74	90,66	276	9,90	76,90
276	12,89	130,51	277	10,61	88,35	277	12,38	120,32
277	15,35	185,17	278	11,57	105,08	278	7,41	43,16
278	20,63	334,17	279	8,41	55,58	279	5,49	23,69
279	10,30	83,29	280	13,91	151,91	280	5,65	25,03
280	15,67	192,96	281	18,93	281,51	281	7,27	41,53
281	10,78	91,27	282	18,35	264,50	282	8,80	60,78

282	8,24	53,28	283	9,07	64,66	283	10,56	87,63
283	7,87	48,70	284	10,45	85,74	284	9,24	67,01
284	13,02	133,22	285	8,63	58,47	285	8,62	58,30
285	15,68	193,02	286	11,63	106,26	286	14,30	160,68
286	10,91	93,56	287	11,79	109,27	287	9,81	75,55
287	12,97	132,15	288	9,82	75,81	288	30,24	718,37
288	11,76	108,61	289	11,11	97,03	289	27,68	601,93
289	8,94	62,82	290	10,73	90,39	290	10,25	82,54
290	14,67	169,07	291	6,03	28,57	291	7,12	39,79
291	17,72	246,71	292	9,94	77,55	292	8,01	50,33
292	7,76	47,27	293	10,68	89,54	293	13,35	139,93
293	10,87	92,82	294	9,10	64,99	294	9,86	76,30
294	7,87	48,67	295	7,59	45,29	295	12,44	121,53
295	8,26	53,62	296	12,75	127,75	296	7,15	40,11
296	8,36	54,91	297	12,23	117,44	297	8,45	56,04
297	9,06	64,49	298	16,15	204,76	298	6,62	34,42
298	5,70	25,47	299	22,31	391,09	299	7,40	43,01
299	8,41	55,58	300	14,55	166,19	300	5,23	21,51
300	8,15	52,18	301	10,60	88,31	301	9,25	67,20
301	8,12	51,81	302	7,87	48,62	302	5,60	24,64
302	14,87	173,60	303	9,65	73,14	303	12,38	120,34
303	10,08	79,82	304	15,70	193,66	304	13,16	135,98
304	11,22	98,87	305	20,04	315,44	305	12,94	131,55
305	7,92	49,28	306	8,48	56,52	306	7,01	38,58
306	8,28	53,79	307	10,37	84,44	307	11,42	102,38
307	22,21	387,36	308	14,84	173,03	308	8,68	59,19
308	22,96	414,13	309	14,04	154,86	309	10,56	87,66
309	15,20	181,51	310	10,75	90,78	310	9,09	64,88
310	16,57	215,71	311	7,64	45,85	311	8,98	63,30
311	12,45	121,82	312	19,34	293,62	312	11,77	108,79
312	20,50	329,95	313	15,08	178,54	313	11,28	99,92
313	20,91	343,35	314	20,32	324,38	314	10,30	83,29
314	22,43	395,08	315	13,89	151,61	315	10,88	93,05
315	17,35	236,44	316	18,84	278,87	316	15,68	193,14
316	9,12	65,33	317	18,05	255,79	317	7,85	48,35
317	7,30	41,80	318	7,70	46,57	318	14,94	175,23
318	12,14	115,68	319	5,18	21,06	319	5,38	22,75
319	11,57	105,09	320	6,06	28,86			
320	15,64	192,20	321	6,83	36,62			
321	10,34	84,01	322	5,33	22,32			
322	11,25	99,41	323	13,36	140,22			

323	15,51	189,05	324	10,75	90,82			
324	23,24	424,04	325	6,32	31,36			
325	21,56	365,07	326	6,00	28,28			
326	20,74	337,76	327	6,21	30,31			
327	17,40	237,90	328	5,78	26,25			
			329	6,32	31,37			
			330	10,11	80,32			
			331	9,81	75,56			
			332	11,96	112,28			
			333	15,90	198,65			
			334	15,70	193,60			
			335	9,98	78,20			
Jumlah								
Rata-rata	14,45	189,45		13,79	176,20		12,97	154,39

**Perlakuan
(MSG 120 mesh (M3))**

M3N1				M3N2			M3N3	
No	Diameter	Luas Area		Diameter	Luas Area		Diameter	Luas Area
1	29,56	686,45	1	47,58	1777,92	1	12,92	131,18
2	49,97	1961,35	2	28,11	620,51	2	9,99	78,39
3	30,09	711,06	3	33,97	906,50	3	12,51	123,00
4	11,32	100,68	4	66,91	3516,01	4	6,18	30,04
5	24,28	462,84	5	15,55	189,88	5	12,69	126,56
6	34,05	910,75	6	20,02	314,94	6	10,06	79,49
7	9,24	67,09	7	20,38	326,10	7	8,49	56,58
8	8,08	51,31	8	57,67	2612,10	8	8,77	60,41
9	15,52	189,29	9	19,62	302,24	9	9,82	75,76
10	19,66	303,62	10	22,50	397,56	10	4,91	18,95
11	16,05	202,23	11	25,44	508,18	11	3,47	9,48
12	13,15	135,80	12	14,14	157,00	12	11,48	103,47
13	10,55	87,40	13	33,31	871,67	13	5,49	23,69
14	8,46	56,18	14	18,31	263,24	14	4,34	14,77
15	7,84	48,22	15	25,63	515,81	15	8,43	55,82
16	13,32	139,44	16	6,75	35,81	16	9,56	71,81
17	7,59	45,29	17	8,71	59,57	17	8,56	57,59
18	11,98	112,75	18	22,38	393,26	18	14,10	156,21
19	24,12	457,09	19	8,64	58,60	19	7,55	44,79
20	32,50	829,37	20	6,67	34,95	20	13,70	147,48
21	17,90	251,68	21	7,12	39,79	21	7,36	42,50
22	11,32	100,70	22	10,99	94,81	22	6,67	34,99
23	7,35	42,43	23	5,23	21,45	23	18,58	271,08
24	13,07	134,09	24	6,31	31,32	24	9,57	72,00
25	12,41	120,87	25	13,01	132,89	25	9,58	72,06
26	10,94	94,03	26	13,38	140,58	26	11,00	94,99
27	10,36	84,36	27	17,50	240,60	27	4,73	17,60
28	12,73	127,26	28	16,35	209,89	28	8,23	53,16
29	11,52	104,23	29	14,17	157,80	29	9,87	76,54
30	31,59	783,96	30	18,25	261,72	30	8,89	62,02
31	49,15	1896,98	31	17,88	251,13	31	8,11	51,65
32	28,54	639,71	32	6,53	33,50	32	6,36	31,79
33	27,84	608,71	33	13,40	141,10	33	9,14	65,55
34	18,90	280,64	34	39,63	1233,58	34	8,66	58,92
35	23,19	422,48	35	21,86	375,19	35	8,00	50,29
36	11,17	97,91	36	22,03	381,34	36	9,11	65,25

37	15,19	181,24	37	25,07	493,43	37	5,27	21,81
38	18,18	259,55	38	26,15	536,94	38	6,21	30,31
39	17,70	245,99	39	35,05	964,86	39	8,42	55,68
40	16,86	223,32	40	26,08	534,38	40	10,17	81,16
41	12,65	125,77	41	24,29	463,23	41	7,23	41,03
42	17,59	242,87	42	30,73	741,84	42	6,60	34,22
43	14,41	163,10	43	20,20	320,40	43	6,59	34,11
44	18,96	282,22	44	22,63	402,34	44	5,55	24,20
45	21,06	348,43	45	16,81	222,02	45	5,28	21,87
46	14,56	166,52	46	18,98	282,86	46	5,78	26,21
47	12,84	129,58	47	9,57	71,88	47	7,32	42,12
48	7,88	48,71	48	16,29	208,53	48	11,96	112,27
49	15,18	181,01	49	12,50	122,66	49	5,35	22,45
50	11,77	108,87	50	10,75	90,77	50	7,94	49,56
51	14,97	175,92	51	14,54	166,09	51	4,67	17,11
52	7,37	42,61	52	17,92	252,20	52	6,81	36,43
53	10,45	85,80	53	13,78	149,07	53	7,49	44,05
54	15,20	181,56	54	17,68	245,45	54	6,91	37,55
55	13,49	142,86	55	13,09	134,52	55	6,65	34,76
56	31,69	788,92	56	10,72	90,24	56	6,90	37,40
57	9,44	69,98	57	9,84	76,04	57	9,16	65,94
58	13,78	149,20	58	11,38	101,71	58	7,48	43,99
59	8,07	51,19	59	10,95	94,25	59	7,31	42,03
60	11,99	112,96	60	17,31	235,28	60	7,66	46,07
61	8,22	53,01	61	11,95	112,11	61	8,02	50,55
62	6,91	37,45	62	19,24	290,64	62	10,79	91,37
63	9,91	77,21	63	24,70	479,28	63	9,66	73,25
64	8,67	59,07	64	17,87	250,84	64	8,96	63,00
65	7,01	38,60	65	21,77	372,32	65	8,03	50,67
66	8,18	52,52	66	15,53	189,48	66	6,93	37,68
67	8,07	51,15	67	33,89	902,18	67	14,58	167,00
68	8,26	53,64	68	24,42	468,51	68	10,29	83,21
69	8,56	57,57	69	10,21	81,86	69	20,43	327,67
70	6,33	31,44	70	8,79	60,63	70	14,54	166,13
71	18,33	263,81	71	7,00	38,48	71	12,73	127,26
72	16,32	209,30	72	8,27	53,67	72	19,99	313,96
73	12,23	117,50	73	8,64	58,64	73	7,76	47,23
74	10,55	87,49	74	7,85	48,43	74	8,15	52,15
75	9,59	72,16	75	12,87	130,15	75	7,04	38,92
76	9,77	74,94	76	7,47	43,85	76	10,37	84,41
77	12,32	119,23	77	7,58	45,11	77	7,12	39,79

78	6,67	34,93	78	7,93	49,42	78	5,74	25,87
79	6,87	37,02	79	5,84	26,80	79	10,21	81,89
80	8,99	63,49	80	13,59	145,01	80	8,30	54,07
81	8,68	59,23	81	7,56	44,84	81	7,39	42,87
82	14,18	157,91	82	7,91	49,09	82	9,05	64,27
83	11,67	107,04	83	8,59	57,91	83	6,08	29,01
84	8,54	57,23	84	7,63	45,71	84	6,68	35,07
85	11,31	100,43	85	6,69	35,16	85	6,36	31,79
86	19,79	307,58	86	8,14	52,07	86	6,13	29,47
87	13,40	140,97	87	12,54	123,45	87	13,75	148,39
88	10,48	86,21	88	9,08	64,81	88	18,65	273,26
89	12,51	123,00	89	11,51	104,02	89	14,95	175,46
90	7,45	43,64	90	11,23	99,11	90	7,16	40,26
91	10,55	87,40	91	15,05	177,86	91	8,10	51,56
92	10,46	85,90	92	25,98	530,16	92	14,30	160,60
93	14,87	173,71	93	22,37	393,02	93	12,28	118,51
94	15,88	197,94	94	15,10	179,09	94	16,50	213,87
95	10,32	83,58	95	31,47	777,69	95	13,33	139,51
96	13,34	139,74	96	19,08	285,81	96	15,18	180,88
97	13,21	137,16	97	13,25	137,87	97	16,59	216,17
98	16,78	221,05	98	12,77	128,06	98	9,32	68,28
99	17,09	229,44	99	14,53	165,84	99	7,59	45,22
100	42,14	1394,41	100	22,98	414,61	100	12,00	113,03
101	14,83	172,65	101	14,77	171,24	101	8,01	50,45
102	28,61	642,99	102	15,04	177,62	102	8,21	52,90
103	9,11	65,24	103	12,04	113,83	103	7,32	42,03
104	9,77	74,90	104	12,74	127,57	104	6,74	35,73
105	8,22	53,01	105	10,75	90,84	105	7,00	38,50
106	11,55	104,73	106	11,65	106,51	106	8,97	63,15
107	11,92	111,51	107	12,74	127,51	107	12,33	119,32
108	16,42	211,86	108	41,42	1347,47	108	8,76	60,27
109	21,98	379,55	109	16,23	206,79	109	9,61	72,49
110	9,59	72,16	110	31,58	783,15	110	8,65	58,71
111	10,50	86,60	111	18,59	271,29	111	5,02	19,83
112	9,93	77,38	112	14,10	156,12	112	8,77	60,44
113	6,33	31,43	113	23,63	438,66	113	21,04	347,65
114	6,98	38,25	114	27,64	599,90	114	9,81	75,56
115	4,28	14,36	115	21,54	364,44	115	8,54	57,30
116	30,30	720,86	116	15,78	195,67	116	9,78	75,10
117	15,19	181,17	117	12,47	122,06	117	10,07	79,63
118	8,44	55,90	118	11,36	101,28	118	11,28	99,95

119	11,53	104,37	119	23,89	448,32	119	4,92	19,01
120	13,00	132,70	120	19,40	295,68	120	5,61	24,71
121	29,00	660,52	121	15,60	191,09	121	5,54	24,13
122	21,76	371,92	122	14,79	171,85	122	8,15	52,22
123	14,17	157,68	123	9,60	72,31	123	7,91	49,12
124	14,19	158,11	124	9,36	68,79	124	8,62	58,40
125	8,80	60,76	125	9,92	77,28	125	7,40	42,96
126	11,03	95,63	126	13,44	141,83	126	6,44	32,59
127	6,99	38,41	127	9,59	72,17	127	5,42	23,09
128	9,70	73,86	128	20,16	319,28	128	7,73	46,99
129	17,24	233,55	129	6,80	36,35	129	9,43	69,91
130	16,33	209,35	130	15,38	185,81	130	8,80	60,76
131	11,06	96,06	131	16,72	219,65	131	10,76	90,86
132	12,96	131,94	132	32,82	846,00	132	5,90	27,35
133	7,16	40,26	133	27,52	594,65	133	5,51	23,87
134	8,72	59,77	134	13,52	143,46	134	7,69	46,42
135	10,13	80,52	135	8,56	57,53	135	6,74	35,72
136	22,12	384,36	136	9,91	77,18	136	6,20	30,16
137	28,00	615,95	137	9,40	69,44	137	12,33	119,32
138	26,06	533,21	138	9,64	73,02	138	10,66	89,19
139	25,53	511,82	139	13,58	144,90	139	8,82	61,06
140	16,40	211,25	140	13,02	133,13	140	9,89	76,76
141	16,68	218,45	141	11,65	106,58	141	8,24	53,31
142	17,76	247,78	142	23,98	451,51	142	9,33	68,37
143	9,87	76,50	143	10,62	88,56	143	11,96	112,27
144	8,24	53,38	144	11,30	100,34	144	8,69	59,25
145	12,49	122,62	145	8,13	51,93	145	7,72	46,86
146	6,71	35,38	146	8,11	51,65	146	13,91	151,91
147	7,60	45,32	147	6,41	32,28	147	13,06	134,02
148	7,54	44,64	148	16,51	214,16	148	12,68	126,31
149	8,52	56,99	149	16,25	207,30	149	5,55	24,20
150	13,14	135,59	150	13,18	136,36	150	9,55	71,61
151	10,31	83,45	151	13,09	134,52	151	15,78	195,48
152	7,04	38,92	152	30,52	731,37	152	8,45	56,05
153	7,15	40,11	153	16,50	213,75	153	7,99	50,17
154	20,93	344,09	154	12,57	124,01	154	16,38	210,72
155	19,37	294,78	155	18,44	267,19	155	20,87	342,19
156	12,58	124,33	156	14,40	162,89	156	13,94	152,67
157	16,63	217,23	157	13,65	146,31	157	16,76	220,67
158	28,90	655,91	158	15,45	187,59	158	6,95	37,94
159	17,82	249,46	159	7,69	46,40	159	10,48	86,28

160	16,89	224,15	160	12,73	127,26	160	10,97	94,48
161	9,38	69,16	161	18,41	266,33	161	6,89	37,32
162	8,31	54,22	162	22,21	387,25	162	7,12	39,79
163	12,13	115,56	163	9,08	64,78	163	5,20	21,22
164	16,90	224,30	164	11,65	106,53	164	8,89	62,09
165	14,27	159,99	165	8,61	58,16	165	10,73	90,44
166	22,12	384,28	166	12,71	126,97	166	11,80	109,33
167	13,09	134,65	167	16,89	224,00	167	9,83	75,83
167	7,10	39,64	168	35,38	982,87	168	8,33	54,52
168	27,19	580,75	169	32,04	806,03	169	7,93	49,43
169	8,99	63,51	170	21,67	368,69	170	13,91	152,02
170	18,23	260,90	171	17,60	243,37	171	9,53	71,37
171	10,14	80,71	172	16,76	220,59	172	8,41	55,59
172	10,80	91,61	173	7,07	39,29	173	6,70	35,25
173	16,61	216,66	174	12,92	131,18	174	6,65	34,75
174	11,65	106,64	175	11,23	99,05	175	7,76	47,29
175	9,54	71,42	176	14,93	175,13	176	12,27	118,27
176	24,19	459,46	177	15,25	182,72	177	10,22	82,06
177	22,31	390,86	178	11,11	96,88	178	6,04	28,66
178	14,74	170,74	179	11,10	96,72	179	14,94	175,26
179	36,52	1047,68	180	10,56	87,63	180	9,24	67,04
180	27,91	611,91	181	16,95	225,55	181	24,38	466,77
181	35,81	1007,25	182	15,49	188,42	182	6,81	36,38
182	18,10	257,38	183	10,47	86,03	183	10,69	89,70
183	19,51	298,97	184	13,83	150,20	184	8,83	61,19
184	13,40	140,96	185	11,20	98,48	185	16,76	220,61
185	25,99	530,50	186	9,69	73,71	186	13,87	151,04
186	12,77	128,01	187	25,55	512,66	187	9,17	66,11
187	20,46	328,83	188	9,46	70,29	188	9,20	66,50
188	14,79	171,72	189	6,39	32,11	189	8,41	55,59
189	18,63	272,48	190	8,26	53,57	190	12,12	115,41
190	9,05	64,26	191	9,53	71,37	191	13,89	151,45
191	10,61	88,36	192	8,80	60,78	192	12,50	122,80
192	7,19	40,64	193	9,51	71,02	193	13,32	139,35
193	5,93	27,61	194	9,20	66,45	194	14,07	155,50
194	7,63	45,70	195	6,66	34,84	195	10,16	81,10
195	17,49	240,22	196	5,70	25,47	196	8,45	56,14
196	15,70	193,55	197	17,91	251,83	197	13,08	134,41
197	18,62	272,40	198	17,14	230,62	198	5,56	24,30
198	8,15	52,15	199	20,62	333,94	199	10,61	88,36
199	7,04	38,92	200	21,06	348,43	200	10,93	93,79

200	22,35	392,47	201	17,39	237,50	201	16,19	205,92
201	12,85	129,73	202	15,91	198,74	202	8,57	57,72
202	11,50	103,82	203	17,99	254,21	203	6,37	31,85
203	13,99	153,72	204	22,22	387,60	204	11,02	95,40
204	7,45	43,55	205	20,48	329,41	205	7,82	48,05
205	17,59	242,87	206	19,79	307,61	206	8,91	62,36
206	9,09	64,89	207	13,32	139,35	207	10,52	86,85
207	10,99	94,93	208	16,36	210,14	208	16,43	211,92
208	23,69	440,81	209	16,40	211,25	209	11,29	100,03
209	10,21	81,85	210	28,42	634,17	210	8,26	53,60
210	8,77	60,40	211	11,60	105,62	211	11,14	97,39
211	12,56	123,90	212	25,03	492,10	212	8,89	62,09
212	28,64	644,23	213	12,41	120,87	213	7,53	44,50
213	16,26	207,72	214	11,43	102,61	214	7,57	44,97
214	10,52	86,99	215	8,62	58,31	215	7,37	42,66
215	10,00	78,49	216	16,10	203,71	216	8,08	51,30
216	19,64	302,83	217	12,21	117,10	217	5,34	22,38
217	11,86	110,42	218	12,77	127,98	218	5,18	21,06
218	11,00	94,99	219	6,68	35,08	219	9,10	65,07
219	10,93	93,79	220	10,60	88,31	220	7,95	49,67
220	13,67	146,74	221	10,47	86,16	221	8,49	56,62
221	20,02	314,63	222	11,42	102,35	222	11,02	95,40
222	18,56	270,64	223	8,88	61,94	223	7,19	40,56
223	9,04	64,25	224	11,73	108,11	224	7,92	49,26
224	13,34	139,78	225	13,51	143,26	225	15,95	199,92
225	12,81	128,95	226	18,42	266,50	226	18,32	263,60
226	12,47	122,19	227	14,50	165,14	227	17,61	243,46
227	9,44	69,94	228	16,48	213,23	228	11,21	98,69
228	18,78	277,05	229	13,60	145,36	229	9,06	64,42
229	11,06	96,06	230	13,37	140,32	230	0,00	0,00
230	14,99	176,37	231	7,94	49,56	231	8,01	50,33
231	13,91	151,98	232	11,96	112,27	232	8,67	59,08
232	8,21	52,97	233	9,25	67,23	233	12,95	131,76
233	6,73	35,55	234	6,37	31,85	234	13,42	141,53
234	26,20	539,18	235	8,89	62,04	235	10,02	78,93
235	32,20	814,11	236	7,85	48,42	236	11,51	104,11
236	8,95	62,90	237	7,02	38,71	237	6,98	38,32
237	9,35	68,62	238	21,45	361,22	238	10,09	80,01
238	18,23	260,89	239	24,64	476,69	239	11,75	108,48
239	7,59	45,30	240	12,26	118,06	240	6,42	32,33
240	6,65	34,75	241	23,55	435,49	241	5,15	20,79

241	6,98	38,32	242	13,54	143,99	242	5,07	20,18
242	9,47	70,45	243	11,03	95,63	243	5,33	22,35
243	8,34	54,58	244	20,98	345,72	244	15,27	183,19
244	19,31	292,80	245	8,31	54,22	245	23,87	447,58
245	6,81	36,38	246	9,37	68,98	246	14,44	163,65
246	9,78	75,09	247	6,20	30,22	247	8,95	62,90
247	7,99	50,19	248	8,68	59,19	248	11,61	105,93
248	6,47	32,83	249	8,62	58,30	249	9,65	73,12
249	4,70	17,38	250	9,53	71,28	250	9,61	72,46
250	4,71	17,42	251	11,14	97,42	251	7,92	49,28
251	5,48	23,62	252	7,52	44,45	252	7,74	47,10
252	18,34	264,25	253	10,53	87,11	253	9,68	73,64
253	19,31	292,75	254	10,73	90,48	254	6,58	34,01
254	21,57	365,47	255	24,72	480,12	255	6,44	32,56
255	10,98	94,77	256	16,20	206,19	256	7,77	47,39
256	17,37	236,90	257	27,68	601,79	257	7,92	49,31
257	13,82	149,90	258	12,85	129,76	258	7,84	48,25
258	12,51	123,00	259	10,37	84,39	259	7,89	48,89
259	9,99	78,39	260	11,42	102,35	260	10,95	94,25
260	11,70	107,56	261	10,02	78,93	261	7,15	40,14
261	12,81	128,88	262	17,66	244,96	262	6,21	30,32
262	14,76	170,99	263	19,79	307,61	263	7,67	46,22
263	15,88	198,02	264	30,78	744,26	264	5,96	27,90
264	12,45	121,82	265	25,01	491,20	265	5,17	21,01
265	12,60	124,61	266	19,38	295,12	266	12,12	115,42
266	11,50	103,83	267	17,94	252,73	267	13,67	146,81
267	9,24	67,01	268	16,40	211,30	268	8,02	50,55
268	16,55	215,10	269	18,00	254,38	269	7,67	46,16
269	12,94	131,55	270	11,56	104,93	270	9,35	68,65
270	9,81	75,55	271	12,18	116,48	271	19,15	288,03
271	11,59	105,42	272	11,42	102,48	272	9,57	71,99
272	24,34	465,17	273	17,82	249,50	273	14,10	156,07
273	14,12	156,65	274	24,92	487,66	274	13,94	152,56
274	13,53	143,80	275	9,92	77,27	275	6,77	36,00
275	11,23	99,05	276	16,37	210,49	276	6,42	32,33
276	16,98	226,46	277	11,00	94,99	277	12,46	122,01
277	24,46	469,99	278	8,33	54,44	278	9,78	75,10
278	16,10	203,55	279	8,49	56,64	279	14,82	172,49
279	8,14	52,08	280	9,84	76,05	280	8,07	51,15
280	10,94	94,03	281	10,66	89,28	281	13,05	133,70
281	8,73	59,92	282	13,32	139,35	282	9,77	74,90

282	8,77	60,44	283	19,83	308,84	283	8,13	51,93
283	13,90	151,73	284	25,43	508,01	284	6,50	33,17
284	8,10	51,55	285	6,33	31,45	285	5,57	24,35
285	10,69	89,79	286	16,98	226,46	286	13,85	150,74
286	9,53	71,28	287	18,18	259,61	287	12,84	129,58
287	12,98	132,42	288	18,30	263,07	288	12,94	131,59
288	8,82	61,11	289	0,48	0,18	289	7,15	40,17
289	8,75	60,15	290	12,45	121,76	290	8,62	58,30
290	6,73	35,52	291	13,83	150,12	291	10,77	91,06
291	16,32	209,26	292	11,86	110,54	292	12,88	130,29
292	19,62	302,24	293	11,70	107,54	293	6,02	28,44
293	31,11	759,98	294	18,63	272,69	294	11,43	102,65
294	18,14	258,51	295	16,30	208,60	295	13,74	148,34
295	11,51	103,98	296	17,90	251,62	296	10,80	91,61
296	7,32	42,07	297	21,01	346,71	297	13,01	132,89
297	15,82	196,48	298	28,42	634,14	298	10,96	94,30
298	16,53	214,58	299	19,98	313,55	299	6,70	35,21
299	7,49	44,10	300	21,97	379,00	300	9,65	73,14
300	7,72	46,81	301	22,83	409,53	301	11,57	105,05
301	10,80	91,67	302	18,48	268,14	302	6,70	35,27
302	10,70	89,97	303	24,09	455,76	303	10,42	85,27
303	9,90	77,00	304	17,88	251,03	304	7,40	43,01
304	10,52	86,84	305	20,50	329,95	305	6,16	29,79
305	10,02	78,83	306	19,15	288,02	306		
306	7,99	50,17	307	26,86	566,76	307		
307	7,52	44,43	308	17,23	233,21	308		
308	9,51	71,02	309	17,36	236,77	309		
309	6,03	28,56	310	22,88	410,99	310		
310	7,03	38,86	311	15,69	193,40	311		
311	8,33	54,46	312	14,56	166,43	312		
312	6,44	32,55	313	15,15	180,24	313		
313	5,37	22,65	314	13,61	145,45	314		
314	5,79	26,34	315	11,50	103,94	315		
315	7,01	38,59	316	19,97	313,28	316		
316	5,92	27,56	317	16,14	204,54	317		
317	10,69	89,81	318	9,77	74,94	318		
318	6,22	30,39	319	16,96	225,89	319		
319	7,12	39,79	320	13,74	148,17	320		
320	9,69	73,70	321	10,37	84,41	321		
321	12,41	120,87	322	13,58	144,75	322		
322	11,98	112,80	323	9,65	73,14	323		

323	10,96	94,30	324	10,66	89,19	324		
324	9,32	68,17	325	14,71	170,01	325		
325	8,08	51,29	326	13,47	142,49	326		
326	19,98	313,55	327	17,29	234,83	327		
327	11,60	105,62	328	19,72	305,55	328		
328	13,50	143,23	329	24,65	477,10	329		
329			330	9,41	69,49	330		
330			331	8,38	55,13	331		
331			332	8,24	53,31	332		
Jumlah								
Rata-rata	13,86	190,08		15,72	242,12		9,63	82,72