

LAMPIRAN

Lampiran 1: : Surat permohonan izin pembelian bahan

 **Fakultas Farmasi**
Universitas
Bhakti Kencana

 **No. Dok. 09.134.00/FRM-03/AKD-SPM1**

SURAT PERMOHONAN IJIN
Pembelian Bahan dan Kunjungan Tempat

Saya yang bertanda tangan di bawah ini :

1) Nama (beserta gelar) : Apt. Drs. Rahmat Santoso, M.Si., MH.Kes
NIDN : 0403046401
Selaku : Pembimbing Utama

2) Nama (beserta gelar) : Rahma Ziska M.Si
NIDN : 0421088202
Selaku : Pembimbing Serta

Mengajukan permohonan ijin untuk mahasiswa kami di bawah ini:

Nama : Andi Hidayat
NPM : 191FF03057
No. HP : 085157733057
Kelompok Keilmuan : Farmasetika dan Teknologi Farmasi
Program Studi : Farmasi
Judul Penelitian : Formulasi Dan Evaluasi Mie Gluten-Free dengan Kombinasi Tepung Porang, Tepung Cassava, dan Tepung Garut Menggunakan Metode Ekstrusi dan Penggunaan Kemasan Biodegradable

Jenis Kepentingan (*strip atau coret pilihan dibawah bila tidak digunakan*)

a. Penelitian/ analisis

- Ditujukan ke- : -
- Tempat : -
- Waktu : -
- Alat/ Metode : -
- Keterangan : -

(contoh: parameter uji seperti suhu dsb)

b. Pembelian Bahan

- Ditujukan ke- : Sahabat Petani Porang SKH
- Nama Bahan : Tepung Porang
- Jumlah : 2kg

c. Pengajuan Etik

- Ditujukan ke- : -
- Jenis Etik : -

(contoh: Etik Non Uji Klinik atau Kesehatan Komunitas/ Etik Uji Hewan/ Etik Uji Klinik/ Etik Sosial Komunitas, dll)

- Keterangan : -

(contoh: jenis hewan)

d. Kepentingan lainnya :

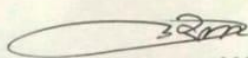
- Ditujukan ke- : Sahabat Petani Porang SKH
- Keterangan : Kunjungan Tempat Produksi dan Penjualan

Mohon kiranya diberikan ijin atas permohonan tersebut.
Atas perhatiannya kami ucapkan terimakasih.

Bandung, 5 Maret 2023

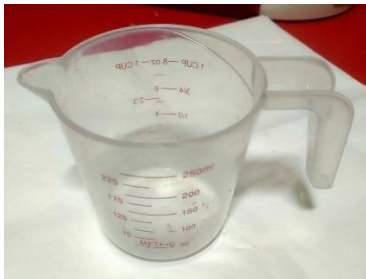
Pembimbing Utama

Pembimbing Serta


Apt. Drs. Rahmat Santoso, M.Si., MH.Kes
Jl. Soekarno Hatta No 754 Bandung
022 7830 760, 022 7830 768
bku.ac.id contact@bku.ac.id


Rahma Ziska M.Si

Lampiran 2:Alat dan Bahan

Alat	Gambar	Bahan	Gambar
Ekstruder (Irastar NOD 888)		Tepung porang	
Neraca		Tepung <i>mocaf</i>	
Beaker glass		Tepung Garut	
Oven		STPP	

Panci		Na. Benzoat	
Spatula		Kaldu jamur	
Baskom		telur	
Loyang		Andaliman	
Batang pengaduk		Daun jeruk	

Nampan		Tempe semangit	
mangkuk berbahan kertas		Tepung maizena	
Kompur		Asam cuka	
		Agar-agar	

		Minyak sawit	
		Aquadest	

Lampiran 3: Formula mie, bumbu *gluten-free* dan kemasan *biodegradable*

1. Formulasi mie *gluten-free*

Nama bahan	Spesifikasi	Jumlah (gram)				
		F1	F2	F3	F4	F5
Tepung porang	12-21%	60	60	60	110	110
Tepung <i>mocaf</i>	16-35%	125	80	175	125	80
Tepung Garut	14-33%	115	165	70	70	115
Air	28-29%	143	138	138	138	138
telur	10%	50	50	50	50	50
Sodium tripoliphospat	0,3%	1,5	1,5	1,5	1,5	1,5
Kaldu jamur	1%	5	5	5	5	5
Natrium Benzoat	0,001%	0,05	0,05	0,05	0,05	0,05
Total	100%	500	500	500	500	500

2. Formula bumbu *gluten-free*

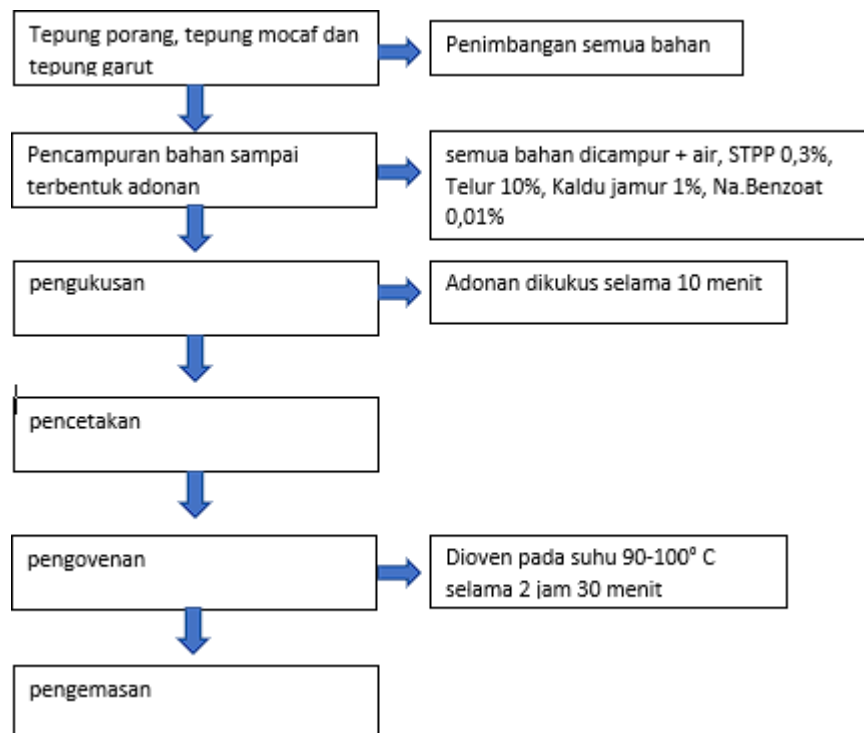
Nama bahan	Spesifikasi	Jumlah (gram)
Tempe semangit	40%	40
Andaliman	20%	20
Daun jeruk	10%	10
Kaldu jamur	30%	30
Total	100%	100

3. Formulasi kemasan *biodegradable*

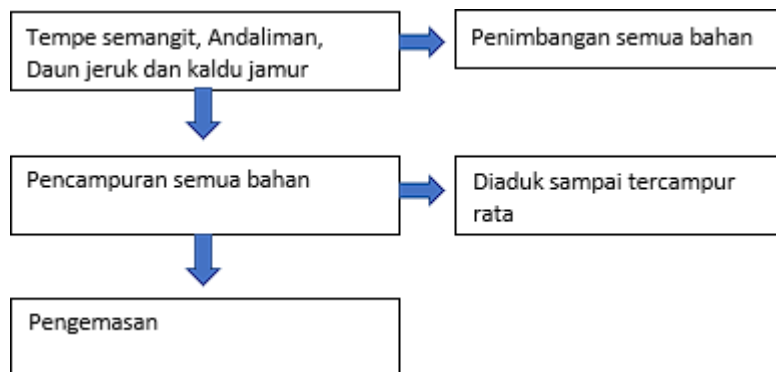
Nama bahan	Spesifikasi	Jumlah (gram)
Tepung Maizena	14%	14
Agar-agar	20%	20
Cuka	5%	5
Minyak sawit	5%	5
Air	qs	qs
Total	100%	100

Lampiran 4: Diagram alir proses pembuatan mie, bumbu *gluten-free* dan kemasan *biodegradable*

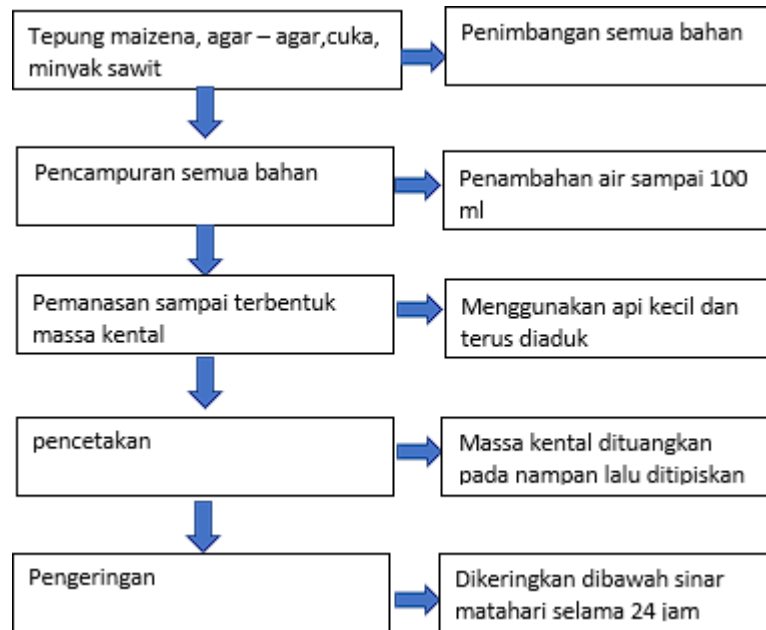
1. Diagram alir pembuatan mie *gluten-free*



2. Diagram alir pembuatan bumbu mie *gluten-free*

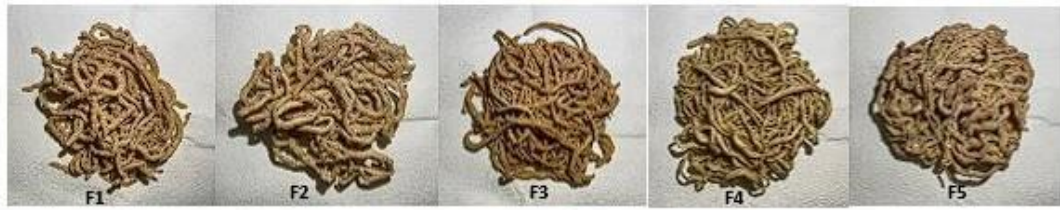


3. Diagram alir kemasan *biodegradable*

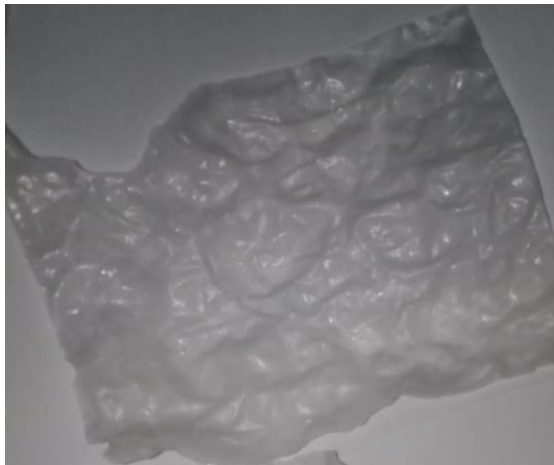


Lampiran 5: Dokumentasi mie, bumbu *gluten-free* dan kemasan *biodegradable*

1. Mie dan Bumbu *gluten-free*



2. Kemasan *biodegradable*

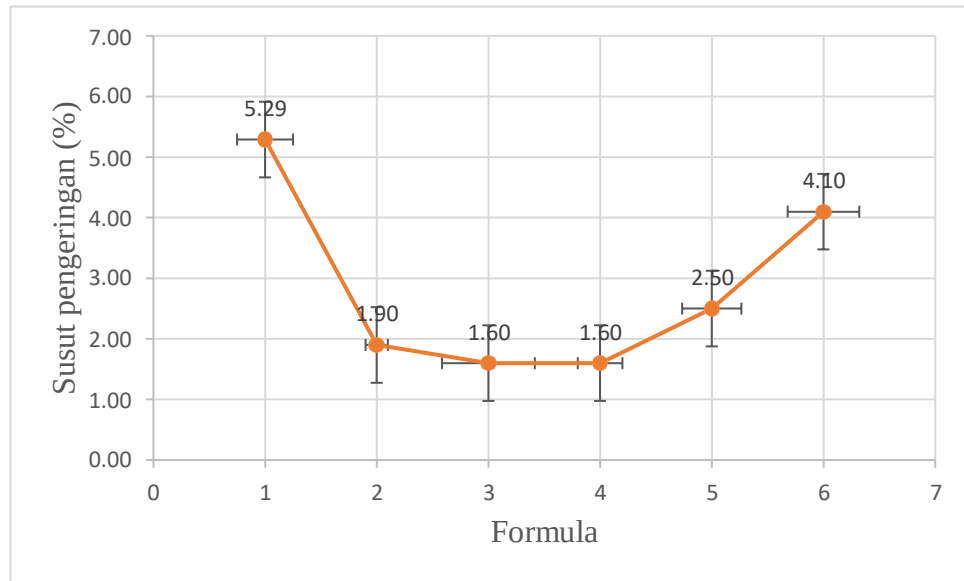


Lampiran 6: Syarat mutu mie kering

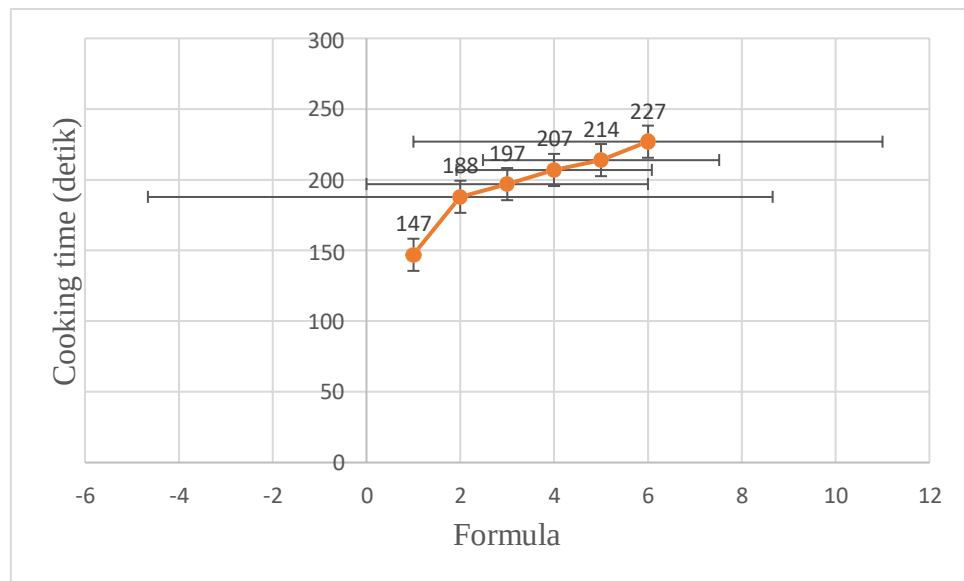
No.	Kriteria uji	Satuan	Persyaratan	
			Digoreng	Dikeringkan
1	Keadaan			
1.1	Bau	-	normal	normal
1.2	Rasa	-	normal	normal
1.3	Warna	-	normal	normal
1.4	Tekstur	-	normal	normal
2	Kadar air	fraksi massa, %	maks. 8	maks. 13
3	Kadar protein (N x 6,25)	fraksi massa, %	min. 8	min. 10
4	Bilangan asam	mg KOH/g minyak	maks. 2	-
5	Kadar abu tidak larut dalam asam	fraksi massa, %	maks. 0,1	maks. 0,1
6	Cemaran logam			
6.1	Timbal (Pb)	mg/kg	maks. 1,0	maks. 1,0
6.2	Kadmium (Cd)	mg/kg	maks. 0,2	maks. 0,2
6.3	Timah (Sn)	mg/kg	maks. 40,0	maks. 40,0
6.4	Merkuri (Hg)	mg/kg	maks. 0,05	maks. 0,05

Lampiran 7: Hasil Evaluasi fisik, kimia dan hedonik mie *gluten-free*

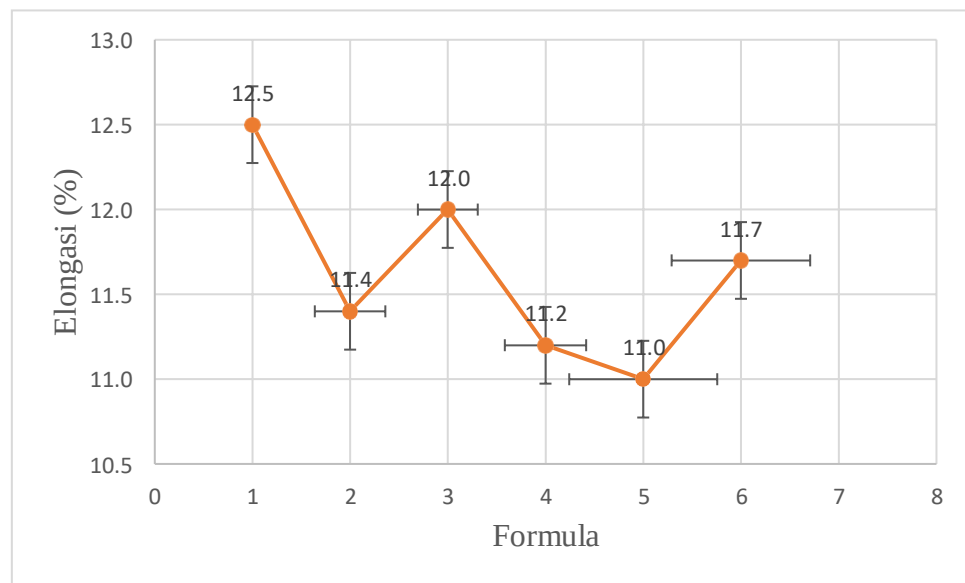
1. Susut pengeringan



2. Cooking time



3. Elongasi



4. Tabel hasil uji hedonik

Nama responden	Tampilan (S1)					Warna (S2)					Aroma (S3)					Rasa (S4)					Keberteimaan (S5)				
	S1F1	S1F2	S1F3	S1F4	S1F5	S2F1	S2F2	S2F3	S2F4	S2F5	S3F1	S3F2	S3F3	S3F4	S3F5	S4F1	S4F2	S4F3	S4F4	S4F5	S5F1	S5F2	S5F3	S5F4	S5F5
1	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
2	4	3	4	4	4	4	4	4	4	3	5	4	3	4	3	4	3	3	3	3	3	3	3	4	4
3	4	4	3	4	4	4	3	3	4	4	3	4	4	5	4	4	4	4	4	4	4	4	4	4	4
4	3	3	3	3	3	3	3	3	3	4	3	4	3	3	3	3	3	3	4	3	4	3	3	3	3
5	4	4	3	3	4	3	3	3	4	3	4	4	4	5	4	4	4	4	4	4	4	4	4	4	4
6	4	4	3	3	4	4	3	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
7	4	4	3	4	4	4	3	4	3	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
8	5	4	4	5	4	4	4	4	5	5	4	4	5	5	4	4	4	5	4	4	4	4	4	4	4
9	5	5	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	3	4	5	3	3	3	3
10	3	3	4	4	4	4	4	4	4	3	4	4	4	4	3	4	3	4	4	3	3	4	3	4	3
11	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	3	3	3	3	3	4	4	4	4	4
12	5	5	4	5	4	5	5	5	5	5	5	5	5	5	4	4	4	5	5	4	5	4	5	5	4
13	3	2	4	4	3	2	3	3	4	3	2	4	3	4	2	3	3	3	4	3	3	3	4	4	2
14	4	3	2	4	2	4	4	4	3	4	3	4	4	4	4	2	3	3	3	4	2	2	2	2	3
15	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
16	4	4	4	4	5	4	4	4	4	4	5	4	4	4	4	5	4	4	4	4	5	5	5	4	5
17	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
18	4	4	4	5	5	5	5	5	4	5	5	5	5	5	5	5	5	4	5	5	5	5	4	5	5
19	2	3	3	5	1	2	2	2	5	2	5	5	5	4	4	5	5	5	5	5	4	4	4	4	5
20	3	4	4	4	3	3	4	3	4	3	2	4	3	3	4	3	4	4	4	3	3	4	4	4	3
21	3	4	4	4	4	4	3	4	3	4	3	3	3	4	4	3	3	3	3	3	4	3	3	3	3
22	5	4	4	4	4	4	4	4	4	4	4	4	4	4	4	3	3	3	4	3	4	4	4	4	4
23	4	4	3	3	4	3	4	4	3	4	4	4	2	3	3	4	3	4	4	2	4	2	4	4	3
24	4	4	5	4	3	5	4	4	4	3	4	4	3	3	3	4	4	3	4	3	3	4	4	4	3
25	4	3	4	4	4	5	5	3	3	4	4	4	4	5	3	3	3	3	4	4	4	5	4	4	3
26	4	3	2	2	3	3	3	3	5	2	3	4	3	5	4	4	4	3	5	4	3	4	3	3	4
27	4	5	5	4	5	4	4	4	5	4	4	4	4	5	4	4	4	4	5	4	5	4	5	4	4
28	4	4	4	5	4	4	4	4	4	5	4	5	5	4	4	5	4	5	4	4	5	4	5	5	4
29	3	4	3	3	3	3	3	3	4	4	4	4	3	3	3	4	4	3	4	3	4	3	4	4	5
30	5	5	4	5	4	5	5	5	4	4	5	4	3	4	4	4	4	5	4	4	5	3	4	5	3

Lampiran 8: Hasil Statistik mie *gluten-free*

1. Susut pengeringan

Tests of Normality							
	perlakuan	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
susutpengeringan	Kontrol positif	.381	3	.	.760	3	.023
	Formula 1	.175	3	.	1.000	3	1.000
	Formula 2	.292	3	.	.923	3	.463
	Formula 3	.175	3	.	1.000	3	1.000
	Formula 4	.314	3	.	.893	3	.363
	Formula 5	.328	3	.	.871	3	.298

a. Lilliefors Significance Correction

Test of Homogeneity of Variances

susutpengeringan

Levene Statistic	df1	df2	Sig.
1.723	5	12	.204

ANOVA

susutpengeringan

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	34.989	5	6.998	91.326	.000
Within Groups	.920	12	.077		
Total	35.909	17			

Multiple Comparisons

Dependent Variable: susutpengeringan

LSD

(I) perlakuan	(J) perlakuan	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Kontrol positif	Formula 1	3.39000*	.22602	.000	2.8976	3.8824
	Formula 2	3.72333*	.22602	.000	3.2309	4.2158
	Formula 3	3.69000*	.22602	.000	3.1976	4.1824
	Formula 4	2.79000*	.22602	.000	2.2976	3.2824
	Formula 5	1.22333*	.22602	.000	.7309	1.7158
Formula 1	Kontrol positif	-3.39000*	.22602	.000	-3.8824	-2.8976
	Formula 2	.33333	.22602	.166	-.1591	.8258
	Formula 3	.30000	.22602	.209	-.1924	.7924
	Formula 4	-.60000*	.22602	.021	-1.0924	-.1076
	Formula 5	-2.16667*	.22602	.000	-2.6591	-1.6742
Formula 2	Kontrol positif	-3.72333*	.22602	.000	-4.2158	-3.2309
	Formula 1	-.33333	.22602	.166	-.8258	.1591
	Formula 3	-.03333	.22602	.885	-.5258	.4591
	Formula 4	-.93333*	.22602	.001	-1.4258	-.4409
	Formula 5	-2.50000*	.22602	.000	-2.9924	-2.0076
Formula 3	Kontrol positif	-3.69000*	.22602	.000	-4.1824	-3.1976
	Formula 1	-.30000	.22602	.209	-.7924	.1924
	Formula 2	.03333	.22602	.885	-.4591	.5258
	Formula 4	-.90000*	.22602	.002	-1.3924	-.4076
	Formula 5	-2.46667*	.22602	.000	-2.9591	-1.9742
Formula 4	Kontrol positif	-2.79000*	.22602	.000	-3.2824	-2.2976
	Formula 1	.60000*	.22602	.021	.1076	1.0924
	Formula 2	.93333*	.22602	.001	.4409	1.4258
	Formula 3	.90000*	.22602	.002	.4076	1.3924
	Formula 5	-1.56667*	.22602	.000	-2.0591	-1.0742
Formula 5	Kontrol positif	-1.22333*	.22602	.000	-1.7158	-.7309
	Formula 1	2.16667*	.22602	.000	1.6742	2.6591
	Formula 2	2.50000*	.22602	.000	2.0076	2.9924
	Formula 3	2.46667*	.22602	.000	1.9742	2.9591
	Formula 4	1.56667*	.22602	.000	1.0742	2.0591

*. The mean difference is significant at the 0.05 level.

2. Cooking time

Tests of Normality^a

	perlakuan	Kolmogorov-Smirnov ^b			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
cookingtime	Formula 1	.358	3	.	.812	3	.144
	Formula 2	.175	3	.	1.000	3	1.000
	Formula 3	.292	3	.	.923	3	.463
	Formula 4	.219	3	.	.987	3	.780
	Formula 5	.175	3	.	1.000	3	1.000

a. cookingtime is constant when perlakuan = Kontrol positif. It has been omitted.

b. Lilliefors Significance Correction

Test of Homogeneity of Variances

cookingtime

Levene Statistic	df1	df2	Sig.
2.910	5	12	.060

ANOVA

cookingtime

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	11612.278	5	2322.456	156.570	.000
Within Groups	178.000	12	14.833		
Total	11790.278	17			

Multiple Comparisons

Dependent Variable: cookingtime

LSD

(I) perlakuan	(J) perlakuan	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Kontrol positif	Formula 1	-40.66667*	3.14466	.000	-47.5183	-33.8150
	Formula 2	-50.00000*	3.14466	.000	-56.8516	-43.1484
	Formula 3	-60.33333*	3.14466	.000	-67.1850	-53.4817
	Formula 4	-66.66667*	3.14466	.000	-73.5183	-59.8150
	Formula 5	-80.00000*	3.14466	.000	-86.8516	-73.1484
Formula 1	Kontrol positif	40.66667*	3.14466	.000	33.8150	47.5183
	Formula 2	-9.33333*	3.14466	.012	-16.1850	-2.4817
	Formula 3	-19.66667*	3.14466	.000	-26.5183	-12.8150
	Formula 4	-26.00000*	3.14466	.000	-32.8516	-19.1484
	Formula 5	-39.33333*	3.14466	.000	-46.1850	-32.4817
Formula 2	Kontrol positif	50.00000*	3.14466	.000	43.1484	56.8516
	Formula 1	9.33333*	3.14466	.012	2.4817	16.1850
	Formula 3	-10.33333*	3.14466	.007	-17.1850	-3.4817
	Formula 4	-16.66667*	3.14466	.000	-23.5183	-9.8150
	Formula 5	-30.00000*	3.14466	.000	-36.8516	-23.1484
Formula 3	Kontrol positif	60.33333*	3.14466	.000	53.4817	67.1850
	Formula 1	19.66667*	3.14466	.000	12.8150	26.5183
	Formula 2	10.33333*	3.14466	.007	3.4817	17.1850
	Formula 4	-6.33333	3.14466	.067	-13.1850	.5183
	Formula 5	-19.66667*	3.14466	.000	-26.5183	-12.8150
Formula 4	Kontrol positif	66.66667*	3.14466	.000	59.8150	73.5183
	Formula 1	26.00000*	3.14466	.000	19.1484	32.8516
	Formula 2	16.66667*	3.14466	.000	9.8150	23.5183
	Formula 3	6.33333	3.14466	.067	-.5183	13.1850
	Formula 5	-13.33333*	3.14466	.001	-20.1850	-6.4817
Formula 5	Kontrol positif	80.00000*	3.14466	.000	73.1484	86.8516
	Formula 1	39.33333*	3.14466	.000	32.4817	46.1850
	Formula 2	30.00000*	3.14466	.000	23.1484	36.8516
	Formula 3	19.66667*	3.14466	.000	12.8150	26.5183
	Formula 4	13.33333*	3.14466	.001	6.4817	20.1850

*. The mean difference is significant at the 0.05 level.

3. Elongasi

Tests of Normality^a

	perlakuan	Kolmogorov-Smirnov ^b			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
elongasi	Formula 1	.276	3	.	.942	3	.537
	Formula 2	.253	3	.	.964	3	.637
	Formula 3	.292	3	.	.923	3	.463
	Formula 4	.337	3	.	.855	3	.253
	Formula 5	.241	3	.	.974	3	.688

a. elongasi is constant when perlakuan = Kontrol positif. It has been omitted.

b. Lilliefors Significance Correction

Test of Homogeneity of Variances

elongasi

Levene Statistic	df1	df2	Sig.
3.076	5	12	.051

ANOVA

elongasi

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	4.658	5	.932	3.794	.027
Within Groups	2.947	12	.246		
Total	7.604	17			

Multiple Comparisons

Dependent Variable: elongasi

LSD

(I) perlakuan	(J) perlakuan	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Kontrol positif	Formula 1	1.10000*	.40460	.019	.2184	1.9816
	Formula 2	.46667	.40460	.271	-.4149	1.3482
	Formula 3	1.33333*	.40460	.006	.4518	2.2149
	Formula 4	1.46667*	.40460	.003	.5851	2.3482
	Formula 5	.76667	.40460	.082	-.1149	1.6482
Formula 1	Kontrol positif	-1.10000*	.40460	.019	-1.9816	-.2184
	Formula 2	-.63333	.40460	.143	-1.5149	.2482
	Formula 3	.23333	.40460	.575	-.6482	1.1149
	Formula 4	.36667	.40460	.383	-.5149	1.2482
	Formula 5	-.33333	.40460	.426	-1.2149	.5482
Formula 2	Kontrol positif	-.46667	.40460	.271	-1.3482	.4149
	Formula 1	.63333	.40460	.143	-.2482	1.5149
	Formula 3	.86667	.40460	.053	-.0149	1.7482
	Formula 4	1.00000*	.40460	.029	.1184	1.8816
	Formula 5	.30000	.40460	.473	-.5816	1.1816
Formula 3	Kontrol positif	-1.33333*	.40460	.006	-2.2149	-.4518
	Formula 1	-.23333	.40460	.575	-1.1149	.6482
	Formula 2	-.86667	.40460	.053	-1.7482	.0149
	Formula 4	.13333	.40460	.747	-.7482	1.0149
	Formula 5	-.56667	.40460	.187	-1.4482	.3149
Formula 4	Kontrol positif	-1.46667*	.40460	.003	-2.3482	-.5851
	Formula 1	-.36667	.40460	.383	-1.2482	.5149
	Formula 2	-1.00000*	.40460	.029	-1.8816	-.1184
	Formula 3	-.13333	.40460	.747	-1.0149	.7482
	Formula 5	-.70000	.40460	.109	-1.5816	.1816
Formula 5	Kontrol positif	-.76667	.40460	.082	-1.6482	.1149
	Formula 1	.33333	.40460	.426	-.5482	1.2149
	Formula 2	-.30000	.40460	.473	-1.1816	.5816
	Formula 3	.56667	.40460	.187	-.3149	1.4482
	Formula 4	.70000	.40460	.109	-.1816	1.5816

*. The mean difference is significant at the 0.05 level.

Lampiran 9: Hasil Cek Plagiarisme Mandiri

ORIGINALITY REPORT			
12%	12%	1%	0%
SIMILARITY INDEX	INTERNET SOURCES	PUBLICATIONS	STUDENT PAPERS
PRIMARY SOURCES			
1	repository.usm.ac.id Internet Source	5%	
2	docplayer.info Internet Source	2%	
3	www.researchgate.net Internet Source	1%	
4	www.scribd.com Internet Source	1%	
5	es.scribd.com Internet Source	1%	
6	id.123dok.com Internet Source	1%	
7	ejurnal.ung.ac.id Internet Source	1%	
8	123dok.com Internet Source	1%	

DAFTAR RIWAYAT HIDUP PENELITI/PENULIS



Andi Hidayat, lahir di Bandung 02 Februari 2001. Penulis merupakan anak ke-tiga dari Bapak Obo Sutarya dan Ibu Engkoy Siti. Menempuh pendidikan di SDN Puncak Mulya tahun 2007-2013, SMPN 2 Soreang 2013-2016, SMKF Bhakti Kencana Soreang 2016-2019. Dan melanjutkan pendidikannya di Universitas Bhakti Kencana Bandung Prodi Sarjana Farmasi (2019-2023). Selain kuliah peneliti juga pernah mengikuti kegiatan mahasiswa seperti panitia di acara Inaugurasi tahun 2019, serta membantu dosen dalam mengelola dokumen pada akhir kelulusan.

Karena sejatinya kesempurnaan hanya milik Sang Maha Pencipta, maka penulis sangat mengharapkan kritik dan saran mengenai skripsi ini, yang dapat disampaikan kepada penulis di alamat email andih8820@gmail.com atau No.Hp: 085157733057.