LAMPIRAN

Lampiran 1 Berita Acara Bimbingan Skripsi

UNIVERSITAS PGRI ADI BUANA SURABAYA
FAKULTAS SAINS DAN KESEHATAN
PROGRAM STUDI S-1 FARMASI
Kampus I : Jl. Ngagel Dadi III-B 37 Telp. (031) 5041097 Fax. (031) 5042804 Surabaya 60245
II : Jl. Dukuh Menanggal XII, Telp/ Fax. (031) 8289637. Surabaya, 60234

LEMBAR BIMBINGAN SKRIPSI*

Nama : Aretha Cahyani
NIM : 18901017
Judul : Uji Pelepasan dan Aktivitas Antibakteri Nanostructured Lipid Carriers (NLC) Tea Tree Oil (Melaleuca Alternifolia) Menggunakan Metode Response Surface

Nama DPU : Apt. Asti Rahayu, S. Farm., M. Farm
Nama DPA : Apt. Prisma Trida Hardani, S Farm., M. Farm

No.	Hari/Tgl	Kegiatan yang diselesaikan/ dikonsultasikan	Hasil	Keterangan, paraf/ttd DPU/DPA
1	17/6/23	Konsultasi hasil Praktikum	ACC	
2	28/6/23	Konsultasi Bab IV	⊕ kan pembahasan kaitkan dg teori / penelitian lain.	
3	Kamis 29/6/23	Konsultasi Bab IV	pembahasan kurang mendalam	
4	Jumat. 30/5/23	Konsultasi Hasil	— u —	

*Pilih salah Satu

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II : Jl. Dukuh Menanggal XII, Telp/ Fax. (031) 8289637. Surabaya, 60234

LEMBAR BIMBINGAN SKRIPSI*

Nama : Ardila Cahyani
NIM : 18401009
Judul : Uji perepasan dan Aktivitas Antibakteri Nanostuktur Lipid Carrier (NLC) Tea Tree Oil (Melaleuca Alternifolia) Menggunakan Metode Respon Surface

Nama DPU : Apt. Asti Rahayu., S. Farm., M. Farm
Nama DPA : Apt. Prisma Trida Hardani. S. Farm., M. Farm

No.	Hari/Tgl	Kegiatan yang diselesaikan/ dikonsultasikan	Hasil	Keterangan, paraf/ttd DPU/DPA
1.	20/3/23	Konsultasi hasil praktikum	Acc	
2.	6/6/23	Konsultasi Bab IV	Revisi	
3.	8/6/23	Konsultasi Revisi Bab IV	Acc	
4.	13/6/23	Konsultasi Hasil	Acc	
5.	19/6/23	Konsultasi bab IV-V	Revisi	
6.	22/6/23	Revisi bab IV-V	Acc	
7	23/6/23	Konsultasi PPT, Abstrac Ringkasan	Acc	

*Pilih salah Satu

Lampiran 2 Format Revisi Skripsi

FORM REVISI PROPOSAL SKRIPSI/SKRIPSI*

Nama : Ardila Cahyani
NIM : 18401001 7
Judul : Uji Pelepasan dan Aktivitas Antibakteri Nanostructured lipid carrier (NLC) Tea Tree Oil (Melaleuca Alternifolia) Menggunakan Metode Respon Surface

Telah menghadap pada :	Tanggal	TTD
Dosen Pembimbing Utama Apt. Asti Rahayu. S. Farm., M. Farm NIDN	26 Juli 2023	
Dosen Pembimbing Anggota Apt. Prisma Trida Hardani. S. Farm., M. Farm NIDN	11 Juli 2023	
Dosen Penguji Intan Ayu Kucuma Pramushinta, S.Si., M.Si NIDN	11 Juli 2023	

*Pilih salah satu

Lampiran 3. Perhitungan pengambilan bahan NLC TTO

Formulasi	**Bahan**				
	TTO	GMS	*Calendula Oil*	Span 80	Dapar Fosfat pH 7,4
	Bahan aktif	Lipid padat	Lipid cair	Surfaktan	Fase air
F1	$\frac{5}{100} x\ 200\ gr = 10\ gr$	$\frac{3,5}{100} x\ 200\ gr = 7\ gr$	$\frac{1,5}{100} x\ 200\ gr = 3\ gr$	$\frac{7}{100} x\ 200\ gr = 14\ gr$	ad 100
F2	$\frac{5}{100} x\ 200\ gr = 10\ gr$	$\frac{3,5}{100} x\ 200\ gr = 7\ gr$	$\frac{1,3}{100} x\ 200\ gr = 2,6\ gr$	$\frac{5}{100} x\ 200\ gr = 10\ gr$	ad 100
F3	$\frac{5}{100} x\ 200\ gr = 10\ gr$	$\frac{3,5}{100} x\ 200\ gr = 7\ gr$	$\frac{1,5}{100} x\ 200\ gr = 3\ gr$	$\frac{5}{100} x\ 200\ gr = 10\ gr$	ad 100
F4	$\frac{5}{100} x\ 200\ gr = 10\ gr$	$\frac{4}{100} x\ 200\ gr = 8\ gr$	$\frac{1,5}{100} x\ 200\ gr = 3\ gr$	$\frac{5}{100} x\ 200\ gr = 10\ gr$	ad 100
F5	$\frac{5}{100} x\ 200\ gr = 10\ gr$	$\frac{4}{100} x\ 200\ gr = 8\ gr$	$\frac{1,3}{100} x\ 200\ gr = 2,6\ gr$	$\frac{7}{100} x\ 200\ gr = 14\ gr$	ad 100
F6	$\frac{5}{100} x\ 200\ gr = 10\ gr$	$\frac{4}{100} x\ 200\ gr = 8\ gr$	$\frac{1,3}{100} x\ 200\ gr = 2,6\ gr$	$\frac{5}{100} x\ 200\ gr = 10\ gr$	ad 100
F7	$\frac{5}{100} x\ 200\ gr = 10\ gr$	$\frac{4}{100} x\ 200\ gr = 8\ gr$	$\frac{1,5}{100} x\ 200\ gr = 3\ gr$	$\frac{7}{100} x\ 200\ gr = 14\ gr$	ad 100
F8	$\frac{5}{100} x\ 200\ gr = 10\ gr$	$\frac{3,5}{100} x\ 200\ gr = 7\ gr$	$\frac{1,3}{100} x\ 200\ gr = 2,6\ gr$	$\frac{7}{100} x\ 200\ gr = 14\ gr$	ad 100

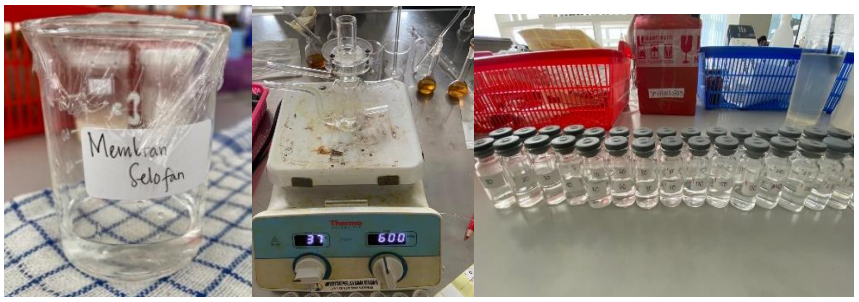
Lampiran 4. Perhitungan larutan induk TTO
Larutan induk 50 ppm

$$50\ \text{ppm}\ \frac{50\ \text{mg}}{1000\ \text{ml}} = \frac{5\ \text{ml}}{100\ \text{ml}}$$

Larutan standar

35 ppm V1 x M1 = V2 x M2 V1 x 50 ppm = 35ppm x 50 ml $V1 = \frac{1750}{50} = 35\ ml$	20 ppm V1 x M1 = V2 x M2 V1 x 25 ppm = 20 ppm x 50 ml $V1 = \frac{1000}{25} = 40\ ml$
30 ppm V1 x M1 = V2 x M2 V1 x 35 ppm = 30 ppm x 50 ml $V1 = \frac{1500}{35} = 42{,}8\ ml$	15 ppm V1 x M1 = V2 x M2 V1 x 20 ppm = 15 ppm x 50 ml $V1 = \frac{1500}{35} = 42{,}8\ ml$
25 ppm V1 x M1 = V2 x M2 V1 x 30 ppm = 25 ppm x 50 ml $V1 = \frac{1250}{30} = 41{,}7\ ml$	5 ppm V1 x M1 = V2 x M2 V1 x 15 ppm = 5 ppm x 50 ml $V1 = \frac{250}{15} = 16{,}7\ ml$

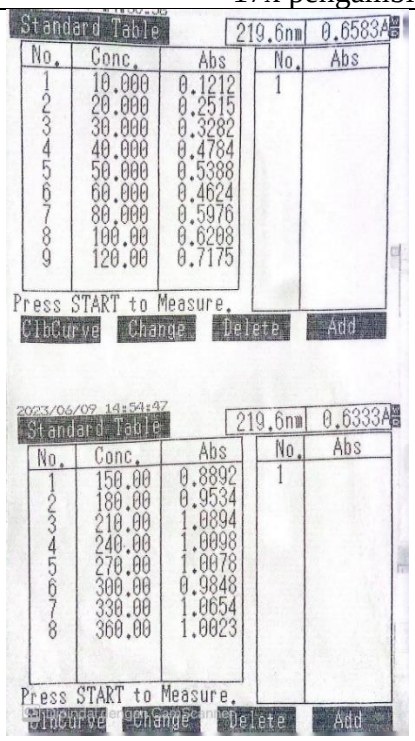
Lampiran 5. Penyiapan uji pelepasan formula NLC *Tea Tree Oil*



(a) (b) (c)

Gambar (a) Perendaman membran selofan; (b) Proses pelepasan pada suhu 37ºC, dan kecepatan stirer 600rpm; (c) Cuplikan setiap interval waktu.

Lampiran 6. Pengukuran absorbansi uji pelepasan pada waktu 360 menit dengan 17x pengambilan cuplikan



Standard Table 219.6nm 0.6583A

No.	Conc.	Abs
1	10.000	0.1212
2	20.000	0.2515
3	30.000	0.3282
4	40.000	0.4784
5	50.000	0.5388
6	60.000	0.4624
7	80.000	0.5976
8	100.00	0.6208
9	120.00	0.7175

No.	Abs
1	

Press START to Measure.

ClbCurve Change Delete Add

2023/06/09 14:54:47

Standard Table 219.6nm 0.6333A

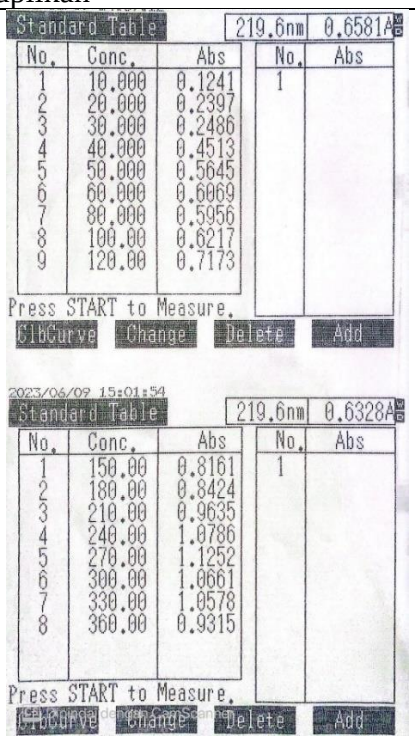
No.	Conc.	Abs
1	150.00	0.8892
2	180.00	0.9534
3	210.00	1.0894
4	240.00	1.0098
5	270.00	1.0078
6	300.00	0.9848
7	330.00	1.0654
8	360.00	1.0023

No.	Abs
1	

Press START to Measure.

ClbCurve Change Delete Add

Formula 1



Standard Table 219.6nm 0.6581A

No.	Conc.	Abs
1	10.000	0.1241
2	20.000	0.2397
3	30.000	0.2486
4	40.000	0.4513
5	50.000	0.5645
6	60.000	0.6069
7	80.000	0.5956
8	100.00	0.6217
9	120.00	0.7173

No.	Abs
1	

Press START to Measure.

ClbCurve Change Delete Add

2023/06/09 15:01:54

Standard Table 219.6nm 0.6328A

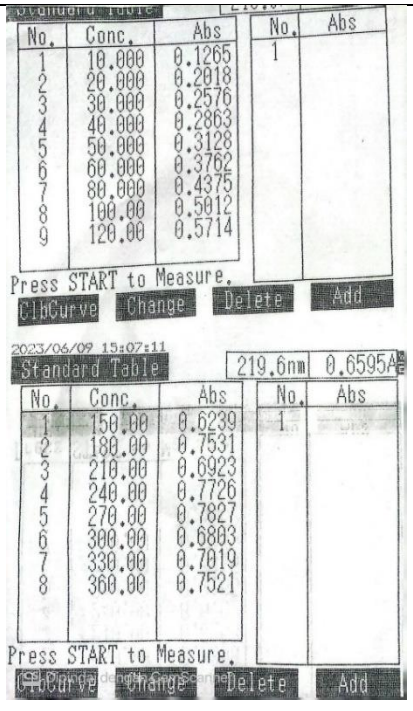
No.	Conc.	Abs
1	150.00	0.8161
2	180.00	0.8424
3	210.00	0.9635
4	240.00	1.0786
5	270.00	1.1252
6	300.00	1.0661
7	330.00	1.0578
8	360.00	0.9315

No.	Abs
1	

Press START to Measure.

ClbCurve Change Delete Add

Formula 2



No.	Conc.	Abs
1	10.000	0.1265
2	20.000	0.2018
3	30.000	0.2576
4	40.000	0.2863
5	50.000	0.3128
6	60.000	0.3762
7	80.000	0.4375
8	100.00	0.5012
9	120.00	0.5714

No.	Abs
1	

Press START to Measure.

ClbCurve Change Delete Add

2023/06/09 15:07:11

Standard Table 219.6nm 0.6595A

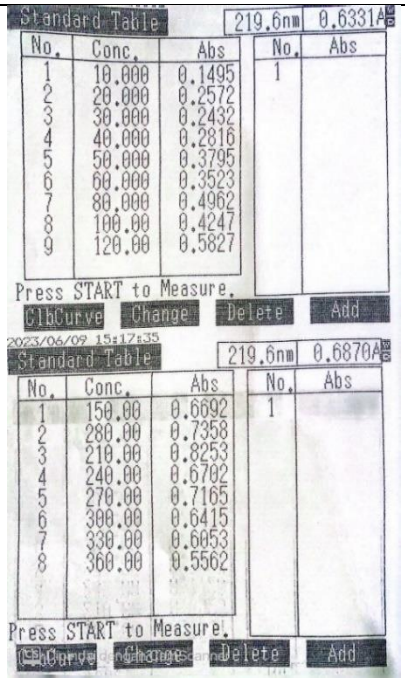
No.	Conc.	Abs
1	150.00	0.6239
2	180.00	0.7531
3	210.00	0.6923
4	240.00	0.7726
5	270.00	0.7827
6	300.00	0.6883
7	330.00	0.7019
8	360.00	0.7521

No.	Abs
1	

Press START to Measure.

ClbCurve Change Delete Add

Formula 3



Standard Table 219.6nm 0.6331A

No.	Conc.	Abs
1	10.000	0.1495
2	20.000	0.2572
3	30.000	0.2432
4	40.000	0.2816
5	50.000	0.3795
6	60.000	0.3523
7	80.000	0.4962
8	100.00	0.4247
9	120.00	0.5827

No.	Abs
1	

Press START to Measure.

ClbCurve Change Delete Add

2023/06/09 15:17:35

Standard Table 219.6nm 0.6870A

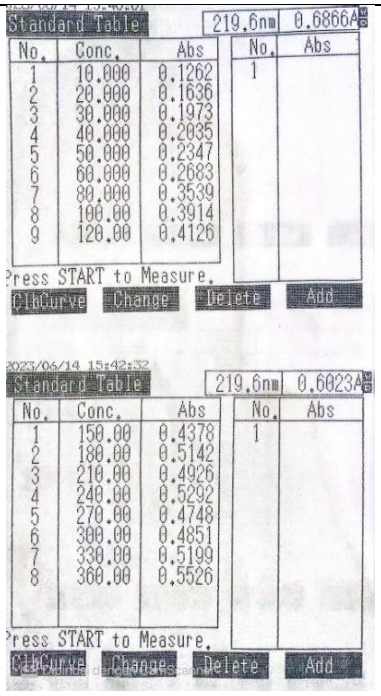
No.	Conc.	Abs
1	150.00	0.6692
2	180.00	0.7358
3	210.00	0.8253
4	240.00	0.6702
5	270.00	0.7165
6	300.00	0.6415
7	330.00	0.6053
8	360.00	0.5562

No.	Abs
1	

Press START to Measure.

ClbCurve Change Delete Add

Formula 4



Standard Table 219.6nm 0.6866A

No.	Conc.	Abs
1	10.000	0.1262
2	20.000	0.1636
3	30.000	0.1973
4	40.000	0.2035
5	50.000	0.2347
6	60.000	0.2683
7	80.000	0.3539
8	100.00	0.3914
9	120.00	0.4126

No.	Abs
1	

Press START to Measure.

CibCurve Change Delete Add

2023/06/14 15:42:32

Standard Table 219.6nm 0.6023A

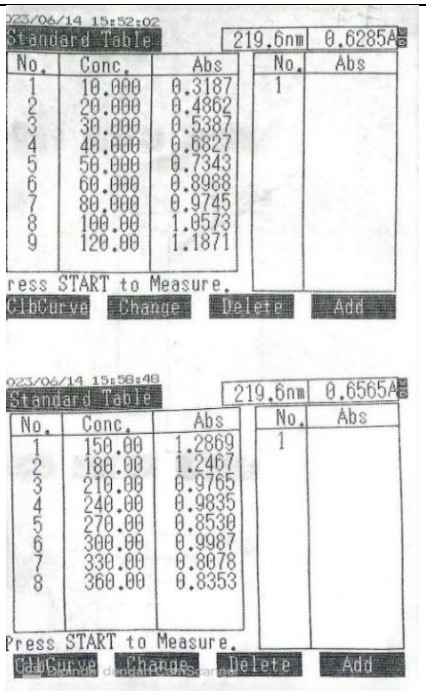
No.	Conc.	Abs
1	150.00	0.4378
2	180.00	0.5142
3	210.00	0.4926
4	240.00	0.5292
5	270.00	0.4748
6	300.00	0.4851
7	330.00	0.5199
8	360.00	0.5526

No.	Abs
1	

Press START to Measure.

CibCurve Change Delete Add

Formula 5



2023/06/14 15:52:02

Standard Table 219.6nm 0.6285A

No.	Conc.	Abs
1	10.000	0.3187
2	20.000	0.4862
3	30.000	0.5387
4	40.000	0.6827
5	50.000	0.7343
6	60.000	0.8988
7	80.000	0.9745
8	100.00	1.0573
9	120.00	1.1871

No.	Abs
1	

ress START to Measure.

CibCurve Change Delete Add

2023/06/14 15:58:48

Standard Table 219.6nm 0.6565A

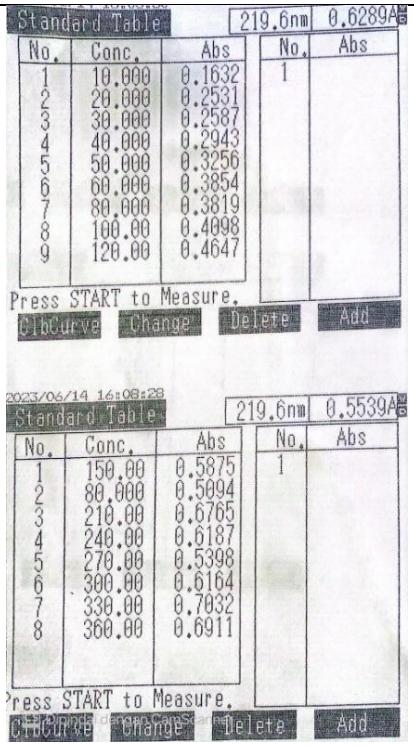
No.	Conc.	Abs
1	150.00	1.2869
2	180.00	1.2467
3	210.00	0.9765
4	240.00	0.9835
5	270.00	0.8530
6	300.00	0.9987
7	330.00	0.8078
8	360.00	0.8353

No.	Abs
1	

Press START to Measure.

CibCurve Change Delete Add

Formula 6



Standard Table 219.6nm 0.6289A

No.	Conc.	Abs
1	10.000	0.1632
2	20.000	0.2531
3	30.000	0.2587
4	40.000	0.2943
5	50.000	0.3256
6	60.000	0.3854
7	80.000	0.3819
8	100.00	0.4098
9	120.00	0.4647

No.	Abs
1	

Press START to Measure.

CibCurve Change Delete Add

2023/06/14 16:08:28

Standard Table 219.6nm 0.5539A

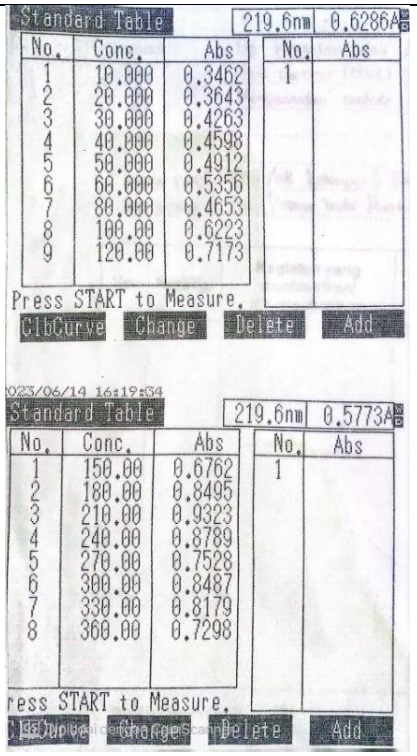
No.	Conc.	Abs
1	150.00	0.5875
2	80.000	0.5094
3	210.00	0.6765
4	240.00	0.6187
5	270.00	0.5398
6	300.00	0.6164
7	330.00	0.7032
8	360.00	0.6911

No.	Abs
1	

ress START to Measure.

CibCurve Change Delete Add

Formula 7



Standard Table 219.6nm 0.6286A

No.	Conc.	Abs
1	10.000	0.3462
2	20.000	0.3643
3	30.000	0.4263
4	40.000	0.4598
5	50.000	0.4912
6	60.000	0.5356
7	80.000	0.4653
8	100.00	0.6223
9	120.00	0.7173

No.	Abs
1	

Press START to Measure.

CibCurve Change Delete Add

023/06/14 16:19:54

Standard Table 219.6nm 0.5773A

No.	Conc.	Abs
1	150.00	0.6762
2	180.00	0.8495
3	210.00	0.9323
4	240.00	0.8789
5	270.00	0.7528
6	300.00	0.8487
7	330.00	0.8179
8	360.00	0.7298

No.	Abs
1	

ress START to Measure.

CibCurve Change Delete Add

Formula 8

Lampiran 7 .Adsorban yang di dapatkan pada pengukuran Spektrofotometri Uv-Vis

Hasil								
Menit	F1	F2	F3	F4	F5	F6	F7	F8
10	0,1212	0,1241	0,1265	0,1495	0,1262	0,3187	0,1632	0,3462
20	0,2515	0,2397	0,2018	0,2572	0,1636	0,4862	0,2531	0,3643
30	0,3282	0,2486	0,2576	0,2432	0,1973	0,5387	0,2587	0,4263
40	0,4784	0,4513	0,2863	0,2816	0,2035	0,6827	0,2943	0,4598
50	0,5388	0,5645	0,3128	0,3795	0,2347	0,7343	0,3256	0,4912
60	0,4624	0,6069	0,3762	0,3523	0,2683	0,8988	0,3854	0,5356
80	0,5976	0,5956	0,4375	0,4962	0,3539	0,9745	0,3819	0,4653
100	0,6208	0,6217	0,5012	0,4247	0,3914	1,0573	0,4098	0,6223
120	0,7175	0,7173	0,5714	0,5827	0,4126	1,1871	0,4647	0,7173
150	0,8892	0,8161	0,6239	0,6692	0,4378	1,2869	0,5875	0,6762
180	0,9534	0,8424	0,7531	0,7358	0,5142	1,2467	0,5094	0,8495
210	1,0894	0,9635	0,6923	0,8253	0,4926	0,9765	0,6765	0,9323
240	1,0654	1,0786	0,7726	0,6708	0,5292	0,9835	0,6187	0,8789
270	1,0099	1,1252	0,7827	0,7165	0,4748	0,8503	0,5398	0,7528
300	1,0078	1,0661	0,6803	0,6415	0,4851	0,9987	0,6164	0,8487
330	0,9848	1,0578	0,7019	0,6053	0,5199	0,8078	0,7032	0,8179
360	1,0023	0,9315	0,7521	0,5562	0,5526	0,8353	0,6911	0,7298

Lampiran 8. Perhitungan Orde Nol Formula 1

Menit ke (X)	Absorban	X	Konsentrasi (ppm)	Wurster (ppm)	Konsentrasi 15 ml	Log Y	% Terlarut (Y)
10	0,1212	0,02	0,61	0,61	0,01	-0,52	0,31
20	0,2515	0,15	4,49	4,61	0,07	0,36	2,31
30	0,3282	0,23	6,77	7,79	0,12	0,59	3,90
40	0,4784	0,38	11,24	13,61	0,20	0,83	6,81
50	0,5388	0,44	13,04	17,66	0,26	0,95	8,83
60	0,4624	0,36	10,76	17,99	0,27	0,95	9,00
80	0,5976	0,50	14,79	24,17	0,36	1,08	12,09
100	0,6208	0,52	15,48	27,82	0,42	1,14	13,91
120	0,7175	0,62	18,36	33,79	0,51	1,23	16,90
150	0,8892	0,79	23,47	42,58	0,64	1,33	21,29
180	0,9534	0,85	25,38	49,18	0,74	1,39	24,59
210	1,0894	0,99	29,43	58,30	0,87	1,46	29,15
240	1,0654	0,96	28,71	63,47	0,95	1,50	31,74
270	1,0099	0,91	27,06	67,56	1,01	1,53	33,78
300	1,0678	0,97	28,78	74,70	1,12	1,57	37,35
330	0,9848	0,88	26,31	77,99	1,17	1,59	38,99
360	1,0023	0,90	26,83	83,77	1,26	1,62	41,88

Lampiran 9. Perhitungan Orde Satu Formula 3

Menit ke (X)	Absorban	X	Konsentrasi(ppm)	Wurster (ppm)	Konsentrasi 15 ml	Log Y	% Terlarut (Y)	Tersisa	Log % tersisa
10	0,1212	0,02	0,61	0,61	0,01	-0,35	0,45	-0,55	0,00
20	0,2515	0,15	4,49	4,61	0,07	0,36	2,31	1,31	0,12
30	0,3282	0,23	6,77	7,79	0,12	0,59	3,90	2,90	0,46
40	0,4784	0,38	11,24	13,61	0,20	0,83	6,81	5,81	0,76
50	0,5388	0,44	13,04	17,66	0,26	0,95	8,83	7,83	0,89
60	0,4624	0,36	10,76	17,99	0,27	0,95	9,00	8,00	0,90
80	0,5976	0,50	14,79	24,17	0,36	1,08	12,09	11,09	1,04
100	0,6208	0,52	15,48	27,82	0,42	1,14	13,91	12,91	1,11
120	0,7175	0,62	18,36	33,79	0,51	1,23	16,90	15,90	1,20
150	0,8892	0,79	23,47	42,58	0,64	1,33	21,29	20,29	1,31
180	0,9534	0,85	25,38	49,18	0,74	1,39	24,59	23,59	1,37
210	1,0894	0,99	29,43	58,30	0,87	1,46	29,15	28,15	1,45
240	1,0654	0,96	28,71	63,47	0,95	1,50	31,74	30,74	1,49
270	1,0099	0,91	27,06	67,56	1,01	1,53	33,78	32,78	1,52
300	1,0678	0,97	28,78	74,70	1,12	1,57	37,35	36,35	1,56
330	0,9848	0,88	26,31	77,99	1,17	1,59	38,99	37,99	1,58
360	1,0023	0,90	26,83	83,77	1,26	1,62	41,88	40,88	1,61

Lampiran 10. Perhitungan Model *Higuchi* Formula 5

Menit ke (X)	Absorban	X	Konsentrasi (ppm)	Wurster (ppm)	Konsentrasi 15 ml	Log Y	% Terlarut (Y)	Akar waktu
10	0,1262	0,03	0,76	0,76	0,01	-0,42	0,4	3,2
20	0,1636	0,06	1,87	2,02	0,03	0,01	1,0	4,5
30	0,1973	0,10	2,88	3,40	0,05	0,23	1,7	5,5
40	0,2035	0,10	3,06	4,16	0,06	0,32	2,1	6,3
50	0,2347	0,13	3,99	5,70	0,09	0,45	2,9	7,1
60	0,2683	0,17	4,99	7,50	0,11	0,57	3,7	7,7
80	0,3539	0,25	7,54	11,04	0,17	0,74	5,5	8,9
100	0,3914	0,29	8,65	13,67	0,21	0,83	6,8	10,0
120	0,4126	0,31	9,28	16,03	0,24	0,90	8,0	11,0
150	0,4378	0,34	10,03	18,64	0,28	0,97	9,3	12,2
180	0,5142	0,41	12,31	22,92	0,34	1,06	11,5	13,4
210	0,4926	0,39	11,66	24,73	0,37	1,09	12,4	14,5
240	0,5292	0,43	12,75	28,16	0,42	1,15	14,1	15,5
270	0,4748	0,37	11,13	29,09	0,44	1,16	14,5	16,4
300	0,4851	0,38	11,44	31,62	0,47	1,20	15,8	17,3
330	0,5199	0,42	12,48	34,94	0,52	1,24	17,5	18,2
360	0,5526	0,45	13,45	38,41	0,58	1,28	19,2	19,0

Lampiran 11. Perhitungan Model *Korsmeyer Peppas* Formula 5

Menit Ke (X)	Absorban	X	Konsentrasi (Ppm)	Wurster (Ppm)	Konsentrasi 15 Ml	Log Y	% Terlarut (Y)	Log Waktu	Log % Terlarut
10	0,1632	0,0625	1,86	1,86	0,03	-0,03	0,9	1,0	-0,03
20	0,2531	0,1524	4,54	4,91	0,07	0,39	2,5	1,3	0,39
30	0,2587	0,158	4,70	5,98	0,09	0,48	3,0	1,5	0,48
40	0,2943	0,1936	5,76	7,98	0,12	0,60	4,0	1,6	0,60
50	0,3256	0,2249	6,69	10,07	0,15	0,70	5,0	1,7	0,70
60	0,3854	0,2847	8,47	13,18	0,20	0,82	6,6	1,8	0,82
80	0,3819	0,2812	8,37	14,77	0,22	0,87	7,4	1,9	0,87
100	0,4098	0,3091	9,20	17,28	0,26	0,94	8,6	2,0	0,94
120	0,4647	0,364	10,83	20,75	0,31	1,02	10,4	2,1	1,02
150	0,5875	0,4868	14,49	26,57	0,40	1,12	13,3	2,2	1,12
180	0,5094	0,4087	12,16	27,15	0,41	1,13	13,6	2,3	1,13
210	0,6765	0,5758	17,14	34,55	0,52	1,24	17,3	2,3	1,24
240	0,6187	0,518	15,42	36,26	0,54	1,26	18,1	2,4	1,26
270	0,5398	0,4391	13,07	37,00	0,55	1,27	18,5	2,4	1,27
300	0,6164	0,5157	15,35	41,89	0,63	1,32	20,9	2,5	1,32
330	0,7032	0,6025	17,93	47,54	0,71	1,38	23,8	2,5	1,38
360	0,6911	0,5904	17,57	50,77	0,76	1,40	25,4	2,6	1,40

Lampirann 12. Perhitungan Manual Uji Pelepasan

Menit ke-30

- Kurva baku y= 0,0336x + 0,1007, R=0,9997
- Serapan menit ke-30 : 0,3282

X = 0,3282 – 0,1007 = 0,23

Konsentrasi (ppm) = $\frac{0,3282}{0,0336}$ = 6,77

Wuster = 6,77 +(($\frac{3}{15}$ x (0,61 + 4,49))= 7,79

Konsentrasi 15 ml = $\frac{7,79}{1000}$ x 15 ml = 0,12 ml

% Terlarut = $\frac{0,12}{3} x 100\%$ = 3,90%

Lampiran 13. Perhitungan media *nutrient agar*

Pembuatan larutan NA 8 formula dengan 3x replikasi

- 24 cawan petri standart volume larutan NA 15ml : - 360 ml
- 4 Tabung reaksi standart volume 10 ml : - 40 ml
- Kebutuhan media NA

  Spesifikasi : 28 gr → 1 liter aquades

  x → 360 ml + 40 ml = 400 ml

jadi $= \frac{28\ gr}{1000\ ml} = \frac{x}{400\ ml}$

$x = \frac{28\ gr\ x\ 400\ ml}{1000\ ml}$

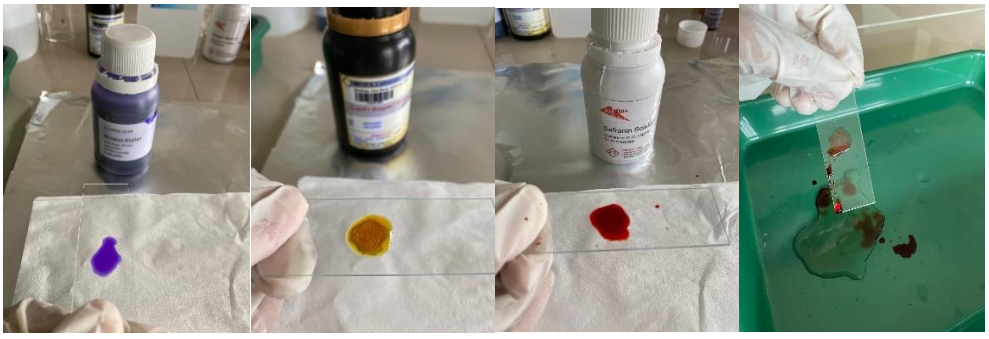
$x = \frac{11.200\ gr/ml}{1000\ ml}$

x = 11,2 gram

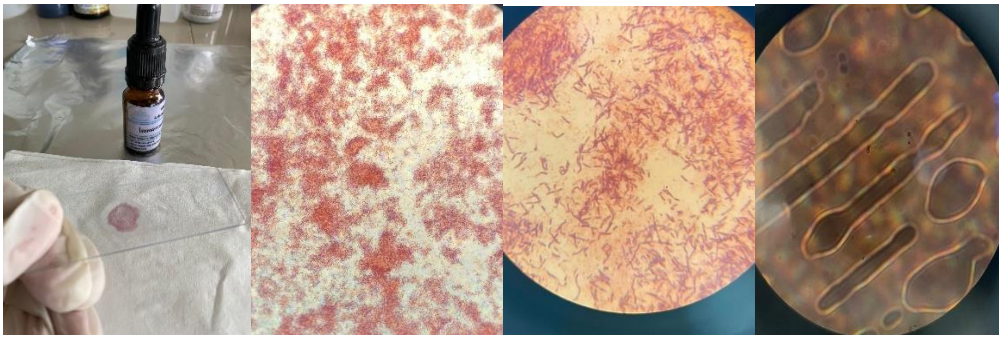
jadi untuk melarutkan 400ml aquades dibutuhkan NA 11,2 gram

Lampiran 14. Proses uji aktivitas antibakteri

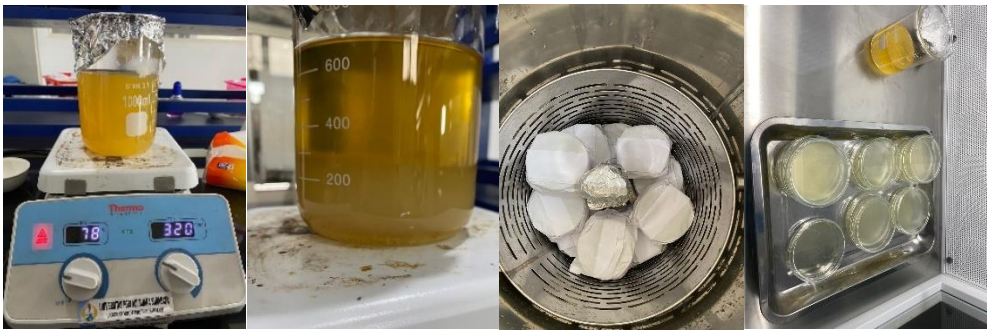
(a) **(b)** **(c)** **(d)**



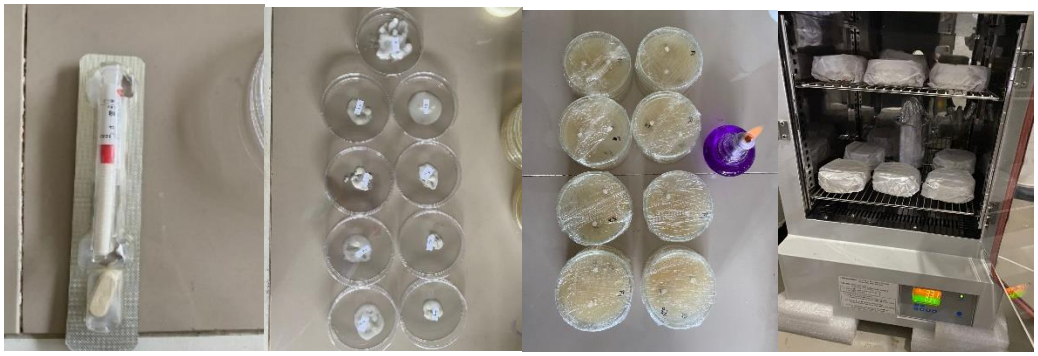
(e) **(f)** **(g)** **(h)**



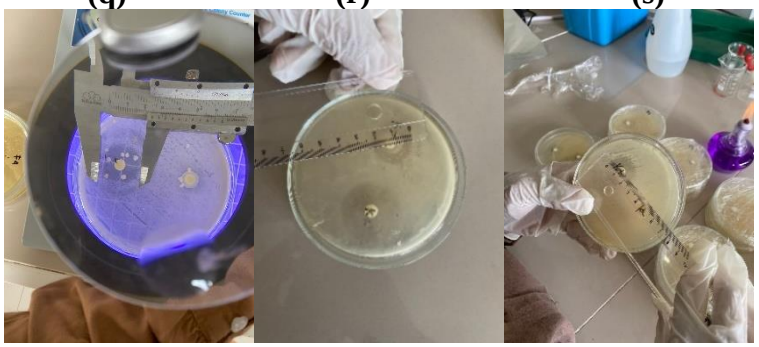
(i) (j) (k) (l)



(m) (n) (o) (p)



(q) (r) (s) (t)



(u) (v) (w)

Keterangan :

a. Hasil peremajaan bakteri berbentuk zig-zag **b.** Suspensi bakteri **c.** Hasil ssuspensi bakteri dengan standar *Mc Farland* **d.** Suspensi bakteri di fiksasi untuk pewarnaan gram **e.** Pewarnaan dengan kristal violet **f.** Pewarnaan dengan lugol **g.** Pewarnaan dengan safranin **h.** Pencucian dengan alkohol setelah pewarnaan **i.** Diberikan immersion oil sebelum di mikroskop j. Pengamatan dengan mikroskop perbesaran 10x k. Pengamatan Mikroskop dengan perbesaran 40x **l.** Pengamatan mikroskop perbesaran 400x	**m.** Dihomogenkan serta dipanaskan n. Hasil pemanasan dan pengadukan selama 4 jam o. Sterilisasi alat dan media agar di dalam autoklav p. Penuangan media agar di dalam *Laminar Air Flow* q. Cakram kertas kosong r. Perendaman cakaram dengan kontrol positif dan negatif s. Penanaman cakram pada media NA t. Proses inkubasi selama 24 jam pada inkubator u. Hasil pengamatan bakteri dengan jangka sorong v. Hasil pengamatan diameter daya hambat dengan penggaris

Lampiran 15. CoA Nutrient agar

Certificate of Analysis

1.05450.0000 Nutrient agar acc. ISO 6579, ISO 10273 and ISO 21528 GranuCult®
Batch VM1011250

	Spec. Values	Batch Values
Appearance (clearness)	clear to slightly opalescent	slightly opalescent
Appearance (color)	yellowish-brown	yellowish-brown
pH-value (25 °C)	6.8 - 7.2	7.0
Solidification behaviour (2 hrs., 45 °C)	liquid	liquid

Growth promotion test in accordance with the current version of DIN EN ISO 11133.

	Spec. Values		Batch Values	
Inoculum on reference medium (Escherichia coli ATCC 8739 (WDCM 00012))			140	
Inoculum on reference medium (Escherichia coli ATCC 25922 (WDCM 00013))			285	
Inoculum on reference medium (Salmonella typhimurium ATCC 14028 (WDCM 00031))			210	
Inoculum on reference medium (Salmonella enteritidis ATCC 13076 (WDCM 00030))			293	
Inoculum on reference medium (Yersinia enterocolitica ATCC 9610 (WDCM 00038))			100	
Inoculum on reference medium (Yersinia enterocolitica ATCC 23715 (WDCM 00160))			154	
Inoculum on reference medium (Staphylococcus aureus ATCC 25923 (WDCM 00034))			130	
Colony count (Escherichia coli ATCC 8739 (WDCM 00012))			126	
Colony count (Escherichia coli ATCC 25922 (WDCM 00013))			268	
Colony count (Salmonella typhimurium ATCC 14028 (WDCM 00031))			185	
Colony count (Salmonella enteritidis ATCC 13076 (WDCM 00030))			307	
Colony count (Yersinia enterocolitica ATCC 9610 (WDCM 00038))			73	
Colony count (Yersinia enterocolitica ATCC 23715 (WDCM 00160))			140	
Colony count (Staphylococcus aureus ATCC 25923 (WDCM 00034))			134	
Recovery on test medium (Escherichia coli ATCC 8739 (WDCM 00012))	≥ 70	%	90	%
Recovery on test medium (Escherichia coli ATCC 25922 (WDCM 00013))	≥ 70	%	94	%
Recovery on test medium (Salmonella typhimurium ATCC 14028 (WDCM 00031))	≥ 70	%	88	%
Recovery on test medium (Salmonella enteritidis ATCC 13076 (WDCM 00030))	≥ 70	%	105	%

Merck KGaA, Frankfurter Straße 250, 64293 Darmstadt (Germany): +49 6151 72-0
EMD Millipore Corporation - a subsidiary of Merck KGaA, Darmstadt, Germany
400 Summit Drive, Burlington, MA 01803, USA, Phone +1 (781) 533-6000

Lampiran 16. Coa Crystal Violet

Certificate of Analysis

1.01408.0100 Crystal violet (C.I. 42555) indicator ACS,Reag. Ph Eur
Batch K50218208

	Spec. Values		Batch Values	
Dye content (spectrophotometrically, calc. on dried substance)	≥ 90.0	%	98.8	%
Identity (UV/VIS-Spectrum)	passes test		passes test	
Absorbance characteristics (Ratio, E (λmax - 15 nm)/E (λmax + 15 nm))	0.98 - 1.20		0.98 - 1.20	
Absorption maximum λ_{max} (water)	589 - 594	nm	589 - 594	nm
Spec. Absorptivity A 1%/1cm (λ_{max}; 0.002 g/l; water)	2000 - 2450		2252	
TLC-Test	passes test		passes test	
Michler's ketone	< 0.10 %	%	< 0.10 %	%
Less on drying (110 °C, 4 h)	≤ 7.5	%	4.7	%
Suitability as indicator (ACS)	passes test		passes test	
Suitability as indicator (Reag. Ph Eur)	passes test		passes test	

Date of release (DD.MM.YYYY) 02.05.2018
Minimum shelf life (DD.MM.YYYY) 31.05.2023

Dr. Ralf Burgert
Responsible laboratory manager quality control

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Lampiran 17. Bakteri murni *Propionibacterium acnes*

PT. Agritama Sinergi Inovasi (AGAVI)

Jl. Jendral Ahmad Yani No.669, Padasuka, Kec. Cibeunying Kidul, Kota Bandung, Jawa Barat 40125, contact@agavi.id

INFORMASI PRODUK

Nama Produk	Kultur murni/ Isolat Bakteri *Propionibacterium acnes*
Kode Strain	ATCC-6919
Kategori	Patogen
Gram	Positif
Media	Nutrient Agar (NA)
Suhu pertumbuhan optimum	30-37°C
Jenis berdasarkan kebutuhan oksigen	anaerobik aerotoleran

Terima kasih telah percaya dan berbelanja di Toko kami, semoga project Anda lancar.

Teknisi Laboratorium,

Lili Nailufhar, S.Pd, M.Si (cdt.)

Hasil Pewarnaan Gram pada Kultur *Propionibacterium acnes*