

# LAMPIRAN

## Lampiran 1 Determinasi Tanaman



**LABORATORIUM BIOLOGI  
FAKULTAS SAINS DAN TEKNOLOGI TERAPAN  
UNIVERSITAS AHMAD DAHLAN**



**LABORATORIUM BIOLOGI  
FAKULTAS SAINS DAN TEKNOLOGI TERAPAN  
UNIVERSITAS AHMAD DAHLAN**

**SURAT KETERANGAN**  
Nomor : 066/Lab.Bio/B-II/2026

Yang bertanda tangan di bawah ini Kepala Laboratorium Biologi Universitas Ahmad Dahlan menerangkan bahwa :

Nama / NIM : 1. Nur Arika / 2024142001  
2. Yunka Zahra Safira / 2022141007  
Prodi, PT : Farmasi, Universitas Sahid surakarta

Flora of Java ( Backer, 1965 )

Telah melakukan uji determinasi tanaman di Laboratorium Biologi Universitas Ahmad Dahlan, pada tanggal 5 Februari 2026

Tanaman tersebut adalah :  
*Passiflora edulis* Sims.

Demikian Surat Keterangan ini untuk dapat dipergunakan sebagaimana.

Yogyakarta, 9 Februari 2026  
Kepala Laboratorium Biologi  
  
Ichsan Luchman Hani Putra, S. Si., M.Sc.

Lab. Biologi UAD Kampus IV (Utama)  
Jalan Ahmad Yani, T. 17000, Kec. Bangor, Kabupaten Bantul, Daerah Istimewa Yogyakarta 55191

No WA : 081932568372  
Email Lab : lab02@uad.ac.id  
Website : www.uad.ac.id

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Klasifikasi :

- Kingdom : Plantae
- Subkingdom : Tracheobionta
- Superdivisi : Spermatophyta
- Divisi : Magnoliophyta
- Kelas : Magnoliopsida
- Subkelas : Dillenidae
- Ordo : Violales
- Famili : Passifloraceae
- Genus : Passiflora
- Spesies : *Passiflora edulis* Sims

Backer, C. A., 1965. *Flora of Java (Spermatophyta only)*. Vol I Angiospermae Families. N. V. P. Noordhoff. Groningen, The Netherlands.

[www.worldfloraonline.org](http://www.worldfloraonline.org)  
[www.plantsof.org](http://www.plantsof.org)

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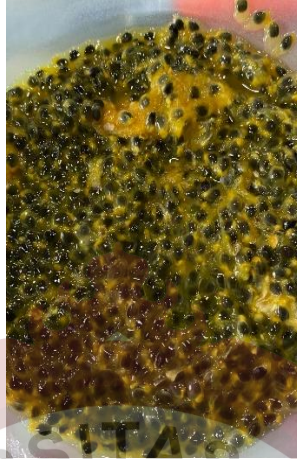
No WA : 081932568372  
Email Lab : lab02@uad.ac.id  
Website : www.uad.ac.id

**Hasil Determinasi Tanaman Markisa Ungu**

## Lampiran 2 Proses Ekstraksi Biji Markisa Ungu



**Buah Markisa Ungu**



**Biji dan Pulp Buah Markisa Ungu**



**Sampel Kering**



**Penghalusan**



**Maserasi**



**Penyaringan**



**Waterbath**



**Ekstrak kental**

### Lampiran 3 Pengecekan Kadar Air



**R1 Kadar Air**



**R2 Kadar Air**



**R3 Kadar Air**



#### Lampiran 4 Skrining Fitokimia



**Skrining Fitokimia  
Flavonoid**



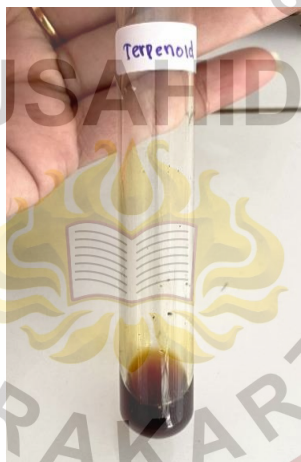
**Skrining Fitokimia Saponin**



**Skrining Fitokimia Tanin**



**Skrining Fitokimia Fenolik**



**Skrining Fitokimia  
Terpenoid**

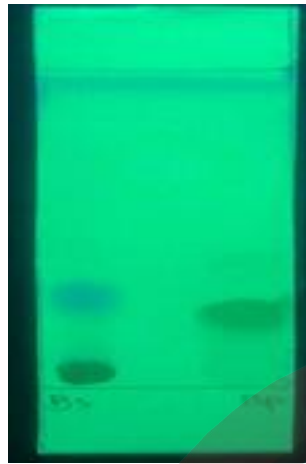


**Skrining Fitokimia Alkaloid  
Perekasi Mayer**

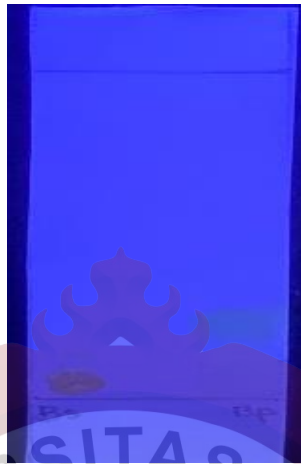


**Skrining Fitokimia Alkaloid  
Perekasi Dragendroff**

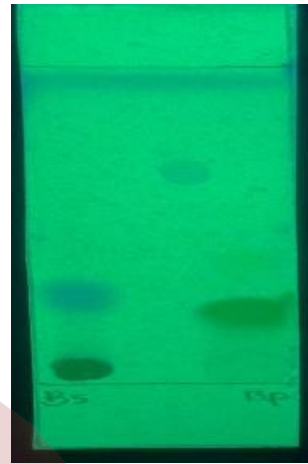
## Lampiran 5 Kromatografi Lapis Tipis



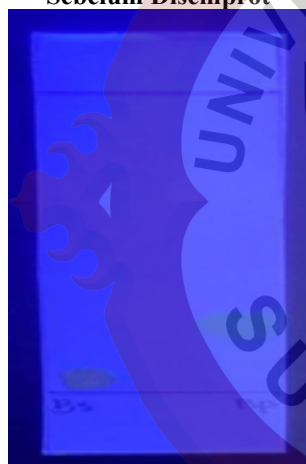
**KLT Flavonoid 254 nm  
Sebelum Disemprot**



**KLT Flavonoid 366 nm  
Sebelum Disemprot**



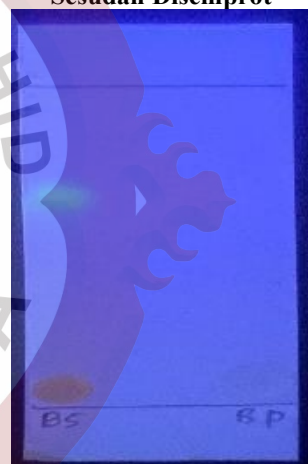
**KLT Flavonoid 254 nm  
Sesudah Disemprot**



**KLT Flavonoid 366 nm  
Sesudah Disemprot**



**KLT Fenolik 254 nm  
Sebelum Disemprot**



**KLT Fenolik 366 nm  
Sebelum Disemprot**



**KLT Fenolik 254 nm  
Sesudah Disemprot**



**KLT Fenolik 366 nm  
Sesudah Disemprot**

## Lampiran 6 Proses Pembuatan Larutan *ABTS* dan Penentuan Panjang Gelombang Maksimal



Penimbangan Kalium Persulfat



Penimbangan Serbuk *ABTS*



Larutan *ABTS*



Inkubasi Larutan *ABTS*



Panjang Gelombang Maksimal

### Lampiran 7 Perhitungan Uji Aktivitas Antioksidan

a. Data Penimbangan *ABTS*

$$ABTS = 38,5 \text{ mg}$$

$$\text{Kalium persulfat} = 6,6 \text{ mg}$$

b. Pembuatan Larutan Stok Vitamin C

- Replikasi 1

$$\text{Berat kertas} = 285 \text{ mg}$$

$$\text{Berat kertas} + \text{zat} = 335 \text{ mg}$$

$$\text{Berat kertas} + \text{sisas} = 285 \text{ mg}$$

$$\text{Berat zat} = 50 \text{ mg}$$

$$\text{Konsentrasi larutan} = \frac{50 \text{ mg}}{50 \text{ mg}} = 1 \text{ mg/mL} \times 1000 = 1000 \text{ ppm}$$

- Replikasi 2

$$\text{Berat kertas} = 288 \text{ mg}$$

$$\text{Berat kertas} + \text{zat} = 338 \text{ mg}$$

$$\text{Berat kertas} + \text{sisas} = 288 \text{ mg}$$

$$\text{Berat zat} = 50 \text{ mg}$$

$$\text{Konsentrasi larutan} = \frac{50 \text{ mg}}{50 \text{ mg}} = 1 \text{ mg/mL} \times 1000 = 1000 \text{ ppm}$$

- Replikasi 3

$$\text{Berat kertas} = 286 \text{ mg}$$

$$\text{Berat kertas} + \text{zat} = 336 \text{ mg}$$

$$\text{Berat kertas} + \text{sisas} = 287 \text{ mg}$$

$$\text{Berat zat} = 50 \text{ mg}$$

$$\text{Konsentrasi larutan} = \frac{49 \text{ mg}}{50 \text{ mg}} = 0,98 \text{ mg/mL} \times 1000 = 980 \text{ ppm}$$

c. Perhitungan Seri Konsentrasi Vitamin C

- Replikasi 1 konsentrasi 1000 ppm

1.  $V_1.C_1 = V_2.C_2$

$$V_1.1000 = 5.2$$

$$= 10 \text{ ppm}$$

2.  $V_1.C_1 = V_2.C_2$

$$V1.1000 = 5.4$$

$$= 20 \text{ ppm}$$

$$3. V1.C1 = V2.C2$$

$$V1.1000 = 5.6$$

$$= 30 \text{ ppm}$$

$$4. V1.C1 = V2.C2$$

$$V1.1000 = 5.8$$

$$= 40 \text{ ppm}$$

$$5. V1.C1 = V2.C2$$

$$V1.1000 = 5.10$$

$$= 50 \text{ ppm}$$

- Replikasi 2 konsentrasi 1000 ppm

$$1. V1.C1 = V2.C2$$

$$V1.1000 = 5.2$$

$$= 10 \text{ ppm}$$

$$2. V1.C1 = V2.C2$$

$$V1.1000 = 5.4$$

$$= 20 \text{ ppm}$$

$$3. V1.C1 = V2.C2$$

$$V1.1000 = 5.6$$

$$= 30 \text{ ppm}$$

$$4. V1.C1 = V2.C2$$

$$V1.1000 = 5.8$$

$$= 40 \text{ ppm}$$

$$5. V1.C1 = V2.C2$$

$$V1.1000 = 5.10$$

$$= 50 \text{ ppm}$$

- Replikasi 3 konsentrasi 980 ppm

$$1. V1.C1 = V2.C2$$

$$V1.980 = 5.2$$

$$= 10 \text{ ppm}$$

$$2. \quad V1.C1 = V2.C2$$

$$V1.980 = 5.4$$

$$= 20 \text{ ppm}$$

$$3. \quad V1.C1 = V2.C2$$

$$V1.980 = 5.6$$

$$= 30 \text{ ppm}$$

$$4. \quad V1.C1 = V2.C2$$

$$V1.980 = 5.8$$

$$= 40 \text{ ppm}$$

$$5. \quad V1.C1 = V2.C2$$

$$V1.980 = 5.10$$

$$= 50 \text{ ppm}$$

d. Tabel Absorbansi dan Pengujian Aktivitas Antioksidan Vitamin C

1. Replikasi 1

Konsentrasi	A Kontrol	A Sampel	% Inhibisi
2	0,834	0,622	25,419
4	0,834	0,586	29,736
6	0,834	0,485	41,846
8	0,834	0,320	61,630
10	0,834	0,200	76,019

Perhitungan % Hambatan

$$2 \text{ ppm} = \frac{0,834 - 0,622}{0,834} \times 100\% = 25,419 \%$$

$$4 \text{ ppm} = \frac{0,834 - 0,586}{0,834} \times 100\% = 29,736 \%$$

$$6 \text{ ppm} = \frac{0,834 - 0,485}{0,834} \times 100\% = 41,846 \%$$

$$8 \text{ ppm} = \frac{0,834 - 0,320}{0,834} \times 100\% = 61,630 \%$$

$$10 \text{ ppm} = \frac{0,834 - 0,200}{0,834} \times 100\% = 76,019 \%$$

2. Replikasi 2

Konsentrasi	A Kontrol	A Sampel	% Inhibisi
2	0,834	0,625	25,059
4	0,834	0,584	29,076
6	0,834	0,488	41,486
8	0,834	0,369	55,755
10	0,834	0,194	76,738

## Perhitungan % Hambatan

$$2 \text{ ppm} = \frac{0,834-0,625}{0,834} \times 100\% = 25,059 \%$$

$$4 \text{ ppm} = \frac{0,834-0,584}{0,834} \times 100\% = 29,076 \%$$

$$6 \text{ ppm} = \frac{0,834-0,488}{0,834} \times 100\% = 41,486 \%$$

$$8 \text{ ppm} = \frac{0,834-0,369}{0,834} \times 100\% = 55,755 \%$$

$$10 \text{ ppm} = \frac{0,834-0,194}{0,834} \times 100\% = 76,738 \%$$

## 3. Replikasi 3

Konsentrasi	A Kontrol	A Sampel	% Inhibisi
2	0,834	0,607	27,218
4	0,834	0,564	32,374
6	0,834	0,426	48,920
8	0,834	0,314	62,350
10	0,834	0,186	77,697

## Perhitungan % Hambatan

$$2 \text{ ppm} = \frac{0,834-0,607}{0,834} \times 100\% = 27,218 \%$$

$$4 \text{ ppm} = \frac{0,834-0,564}{0,834} \times 100\% = 32,374 \%$$

$$6 \text{ ppm} = \frac{0,834-0,426}{0,834} \times 100\% = 48,920 \%$$

$$8 \text{ ppm} = \frac{0,834-0,314}{0,834} \times 100\% = 62,350 \%$$

$$10 \text{ ppm} = \frac{0,834-0,186}{0,834} \times 100\% = 77,697 \%$$

4. Perhitungan  $IC_{50}$ 

Persamaan Regresi Linear		
Replikasi 1	Replikasi 2	Replikasi 3
$y = 6,6547x + 7,0024$	$y = 6,4568x + 7,0624$	$y = 6,5468x + 10,432$
$R^2 = 0,9593$	$R^2 = 0,95$	$R^2 = 0,9796$

Replikasi	$IC_{50}$	X	SD	RSD (%)
1	6,46	6,38	0,31	4,85
2	6,64			
3	6,04			

## • Replikasi 1

$$IC_{50} = \frac{50 - 6,6547}{7,0024} \times 100\% = 6,46$$

- Replikasi 2

$$IC_{50} = \frac{50 - 6,4568}{7,0624} \times 100 \% = 6,64$$

- Replikasi 3

$$IC_{50} = \frac{50 - 6,5468}{10,432} \times 100 \% = 6,04$$

e. Pembuatan Larutan Stok Sampel Ekstrak Etanol Biji Buah Markisa Ungu

- Replikasi 1

Berat cawan = 27,028 mg

Berat cawan + zat = 27,128 mg

Berat cawan + sisa = 27,029 mg

Berat zat = 99 mg

Konsentrasi larutan  $\frac{99 \text{ mg}}{100 \text{ mg}} = 0,99 \text{ mg/mL} \times 1000 = 990 \text{ ppm}$

- Replikasi 2

Berat cawan = 27,026 mg

Berat cawan + zat = 27,126 mg

Berat cawan + sisa = 27,028 mg

Berat zat = 98 mg

Konsentrasi larutan  $\frac{98 \text{ mg}}{100 \text{ mg}} = 0,98 \text{ mg/mL} \times 1000 = 980 \text{ ppm}$

- Replikasi 3

Berat cawan = 27,035

Berat cawan + zat = 27,135

Berat cawan + sisa = 27,036

Berat zat = 99 mg

Konsentrasi larutan  $\frac{99 \text{ mg}}{100 \text{ mg}} = 0,99 \text{ mg/mL} \times 1000 = 990 \text{ ppm}$

f. Perhitungan Seri Konsentrasi Sampel Ekstrak Etanol Biji Buah Markisa Ungu

- Replikasi 1 konsentrasi 990 ppm

$$1. V1.C1 = V2.C2$$

$$V1.990 = 5.20$$

$$= 101 \text{ ppm}$$

$$2. V1.C1 = V2.C2$$

$$V1.990 = 5.40$$

$$= 202 \text{ ppm}$$

$$3. V1.C1 = V2.C2$$

$$V1.990 = 5.60$$

$$= 303 \text{ ppm}$$

$$4. V1.C1 = V2.C2$$

$$V1.990 = 5.80$$

$$= 404 \text{ ppm}$$

$$5. V1.C1 = V2.C2$$

$$V1.990 = 5.100$$

$$= 505 \text{ ppm}$$

- Replikasi 2 konsentrasi 980 ppm

$$1. V1.C1 = V2.C2$$

$$V1.980 = 5.20$$

$$= 102 \text{ ppm}$$

$$2. V1.C1 = V2.C2$$

$$V1.980 = 5.40$$

$$= 204 \text{ ppm}$$

$$3. V1.C1 = V2.C2$$

$$V1.980 = 5.60$$

$$= 306 \text{ ppm}$$

$$4. V1.C1 = V2.C2$$

$$V1.980 = 5.80$$

$$= 408 \text{ ppm}$$

$$5. V1.C1 = V2.C2$$

$$V1.980 = 5.100$$

$$= 510 \text{ ppm}$$

- Replikasi 3 konsentrasi 990 ppm

$$1. V1.C1 = V2.C2$$

$$V1.990 = 5.20$$

$$= 101 \text{ ppm}$$

$$2. V1.C1 = V2.C2$$

$$V1.990 = 5.40$$

$$= 202 \text{ ppm}$$

$$3. V1.C1 = V2.C2$$

$$V1.990 = 5.60$$

$$= 303 \text{ ppm}$$

$$4. V1.C1 = V2.C2$$

$$V1.990 = 5.80$$

$$= 404 \text{ ppm}$$

$$5. V1.C1 = V2.C2$$

$$V1.990 = 5.100$$

$$= 505 \text{ ppm}$$

g. Tabel Absorbansi dan Pengujian Aktivitas Antioksidan Sampel Ekstrak Etanol Biji Buah Markisa Ungu

1. Replikasi 1

Konsentrasi	A Kontrol	A Sampel	% Inhibisi
20	0,816	0,632	22,612
40	0,808	0,520	35,643
60	0,816	0,483	40,857
80	0,816	0,381	53,346
100	0,808	0,216	73,267

Perhitungan % Hambatan

$$20 \text{ ppm} = \frac{0,816 - 0,632}{0,816} \times 100\% = 22,612 \%$$

$$40 \text{ ppm} = \frac{0,808 - 0,520}{0,808} \times 100\% = 35,643 \%$$

$$60 \text{ ppm} = \frac{0,816 - 0,483}{0,816} \times 100\% = 40,857 \%$$

$$80 \text{ ppm} = \frac{0,816 - 0,381}{0,816} \times 100\% = 53,346 \%$$

$$100 \text{ ppm} = \frac{0,808 - 0,216}{0,808} \times 100\% = 73,267 \%$$

2. Replikasi 2

Konsentrasi	A Kontrol	A Sampel	% Inhibisi
20	0,808	0,639	20,915

Konsentrasi	A Kontrol	A Sampel	% Inhibisi
40	0,808	0,512	36,633
60	0,816	0,479	41,346
80	0,816	0,390	52,244
100	0,808	0,210	74,009

Perhitungan % Hambatan

$$20 \text{ ppm} = \frac{0,808-0,639}{0,808} \times 100\% = 20,915 \%$$

$$40 \text{ ppm} = \frac{0,808-0,512}{0,808} \times 100\% = 36,633 \%$$

$$60 \text{ ppm} = \frac{0,816-0,479}{0,816} \times 100\% = 41,346\%$$

$$80 \text{ ppm} = \frac{0,816-0,390}{0,816} \times 100\% = 52,244\%$$

$$100 \text{ ppm} = \frac{0,808-0,210}{0,808} \times 100\% = 74,009 \%$$

### 3. Replikasi 3

Konsentrasi	A Kontrol	A Sampel	% Inhibisi
20	0,808	0,628	22,277
40	0,808	0,512	36,633
60	0,816	0,485	40,612
80	0,816	0,382	53,224
100	0,808	0,228	71,782

Perhitungan % Hambatan

$$20 \text{ ppm} = \frac{0,808-0,628}{0,808} \times 100\% = 22,277 \%$$

$$40 \text{ ppm} = \frac{0,808-0,512}{0,808} \times 100\% = 36,633 \%$$

$$60 \text{ ppm} = \frac{0,816-0,485}{0,816} \times 100\% = 40,612 \%$$

$$80 \text{ ppm} = \frac{0,816-0,382}{0,816} \times 100\% = 53,224 \%$$

$$100 \text{ ppm} = \frac{0,808-0,228}{0,808} \times 100\% = 71,782 \%$$

### 4. Perhitungan $IC_{50}$

Persamaan Regresi Linear		
Replikasi 1	Replikasi 2	Replikasi 3
$y = 0,5952x + 9,4414$	$y = 0,609x + 8,4904$	$y = 0,578x + 10,226$
$R^2 = 0,9606$	$R^2 = 0,9525$	$R^2 = 0,9611$

Replikasi	$IC_{50}$	X	SD	RSD (%)
1	68,15	68,37	0,37	0,55
2	68,16			
3	68,83			

- Replikasi 1

$$IC_{50} = \frac{50 - 9,4414}{0,5952} \times 100 \% = 68,15$$

- Replikasi 2

$$IC_{50} = \frac{50 - 8,4904}{0,609} \times 100 \% = 68,16$$

- Replikasi 3

$$IC_{50} = \frac{50 - 10,226}{0,578} \times 100 \% = 68,81$$



## Lampiran 8 Surat Keterangan Selesai Penelitian



**Program Studi Farmasi**  
**Fakultas Sains, Teknologi, dan Kesehatan**  
**Universitas Sahid Surakarta**  
 Jl. Adi Sucipto 154 Jajar, Surakarta 57144. Telp : (0271) 743493  
 www.usahidsolo.ac.id



### SURAT KETERANGAN PENELITIAN

Assalamualaikum Wr. Wb

Dengan surat ini Kami memberitahukan bahwa mahasiswa dibawah ini:

Nama : Nur Afika  
 NIM : 2024142001  
 Program Studi : Farmasi  
 Instansi : Universitas Sahid Surakarta

Telah melaksanakan penelitian di Laboratorium Farmasi Universitas Sahid Surakarta mulai tanggal 20 Januari sampai 27 Februari 2026 dengan judul penelitian "Uji aktivitas antioksidan ekstrak etanol biji buah markisa ungu dengan metode abts".

Demikian surat keterangan ini dibuat untuk dipergunakan semestinya.

Wassalamualaikum Wr. Wb.

Surakarta, 12 Maret 2026

Mengetahui

**Ketua Program Studi Farmasi**

**Kepala Laboratorium Farmasi**

  
 apt. Khodimatul Khusna, M.Sc.  
 NIDN. 0605078703

  
 Fadilah Qonitah, S.Pd., M.Sc.  
 NIDN. 0612129002

## Lampiran 9 Logbook Konsultasi Skripsi

N O	HARI/TANGGAL	DOSEN PEMBIMBING	BAB / HAL	URAIAN	TANDA TANGAN DOSEN PEMBIMBING
	KAMIS 18/09/2015	Apt. Rani Ariastuti S-Farm. M-sc	JUDUL	Konsultasi terkait Judul Skripsi	
	SENIN 22/09/2015	Apt. Rani Ariastuti S-Farm. M-sc	JUDUL	Ace Judul	
	SENIN 13/10/2015	Apt. Rani Ariastuti S-Farm. M-sc	BAB V, BAB II	Konsultasi terkait latar belakang, tinjauan pustaka.	
	Rabu 5/11/2015	Apt. Rani Ariastuti S-Farm. M-sc	BAB I, BAB II	<del>Konsultasi</del> Revisi terkait latar belakang, tinjauan pustaka.	
	Bahwa 13/11/2015	Apt. Rani Ariastuti S-Farm. M-sc	BAB I, BAB II	Revisi terkait penelitian terdahulu, dan kerangka konsep	
	Jumat 5/12/2015	Apt. Rani Ariastuti S-Farm. M-sc	BAB III	Revisi landasan teori	
	SENIN 8/12/2015	Apt. Rani Ariastuti S-Farm. M-sc	BAB IV	Revisi alat dan bahan penelitian	
	Selasa 9/12/2015	Apt. Rani Ariastuti S-Farm. M-sc	BAB III	Revisi Pembuatan ekstrak dan analisis data.	
	SELASA 9/12/2015	Apt. Rani Ariastuti S-Farm. M-sc	BAB III	Revisi Analisis data	
		Apt. Rani Ariastuti S-Farm. M-sc	ACC PROPOSAL	ACC Proposal	
	Rabu 10/12/2015	Fitriah Guntah S-pd. M-sc	BAB II	Revisi landasan teori	
	SENIN 15/02/2016	Fitriah Guntah S-pd. M-sc	BAB III	Revisi Tambahan kandungan paracetamol dgn KLT	

16	Selasa 16-12-2015	Fitriah Guntah S-pd. M-sc	ACC proposal	ACC proposal	
17	Pa	Fitriah Guntah S-pd. M-sc	Penelitian	Konsultasi Bab III Revisi	
		Fitriah Guntah M-sc	Penelitian Bab III	Revisi	
17	SENIN 12-Januari 2016	Apt. Rani Ariastuti M-sc	Revisi III	Konsultasi Bab III setelah proposal	
18	SENIN 2-02-2016	Apt. Rani Ariastuti M-sc	penelitian	Konsultasi KLT	
19	Rabu 04-02-2016	Apt. Rani Ariastuti M-sc	penelitian	Konsultasi Aktivitas autooksidasi	
20	Jumat 13-02-2016	Apt. Rani Ariastuti M-sc	penelitian	Konsultasi perhitungan data aktivitas autooksidasi	
21		Apt. Rani Ariastuti M-sc	Bab IV	Pembahasan	
22		Apt. Rani Ariastuti M-sc	Bab IV dan V	revisi pembahasan dan Ace skripsi	
23		Fitriah Guntah S-pd. M-sc	Bab IV dan V	pembahasan dan	
		Fitriah Guntah S-pd. M-sc	Bab IV dan V	Pembahasan dan Ace skripsi	