

## LAMPIRAN

## Lampiran 1 Surat Determinasi Tanaman

a. Tanaman daun teh

**HERBARIUM JATINANGOR**  
**LABORATORIUM TAKSONOMI TUMBUHAN**  
**JURUSAN BIOLOGI FMIPA UNPAD**  
 Gedung D2-212, Jl. Raya Bandung Sumedang Km 21 Jatinangor  
 Telp. 089689992695, email: [phanerogamae@yahoo.com](mailto:phanerogamae@yahoo.com)

**LEMBAR IDENTIFIKASI TUMBUHAN**  
 No.07/HB/04/2025.

Herbarium Jatinangor, Laboratorium Taksonomi Tumbuhan, Jurusan Biologi FMIPA UNPAD, dengan ini menerangkan bahwa:

Nama : Martini Irene Welmince Bokotei  
 NIM/NIDN : 231FF04017  
 Instansi : Universitas Bhakti Kencana.  
 Lokasi : Bandung.

Telah melakukan identifikasi tumbuhan, dengan No. Koleksi: -  
 Tanggal Koleksi : 07 April 2025

Hasil Identifikasi

Nama Ilmiah : ***Camellia sinensis* (L.) Kuntze**  
 Sinonim : *Camellia chinensis* (Sims) Kuntze  
 Nama Lokal : Daun Teh Hijau  
 Suku/Famili : Theaceae

Klasifikasi (Hirarki Taksonomi)

Kingdom : Plantae  
 Divisi : Magnoliophyta  
 Class : Magnoliopsida  
 Ordo : Theales  
 Famili : Theaceae  
 Genus : *Camellia*  
 Species : *Camellia sinensis* (L.) Kuntze

Referensi:

Cronquist, Arthur. 1981. *An Integrated System of Classification of Flowering Plants*.  
 Columbia University Press. New York  
 The Plant List. Website *DuniaTumbuhan*. <http://www.theplantlist.org/tpl1.1/record/kew-158489>.  
 Backer, C. A. and Bakhuizen v/d Brink R. C Jr. 1963. *Flora of Java*. Wolter-Noordhoff NV.  
 Groningen.

Jatinangor, 08 April 2025.

Identifikator,

**LABORATORIUM TAKSONOMI TUMBUHAN**  
**JURUSAN BIOLOGI FMIPA-UNPAD**

Drs. Ioko Kusmoro, M.P.  
 NIP. 19600801 199101 1 001

b. Tanaman rimpang jahe

**HERBARIUM JATINANGORIENSE**  
**LABORATORIUM BIOSISTEMATIKA DAN MOLEKULER**  
**DEPARTEMEN BIOLOGI, FMIPA UNPAD**  
 Gedung D2-212, Jl. Raya Bandung Sumedang Km 21 Jatinangor  
 Telp. 022-7796412

**LEMBAR IDENTIFIKASI TUMBUHAN**  
 No.472/LBM/TT/XII/2024

Herbarium Jatinangor, Laboratorium Biosistematika dan Molekuler, Departemen Biologi FMIPA UNPAD, dengan ini menerangkan bahwa:

Nama : Esa Putra Suhardita  
 NPM : 211FF03089  
 Instansi : Universitas Bhakti Kencana  
 Telah melakukan identifikasi tumbuhan, dengan No. Koleksi: 589  
 Tanggal Koleksi : 25 November 2024  
 Lokasi : Manoko Lembang, Jawa Barat

Hasil Identifikasi,

Nama Ilmiah : *Zingiber officinale* Roscoe  
 Sinonim : *Zingiber officinale* var. *rubrum* Theilade  
 Nama Lokal : Jahe  
 Suku/Famili : *Zingiberaceae*

Referensi:

Cronquist, Arthur. 1981. *An Integrated System of Classification of Flowering Plants*. Columbia University Press. New York  
 World Flora Online(2021): <https://powo.science.kew.org/>.

Jatinangor, 11 Desember 2024

Mengetahui,  
Kepala Laboratorium



Annisa, M.Si., Ph.D.  
NIP. 197802042006042001

Identifikator,



Dr. Budi Irawan, M.Si  
NIP. 197312281999031003

c. Tanaman bunga cengkeh

**HERBARIUM JATINANGOR**  
**LABORATORIUM TAKSONOMI TUMBUHAN**  
**JURUSAN BIOLOGI FMIPA UNPAD**  
 Gedung D2-212, Jl. Raya Bandung Sumedang Km 21 Jatinangor  
 Telp. 089689992695, email: [phanerogamae@yahoo.com](mailto:phanerogamae@yahoo.com)

---

**LEMBAR IDENTIFIKASI TUMBUHAN**  
 No.06/HB/04/2025.

Herbarium Jatinangor, Laboratorium Taksonomi Tumbuhan, Jurusan Biologi FMIPA UNPAD, dengan ini menerangkan bahwa:

Nama : Rosa Virginia Kiik  
 NIM/NIDN : 231FF04009  
 Instansi : Universitas Bhakti Kencana.  
 Lokasi : Bandung.

Telah melakukan identifikasi tumbuhan, dengan No. Koleksi: -  
 Tanggal Koleksi : 07 April 2025

**Hasil Identifikasi**

Nama Ilmiah : *Syzygium aromaticum* (L.) Merr. & L.M.Perry  
 Sinonim : *Eugenia caryophyllata* Thunb.  
 Nama Lokal : Bunga Cengkeh  
 Suku/Famili : Myrtaceae

**Klasifikasi (Hirarki Taksonomi)**

Kingdom : Plantae  
 Divisi : Magnoliophyta  
 Class : Magnoliopsida  
 Ordo : Myrtales  
 Famili : Myrtaceae  
 Genus : *Syzygium*  
 Species : *Syzygium aromaticum* (L.) Merr. & L.M.Perry

**Referensi:**

Cronquist, Arthur. 1981. *An Integrated System of Classification of Flowering Plants*.  
 Columbia University Press. New York

The Plant List. *Website DuniaTumbuhan*. <http://www.theplantlist.org/tpl1.1/record/kew-158489>.

Backer, C. A. and Bakhuizen v/d Brink R. C Jr. 1963. *Flora of Java*. Wolter-Noordhoff NV. Groningen.

Jatinangor, 08 April 2025.

Identifikator,

LABORATORIUM TAKSONOMI TUMBUHAN  
 JURUSAN BIOLOGI FMIPA-UNPAD

Drs. Joko Kusmoro, M.P.

NIP. 19600801 199101 1 001

## Lampiran 2 Perhitungan hasil karakterisasi simplisia

### a. Kadar abu total

#### 1. Daun Teh

| Data                      | Hasil      | Kadar abu total (%)                           |
|---------------------------|------------|-----------------------------------------------|
| Berat krus kosong         | 68,6 gram  | Cawan 1 = 4<br>Cawan 2 = 3,8<br>Cawan 3 = 4,2 |
| Bobot krus + isi 1        | 68,80 gram |                                               |
| Bobot krus + isi 2        | 68,79 gram |                                               |
| Bobot krus + isi 3        | 68,81 gram |                                               |
| Bobot isi 1 - krus kosong | 0,20 gram  |                                               |
| Bobot isi 2 - krus kosong | 0,19 gram  |                                               |
| Bobot isi 3 - krus kosong | 0,21 gram  |                                               |
| Bobot simplisia           | 5 gram     |                                               |

$$\text{Kadar abu total} = \frac{\text{berat abu sisa pijar}}{\text{bobot simplisia}} \times 100\%$$

$$\begin{aligned} \text{cawan 1} &= \frac{0,20 \text{ gram}}{5 \text{ gram}} \times 100\% & \text{rata - rata} &= \frac{4 + 3,8 + 4,2}{3} \\ &= 4\% & &= 4\% \pm 0,2 \end{aligned}$$

#### 2. Rimpang jahe

| Berat krus kosong         | Hasil      | Kadar abu total (%)                           |
|---------------------------|------------|-----------------------------------------------|
| Berat krus kosong         | 68,25 gram | Cawan 1 = 3,8<br>Cawan 2 = 3,4<br>Cawan 3 = 3 |
| Bobot krus + isi 1        | 68,44 gram |                                               |
| Bobot krus + isi 2        | 68,42 gram |                                               |
| Bobot krus + isi 3        | 68,40 gram |                                               |
| Bobot isi 1 - krus kosong | 0,19 gram  |                                               |
| Bobot isi 2 - krus kosong | 0,17 gram  |                                               |
| Bobot isi 3 - krus kosong | 0,15 gram  |                                               |
| Bobot simplisia           | 5 gram     |                                               |

$$\text{rata - rata} = \frac{3,8 + 3,4 + 3}{3} = 3,4 \pm 0,4$$

#### 3. Bunga cengkeh

| Berat krus kosong         | Hasil      | Kadar abu total (%)                             |
|---------------------------|------------|-------------------------------------------------|
| Berat krus kosong         | 65,98 gram | Cawan 1 = 5,2<br>Cawan 2 = 4,8<br>Cawan 3 = 4,6 |
| Bobot krus + isi 1        | 66,24 gram |                                                 |
| Bobot krus + isi 2        | 66,22 gram |                                                 |
| Bobot krus + isi 3        | 66,21 gram |                                                 |
| Bobot isi 1 - krus kosong | 0,26 gram  |                                                 |
| Bobot isi 2 - krus kosong | 0,24 gram  |                                                 |
| Bobot isi 3 - krus kosong | 0,23 gram  |                                                 |
| Bobot simplisia           | 5 gram     |                                                 |

$$\text{rata - rata} = \frac{5,2 + 4,8 + 4,6}{3} = 4,866 \pm 0,305$$

## b. Kadar abu tidak larut asam

## 1. Daun teh

|                           |            |                            |
|---------------------------|------------|----------------------------|
| 2. Berat krus kosong      | 68,60 gram | Kadar tidak larut asam (%) |
| Bobot krus + isi 1        | 68,62 gram | Cawan 1 = 0,4              |
| Bobot krus + isi 2        | 68,61 gram | Cawan 2 = 0,2              |
| Bobot krus + isi 3        | 68,63 gram | Cawan 3 = 0,2              |
| Bobot isi 1- krus kosong  | 0,02 gram  |                            |
| Bobot isi 2 - krus kosong | 0,01 gram  |                            |
| Bobot isi 3 - krus kosong | 0,03 gram  |                            |
| Bobot simplisia           | 5 gram     |                            |

$$rata - rata = \frac{0,4 + 0,2 + 0,6}{3} = 0,4 \pm 0,2$$

## 3. Rimpang jahe

|                           |            |                            |
|---------------------------|------------|----------------------------|
| Berat krus kosong         | 68,25 gram | Kadar tidak larut asam (%) |
| Bobot krus + isi 1        | 68,34 gram | Cawan 1 = 1,8              |
| Bobot krus + isi 2        | 68,33 gram | Cawan 2 = 1,6              |
| Bobot krus + isi 3        | 68,35 gram | Cawan 3 = 2                |
| Bobot isi 1- krus kosong  | 0,09 gram  |                            |
| Bobot isi 2 - krus kosong | 0,08 gram  |                            |
| Bobot isi 3 - krus kosong | 0,1 gram   |                            |
| Bobot simplisia           | 5 gram     |                            |

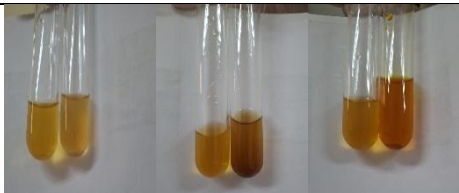
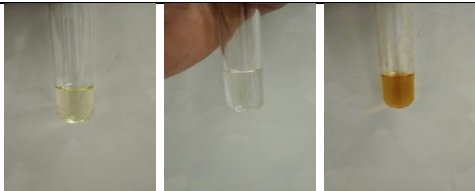
$$rata - rata = \frac{1,8 + 1,6 + 2}{3} = 1,8 \pm 0,2$$

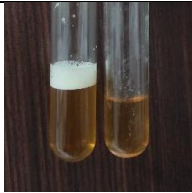
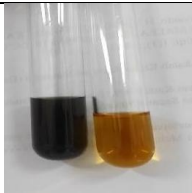
## 4. Bunga cengkeh

|                           |            |                            |
|---------------------------|------------|----------------------------|
| Berat krus kosong         | 65,98 gram | Kadar tidak larut asam (%) |
| Bobot krus + isi 1        | 66,09 gram | Cawan 1 = 2,2              |
| Bobot krus + isi 2        | 66,08 gram | Cawan 2 = 2                |
| Bobot krus + isi 3        | 66,08 gram | Cawan 3 = 2                |
| Bobot isi 1- krus kosong  | 0,11 gram  |                            |
| Bobot isi 2 - krus kosong | 0,1 gram   |                            |
| Bobot isi 3 - krus kosong | 0,1 gram   |                            |
| Bobot simplisia           | 5 gram     |                            |

$$rata - rata = \frac{2,2 + 2 + 2}{3} = 2,066 \pm 0,115$$

### Lampiran 3 Skrining fitokimia

| sampel       | Identifikasi | Hasil                                                                                                                  |
|--------------|--------------|------------------------------------------------------------------------------------------------------------------------|
| Daun teh     | Alkaloid     | <br>Dragendorff    Mayer    Wagner   |
|              | Flavonoid    |                                      |
|              | Saponin      |                                      |
|              | Tanin        |                                    |
| Rimpang jahe | Alkaloid     | <br>Dragendorff    Mayer    Wagner |
|              | Flavonoid    |                                    |
|              | Saponin      |                                    |

|               |                   |                                                                                                                      |
|---------------|-------------------|----------------------------------------------------------------------------------------------------------------------|
|               | Tanin             |                                    |
|               | Terpenoid/steroid |                                    |
| Bunga cengkeh | Alkaloid          | <br>Dragendorff    Wagner    Mayer |
|               | flavonoid         |                                   |
|               | saponin           |                                  |
|               | tanin             |                                  |
|               | Terpenoid/steroid |                                  |

### Lampiran 4 Perhitungan RF

| Rf                             | Sampel   |       |         |       |       |       |
|--------------------------------|----------|-------|---------|-------|-------|-------|
|                                | Daun teh | Jahe  | Cengkeh | F1    | F2    | F3    |
| CUPRAC pada fase gerak teh     | 0,218    | 0,236 | 0,218   | 0,218 | 0,218 | 0,218 |
|                                | 0,581    | 0,563 | 0,563   | 0,563 | 0,563 | 0,563 |
|                                | 0,781    | 0,781 | 0,781   | 0,781 | 0,781 | 0,781 |
| CUPRAC pada fase gerak jahe    | 0,109    | 0,109 | 0,181   | 0,163 | 0,181 | 0,181 |
|                                | 4,181    | 4,181 | 4,181   | 4,181 | 4,181 | 4,181 |
|                                | 0,727    | 0,727 | 0,727   | 0,727 | 0,727 | 0,727 |
| CUPRAC pada fase gerak cengkeh | 0,345    | 0,345 | 0,345   | 0,345 | 0,345 | 0,345 |
|                                | 0,727    | 0,727 | 0,727   | 0,727 | 0,727 | 0,727 |

Batas atas : 0,5 cm

Batas bawah : 1 cm

Panjang plat : 7 cm

Jarak elusi :  $7 - (1 + 0,5) = 5,5$  cm

Rumus :  $\frac{\text{Jarak bercak}}{\text{Jarak elusi}}$

| Perhitungan                     | Contoh Perhitungan dan jarak elusi                                           |                                                                              |                                                                              |                                                                              |                                                                              |                                                                              |
|---------------------------------|------------------------------------------------------------------------------|------------------------------------------------------------------------------|------------------------------------------------------------------------------|------------------------------------------------------------------------------|------------------------------------------------------------------------------|------------------------------------------------------------------------------|
|                                 | Daun teh                                                                     | Jahe                                                                         | Cengkeh                                                                      | F1                                                                           | F2                                                                           | F3                                                                           |
| CUPRA C pada fase gerak teh     | Tinggi bercak: 1,3 cm, 3,2 cm, 4,3                                           | Tinggi bercak: 1,2 cm, 3,1 cm, 4,3                                           | Tinggi bercak: 1,2 cm, 3,1 cm, 4,3 cm                                        | Tinggi bercak: 1,2 cm, 3,1 cm, 4,3                                           | Tinggi bercak: 1,2 cm, 3,1 cm, 4,3                                           | Tinggi bercak: 1,2 cm, 3,1 cm, 4,3                                           |
|                                 | $= \frac{\text{Jarak bercak}}{\text{Jarak elusi}} = \frac{1,2}{5,5} = 0,218$ | $= \frac{\text{Jarak bercak}}{\text{Jarak elusi}} = \frac{1,2}{5,5} = 0,218$ | $= \frac{\text{Jarak bercak}}{\text{Jarak elusi}} = \frac{1,3}{5,5} = 0,236$ | $= \frac{\text{Jarak bercak}}{\text{Jarak elusi}} = \frac{1,2}{5,5} = 0,218$ | $= \frac{\text{Jarak bercak}}{\text{Jarak elusi}} = \frac{1,2}{5,5} = 0,218$ | $= \frac{\text{Jarak bercak}}{\text{Jarak elusi}} = \frac{1,2}{5,5} = 0,218$ |
| CUPRA C pada fase gerak jahe    | Tinggi bercak: 0,6 cm                                                        | Tinggi bercak: 0,6 cm, 2,3 cm, 4 cm                                          | Tinggi bercak: 1 cm, 2,3 cm, 4 cm                                            | Tinggi bercak: 0,9 cm, 2,3 cm                                                | Tinggi bercak: 1 cm, 2,3 cm                                                  | Tinggi bercak: 1 cm, 2,3 cm                                                  |
| CUPRA C pada fase gerak cengkeh | Tinggi bercak: 1,9 cm, 4 cm                                                  | Tinggi bercak: 1,9 cm, 4 cm                                                  | Tinggi bercak: 1,9 cm, 4 cm                                                  | Tinggi bercak: 1,9 cm, 4 cm                                                  | Tinggi bercak: 1,9 cm, 4 cm                                                  | Tinggi bercak: 1,9 cm, 4 cm                                                  |

### Lampiran 5 Perhitungan aktivitas antioksidan vitamin C daun teh, rimpang jahe dan bunga cengkeh

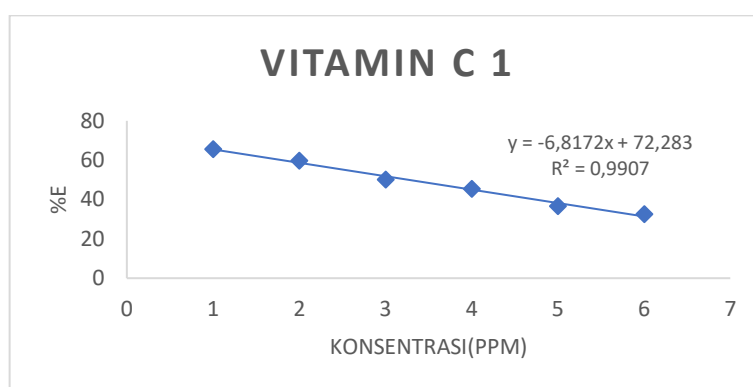
#### 1.1 Vitamin C (pengulangan 1)

| Konsentrasi | Abs. Kontrol | Abs sampel | Nilai a<br>(sampel – kontrol) | T<br>(1-10 <sup>-a</sup> ) x 100% | %E<br>100 - T | EC <sub>50</sub> |
|-------------|--------------|------------|-------------------------------|-----------------------------------|---------------|------------------|
| 1 ppm       | 0,0952       | 0,2779     | 0,1827                        | 34,3401                           | 65,6599       | 3,26864          |
| 2 ppm       | 0,0952       | 0,3190     | 0,2238                        | 40,2690                           | 59,7310       |                  |
| 3 ppm       | 0,0952       | 0,3941     | 0,2989                        | 49,7542                           | 50,2458       |                  |

|       |        |        |        |         |         |  |
|-------|--------|--------|--------|---------|---------|--|
| 4 ppm | 0,0952 | 0,4376 | 0,3424 | 54,5431 | 45,4569 |  |
| 5 ppm | 0,0952 | 0,5297 | 0,4345 | 63,2295 | 36,7705 |  |
| 6 ppm | 0,0952 | 0,5810 | 0,4858 | 67,3262 | 32,6738 |  |

$$\begin{aligned}
 \text{Nilai } a &= \text{abs sampel} - \text{abs kontrol} & T &= (1-10^{-a}) \times 100\% \\
 &= 0,2779 - 0,0952 & &= (1- 10^{-0,1827}) \times 100\% \\
 &= 0,1827 & &= 34,3401
 \end{aligned}$$

$$\begin{aligned}
 \% E &= 100 - T \\
 &= 100 - 34,3401 \\
 &= 65,6599
 \end{aligned}$$



$$\begin{aligned}
 y &= -6,8172x + 72,283 \\
 R^2 &= 0,9907 \\
 y &= 50 \\
 a &= 72,283 \\
 b &= -6,8172
 \end{aligned}$$

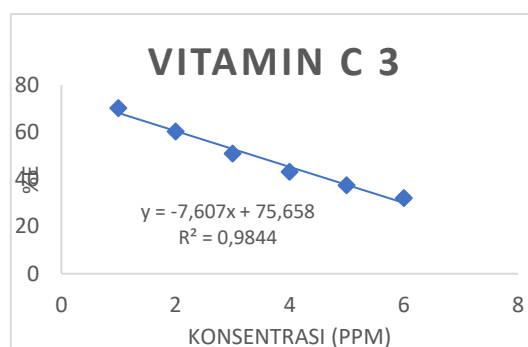
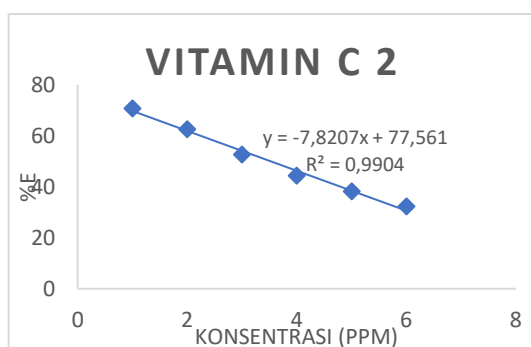
$$\begin{aligned}
 y &= bx + a \\
 x &= \frac{y - a}{b} \\
 x &= \frac{50 - 72,283}{-6,8172} \\
 EC_{50} &= 3,26864 \text{ (sangat kuat)}
 \end{aligned}$$

#### Vitamin C (Pengulangan 2)

| Konsentrasi | Abs. Kontrol | Abs sampel | Nilai a<br>(sampel – kontrol) | T<br>(1-10 <sup>-a</sup> ) x 100% | %E<br>100 - T | EC <sub>50</sub> |
|-------------|--------------|------------|-------------------------------|-----------------------------------|---------------|------------------|
| 1 ppm       | 0,0952       | 0,2451     | 0,1499                        | 29,1891                           | 70,8109       | 3,45903          |
| 2 ppm       | 0,0952       | 0,2983     | 0,2031                        | 37,3530                           | 62,6470       |                  |
| 3 ppm       | 0,0952       | 0,3735     | 0,2783                        | 47,3134                           | 52,6866       |                  |
| 4 ppm       | 0,0952       | 0,4483     | 0,3531                        | 55,6493                           | 44,3507       |                  |
| 5 ppm       | 0,0952       | 0,5122     | 0,4170                        | 61,7175                           | 38,2825       |                  |
| 6 ppm       | 0,0952       | 0,5853     | 0,4901                        | 67,6481                           | 32,3519       |                  |

## Vitamin C (Pengulangan 3)

| Konsentrasi | Abs. Kontrol | Abs sampel | Nilai a<br>(sampel – kontrol) | T<br>(1-10 <sup>-a</sup> ) x 100% | %E<br>100 - T | EC <sub>50</sub> |
|-------------|--------------|------------|-------------------------------|-----------------------------------|---------------|------------------|
| 1 ppm       | 0,0952       | 0,2494     | 0,1542                        | 29,8868                           | 70,1132       | 3,37295          |
| 2 ppm       | 0,0952       | 0,3149     | 0,2197                        | 39,7024                           | 60,2976       |                  |
| 3 ppm       | 0,0952       | 0,3879     | 0,2927                        | 49,0317                           | 50,9683       |                  |
| 4 ppm       | 0,0952       | 0,4596     | 0,3644                        | 56,7884                           | 43,2116       |                  |
| 5 ppm       | 0,0952       | 0,5207     | 0,4255                        | 62,4595                           | 37,5405       |                  |
| 6 ppm       | 0,0952       | 0,5891     | 0,4939                        | 67,9299                           | 32,0701       |                  |



$$y = -7,8207x + 77,561$$

$$R^2 = 0,9904$$

$$y = 50$$

$$a = 77,561$$

$$b = -7,8207$$

$$y = -7,607x + 75,658$$

$$R^2 = 0,9844$$

$$y = 50$$

$$a = 75,658$$

$$b = -7,607$$

$$\text{rata - rata} = \frac{3,26864 + 3,45903 + 3,37295}{3} = 3,36687 \pm 0,09534$$

## 1.2 Seduhan Daun teh

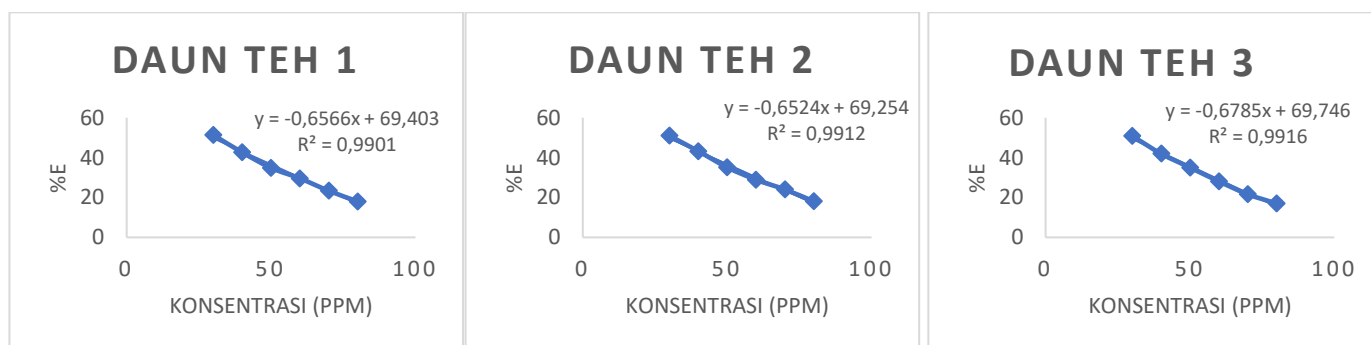
| Konsentrasi | Abs. Kontrol | Abs sampel | Nilai a<br>(sampel – kontrol) | T<br>(1-10 <sup>-a</sup> ) x 100% | %E<br>100 - T | EC <sub>50</sub> |
|-------------|--------------|------------|-------------------------------|-----------------------------------|---------------|------------------|
| 30 ppm      | 0,0957       | 0,2894     | 0,2818                        | 48,64296                          | 51,35704      | 29,32244         |
| 40 ppm      | 0,0957       | 0,3704     | 0,3638                        | 57,38132                          | 42,61868      |                  |
| 50 ppm      | 0,0957       | 0,458      | 0,4675                        | 65,16627                          | 34,83373      |                  |
| 60 ppm      | 0,0957       | 0,5292     | 0,5327                        | 70,43349                          | 29,56651      |                  |
| 70 ppm      | 0,0957       | 0,6319     | 0,6296                        | 76,66005                          | 23,33995      |                  |
| 80 ppm      | 0,0957       | 0,7444     | 0,7496                        | 81,98642                          | 18,01358      |                  |

## Seduhan daun teh (pengulangan 2)

| Konsentrasi | Abs. Kontrol | Abs sampel | Nilai a<br>(sampel – kontrol) | T<br>(1-10 <sup>-a</sup> ) x 100% | %E<br>100 - T | EC <sub>50</sub> |
|-------------|--------------|------------|-------------------------------|-----------------------------------|---------------|------------------|
| 30 ppm      | 0,0957       | 0,3885     | 0,2928                        | 49,04345                          | 50,95655      | 29,24354         |
| 40 ppm      | 0,0957       | 0,4601     | 0,3644                        | 56,78843                          | 43,21157      |                  |
| 50 ppm      | 0,0957       | 0,5503     | 0,4546                        | 64,89249                          | 35,10751      |                  |
| 60 ppm      | 0,0957       | 0,6351     | 0,5394                        | 71,11981                          | 28,88019      |                  |
| 70 ppm      | 0,0957       | 0,7154     | 0,6197                        | 75,99509                          | 24,00491      |                  |
| 80 ppm      | 0,0957       | 0,8391     | 0,7434                        | 81,9449                           | 18,0551       |                  |

## Seduhan daun teh (pengulangan 3)

| Konsentrasi | Abs. Kontrol | Abs sampel | Nilai a<br>(sampel – kontrol) | T<br>(1-10 <sup>-a</sup> ) x 100% | %E<br>100 - T | EC <sub>50</sub> |
|-------------|--------------|------------|-------------------------------|-----------------------------------|---------------|------------------|
| 30 ppm      | 0,0957       | 0,3892     | 0,2935                        | 49,12552                          | 50,87448      | 29,10243         |
| 40 ppm      | 0,0957       | 0,4727     | 0,377                         | 58,0241                           | 41,9759       |                  |
| 50 ppm      | 0,0957       | 0,5512     | 0,4555                        | 64,96517                          | 35,03483      |                  |
| 60 ppm      | 0,0957       | 0,6475     | 0,5518                        | 71,93274                          | 28,06726      |                  |
| 70 ppm      | 0,0957       | 0,7608     | 0,6651                        | 78,37779                          | 21,62221      |                  |
| 80 ppm      | 0,0957       | 0,8657     | 0,77                          | 83,01756                          | 16,98244      |                  |



$$y = -0,6566x + 69,403$$

$$R^2 = 0,9901$$

$$y = 50$$

$$a = 69,403$$

$$b = -0,6566$$

$$y = -0,6524x + 69,254$$

$$R^2 = 0,9912$$

$$y = 50$$

$$a = 69,254$$

$$b = -0,6524$$

$$y = -0,6785x + 69,746$$

$$R^2 = 0,9916$$

$$y = 50$$

$$a = 69,746$$

$$b = -0,6785$$

$$rata - rata = \frac{29,32244 + 29,24354 + 29,10243}{3} = 29,22277 \pm 0,111462$$

## 1.3 Seduhan rimpang jahe (pengulangan 1)

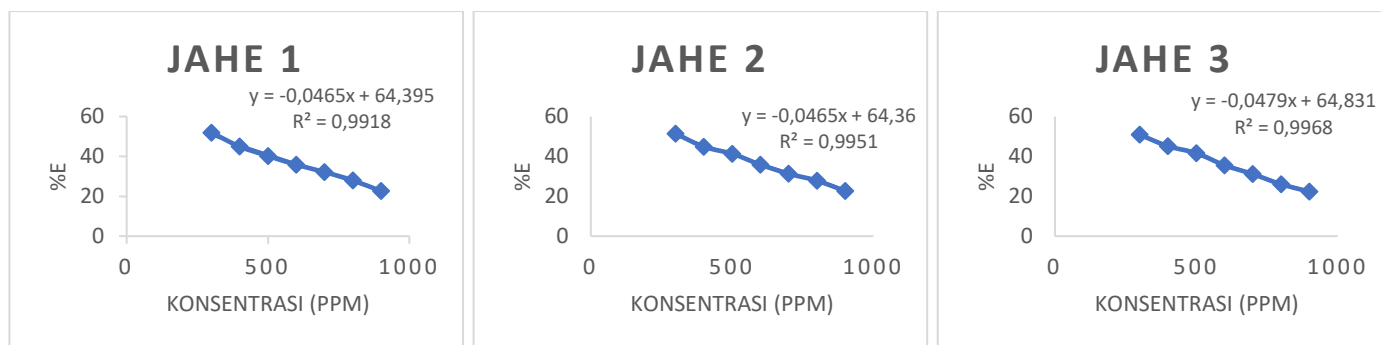
| Konsentrasi | Abs. Kontrol | Abs sampel | Nilai a<br>(sampel – kontrol) | T<br>$(1-10^{-a}) \times 100\%$ | %E<br>100 - T | EC <sub>50</sub> |
|-------------|--------------|------------|-------------------------------|---------------------------------|---------------|------------------|
| 300 ppm     | 0,0998       | 0,3842     | 0,2844                        | 48,04827                        | 51,95173      | 309,5699         |
| 400 ppm     | 0,0998       | 0,4473     | 0,3475                        | 55,07377                        | 44,92623      |                  |
| 500 ppm     | 0,0998       | 0,4953     | 0,3955                        | 59,77463                        | 40,22537      |                  |
| 600 ppm     | 0,0998       | 0,5457     | 0,4459                        | 64,18211                        | 35,81789      |                  |
| 700 ppm     | 0,0998       | 0,5925     | 0,4927                        | 67,84119                        | 32,15881      |                  |
| 800 ppm     | 0,0998       | 0,6533     | 0,5535                        | 72,04239                        | 27,95761      |                  |

## Seduhan rimpang jahe (pengulangan 2)

| Konsentrasi | Abs. Kontrol | Abs sampel | Nilai a<br>(sampel – kontrol) | T<br>$(1-10^{-a}) \times 100\%$ | %E<br>100 - T | EC <sub>50</sub> |
|-------------|--------------|------------|-------------------------------|---------------------------------|---------------|------------------|
| 300 ppm     | 0,0998       | 0,3888     | 0,289                         | 48,59563                        | 51,40437      | 308,8172         |
| 400 ppm     | 0,0998       | 0,4482     | 0,3484                        | 55,16677                        | 44,83323      |                  |
| 500 ppm     | 0,0998       | 0,4837     | 0,3839                        | 58,68574                        | 41,31426      |                  |
| 600 ppm     | 0,0998       | 0,5452     | 0,4454                        | 64,14085                        | 35,85915      |                  |
| 700 ppm     | 0,0998       | 0,6043     | 0,5045                        | 68,7032                         | 31,2968       |                  |
| 800 ppm     | 0,0998       | 0,6553     | 0,5555                        | 72,17085                        | 27,82915      |                  |

## Seduhan rimpang jahe (pengulangan 3)

| Konsentrasi | Abs. Kontrol | Abs sampel | Nilai a<br>(sampel – kontrol) | T<br>$(1-10^{-a}) \times 100\%$ | %E<br>100 - T | EC <sub>50</sub> |
|-------------|--------------|------------|-------------------------------|---------------------------------|---------------|------------------|
| 300 ppm     | 0,0998       | 0,3934     | 0,2936                        | 49,13723                        | 50,86277      | 309,6242         |
| 400 ppm     | 0,0998       | 0,4456     | 0,3458                        | 54,89756                        | 45,10244      |                  |
| 500 ppm     | 0,0998       | 0,4803     | 0,3805                        | 58,36103                        | 41,63897      |                  |
| 600 ppm     | 0,0998       | 0,5487     | 0,4489                        | 64,42868                        | 35,57132      |                  |
| 700 ppm     | 0,0998       | 0,6069     | 0,5071                        | 68,89                           | 31,11         |                  |
| 800 ppm     | 0,0998       | 0,6845     | 0,5847                        | 73,98044                        | 26,01956      |                  |



$$y = -0,0465x + 64,395$$

$$R^2 = 0,9918$$

$$y = 50$$

$$a = 64,395$$

$$b = -0,0465$$

$$y = -0,0465x + 64,36$$

$$R^2 = 0,9951$$

$$y = 50$$

$$a = 64,36$$

$$b = -0,0465$$

$$y = -0,0479x + 64,831$$

$$R^2 = 0,9968$$

$$y = 50$$

$$a = 64,831$$

$$b = -0,0479$$

$$rata - rata = \frac{309,5699 + 308,8172 + 309,6242}{3} = 309,3371 \pm 0,45107$$

#### 1.4 Seduhan Cengkeh

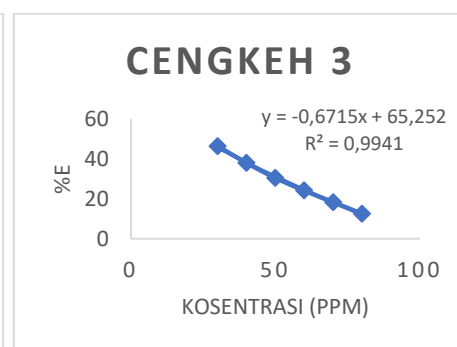
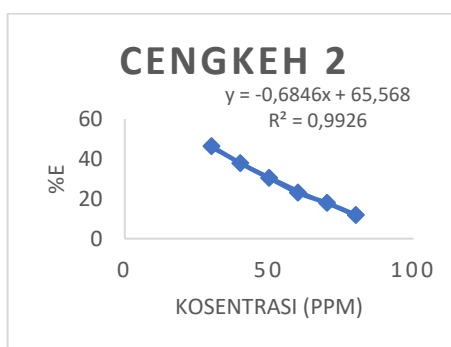
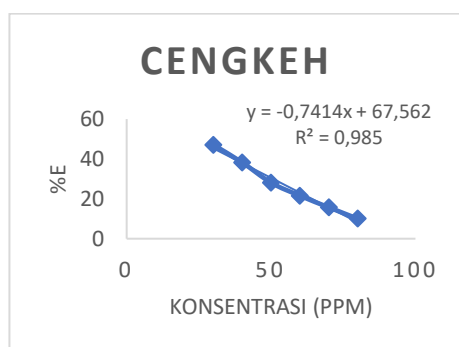
| Konsentrasi | Abs. Kontrol | Abs sampel | Nilai a<br>(sampel – kontrol) | T<br>(1-10 <sup>-a</sup> ) x 100% | %E<br>100 - T | EC <sub>50</sub> |
|-------------|--------------|------------|-------------------------------|-----------------------------------|---------------|------------------|
| 30 ppm      | 0,0957       | 0,4227     | 0,327                         | 52,90227                          | 47,09773      | 23,68762         |
| 40 ppm      | 0,0957       | 0,5131     | 0,4174                        | 61,75277                          | 38,24723      |                  |
| 50 ppm      | 0,0957       | 0,6472     | 0,5515                        | 71,91335                          | 28,08665      |                  |
| 60 ppm      | 0,0957       | 0,7625     | 0,6668                        | 78,46227                          | 21,53773      |                  |
| 70 ppm      | 0,0957       | 0,8995     | 0,8038                        | 84,28914                          | 15,71086      |                  |
| 80 ppm      | 0,0957       | 0,9986     | 0,9986                        | 89,96771                          | 10,03229      |                  |

#### Seduhan bunga cengkeh (pengulangan 2)

| Konsentrasi | Abs. Kontrol | Abs sampel | Nilai a<br>(sampel – kontrol) | T<br>(1-10 <sup>-a</sup> ) x 100% | %E<br>100 - T | EC <sub>50</sub> |
|-------------|--------------|------------|-------------------------------|-----------------------------------|---------------|------------------|
| 30 ppm      | 0,0957       | 0,4295     | 0,3338                        | 53,63396                          | 46,36604      | 22,74029         |
| 40 ppm      | 0,0957       | 0,5174     | 0,4217                        | 62,12959                          | 37,87041      |                  |
| 50 ppm      | 0,0957       | 0,6125     | 0,5168                        | 69,57714                          | 30,42286      |                  |
| 60 ppm      | 0,0957       | 0,7334     | 0,6377                        | 76,96968                          | 23,03032      |                  |
| 70 ppm      | 0,0957       | 0,8429     | 0,7472                        | 82,10219                          | 17,89781      |                  |
| 80 ppm      | 0,0957       | 1,0199     | 0,9242                        | 88,09306                          | 11,90694      |                  |

#### Seduhan bunga cengkeh (pengulangan 3)

| Konsentrasi | Abs. Kontrol | Abs sampel | Nilai a<br>(sampel – kontrol) | T<br>(1-10 <sup>-a</sup> ) x 100% | %E<br>100 - T | EC <sub>50</sub> |
|-------------|--------------|------------|-------------------------------|-----------------------------------|---------------|------------------|
| 30 ppm      | 0,0957       | 0,4293     | 0,3336                        | 53,6126                           | 46,3874       | 22,75388         |
| 40 ppm      | 0,0957       | 0,5154     | 0,4197                        | 61,95479                          | 38,04521      |                  |
| 50 ppm      | 0,0957       | 0,6112     | 0,5155                        | 69,48594                          | 30,51406      |                  |
| 60 ppm      | 0,0957       | 0,7121     | 0,6164                        | 75,812                            | 24,188        |                  |
| 70 ppm      | 0,0957       | 0,8336     | 0,7379                        | 81,71479                          | 18,28521      |                  |
| 80 ppm      | 0,0957       | 0,9986     | 0,9029                        | 87,49453                          | 12,50547      |                  |



$$y = -0,7414x + 67,562$$

$$R^2 = 0,985$$

$$y = 50$$

$$a = 67,562$$

$$b = -0,7414$$

$$y = -0,7058x + 66,781$$

$$R^2 = 0,9907$$

$$y = 50$$

$$a = 66,781$$

$$b = -0,7058$$

$$y = -0,6715x + 65,252$$

$$R^2 = 0,9941$$

$$y = 50$$

$$a = 65,252$$

$$b = -0,6715$$

$$rata - rata = \frac{23,68762 + 22,74029 + 22,75388}{3} = 23,06059 \pm 0,54306$$

## Lampiran 6 Data aktivitas antioksidan sediaan teh

### 1.5 Seduhan F1

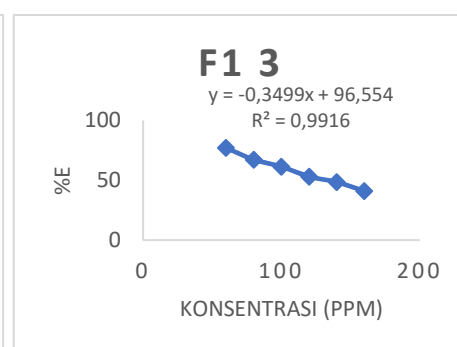
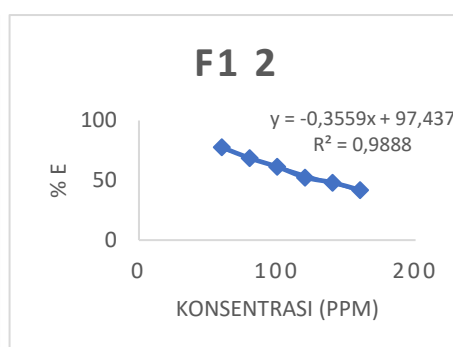
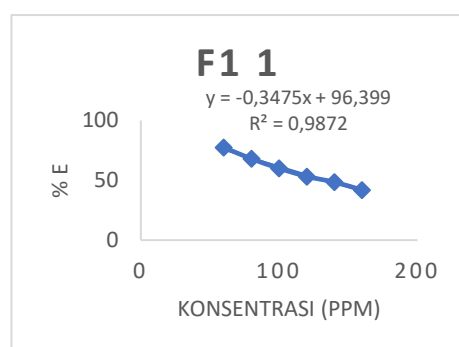
| Konsentrasi | Abs. Kontrol | Abs sampel | Nilai a<br>(sampel – kontrol) | T<br>(1-10 <sup>-a</sup> ) x 100% | %E<br>100 - T | EC <sub>50</sub> |
|-------------|--------------|------------|-------------------------------|-----------------------------------|---------------|------------------|
| 60          | 0,0976       | 0,2083     | 0,1107                        | 22,5003                           | 77,4997       | 133,5223         |
| 80          | 0,0976       | 0,2653     | 0,1677                        | 32,0327                           | 67,9673       |                  |
| 100         | 0,0976       | 0,3195     | 0,2219                        | 40,00708                          | 59,99292      |                  |
| 120         | 0,0976       | 0,3717     | 0,2741                        | 46,80142                          | 53,19858      |                  |
| 140         | 0,0976       | 0,4122     | 0,3146                        | 51,53815                          | 48,46185      |                  |
| 160         | 0,0976       | 0,4753     | 0,3777                        | 58,0917                           | 41,9083       |                  |

## Seduhan F1 (pengulangan 2)

| Konsentrasi | Abs. Kontrol | Abs sampel | Nilai a<br>(sampel – kontrol) | T<br>(1-10 <sup>-a</sup> ) x 100% | %E<br>100 - T | EC <sub>50</sub> |
|-------------|--------------|------------|-------------------------------|-----------------------------------|---------------|------------------|
| 60          | 0,0976       | 0,2078     | 0,1102                        | 22,41103                          | 77,58897      | 133,2874         |
| 80          | 0,0976       | 0,2615     | 0,1639                        | 31,43539                          | 68,56461      |                  |
| 100         | 0,0976       | 0,3104     | 0,2128                        | 38,73675                          | 61,26325      |                  |
| 120         | 0,0976       | 0,3781     | 0,2805                        | 47,57964                          | 52,42036      |                  |
| 140         | 0,0976       | 0,4154     | 0,3178                        | 51,89392                          | 48,10608      |                  |
| 160         | 0,0976       | 0,4763     | 0,3787                        | 58,18809                          | 41,81191      |                  |

## Seduhan F1 (pengulangan 3)

| Konsentrasi | Abs. Kontrol | Abs sampel | Nilai a<br>(sampel – kontrol) | T<br>(1-10 <sup>-a</sup> ) x 100% | %E<br>100 - T | EC <sub>50</sub> |
|-------------|--------------|------------|-------------------------------|-----------------------------------|---------------|------------------|
| 60          | 0,0976       | 0,2107     | 0,1131                        | 22,9274                           | 77,0726       | 133,0494         |
| 80          | 0,0976       | 0,2694     | 0,1718                        | 32,67134                          | 67,32866      |                  |
| 100         | 0,0976       | 0,3097     | 0,2121                        | 38,63793                          | 61,36207      |                  |
| 120         | 0,0976       | 0,3728     | 0,2752                        | 46,936                            | 53,064        |                  |
| 140         | 0,0976       | 0,4117     | 0,3141                        | 51,48232                          | 48,51768      |                  |
| 160         | 0,0976       | 0,4845     | 0,3869                        | 58,97014                          | 41,02986      |                  |



$$y = -0,3475x + 96,399$$

$$R^2 = 0,9872$$

$$y = 50$$

$$a = 96,399$$

$$b = -0,3475$$

$$y = -0,3559x + 97,437$$

$$R^2 = 0,9888$$

$$y = 50$$

$$a = 97,437$$

$$b = -0,355$$

$$y = -0,3499x + 96,554$$

$$R^2 = 0,9916$$

$$y = 50$$

$$a = 96,554$$

$$b = -0,3499$$

$$rata - rata = \frac{133,5223 + 133,2874 + 133,0494}{3} = 133,2864 \pm 0,2364$$

## 1.6 Seduhan F2

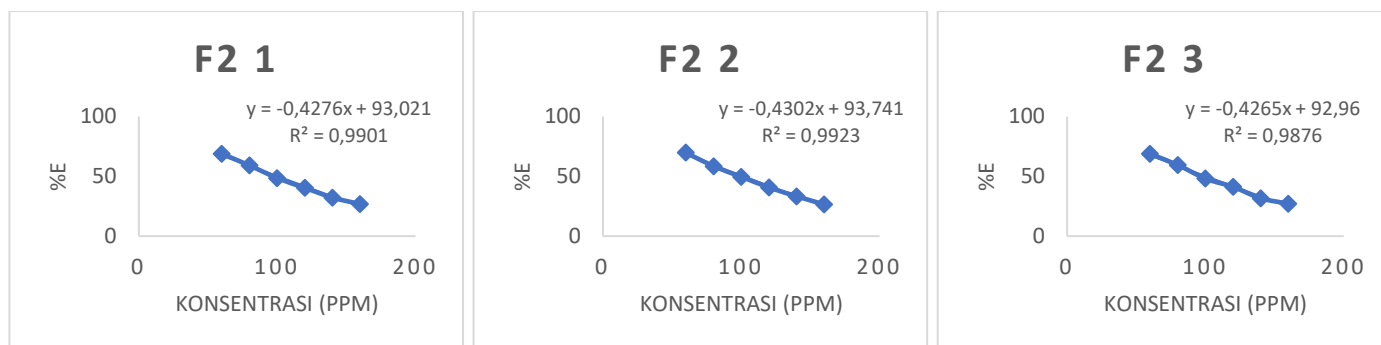
| Konsentrasi | Abs. Kontrol | Abs sampel | Nilai a<br>(sampel – kontrol) | T<br>$(1-10^{-a}) \times 100\%$ | %E<br>100 - T | EC <sub>50</sub> |
|-------------|--------------|------------|-------------------------------|---------------------------------|---------------|------------------|
| 60          | 0,0976       | 0,2594     | 0,1618                        | 31,10305                        | 68,89695      | 100,6104         |
| 80          | 0,0976       | 0,3261     | 0,2285                        | 40,9119                         | 59,0881       |                  |
| 100         | 0,0976       | 0,4113     | 0,3137                        | 51,43762                        | 48,56238      |                  |
| 120         | 0,0976       | 0,4917     | 0,3941                        | 59,64475                        | 40,35525      |                  |
| 140         | 0,0976       | 0,5893     | 0,4917                        | 67,76705                        | 32,23295      |                  |
| 160         | 0,0976       | 0,6696     | 0,572                         | 73,20832                        | 26,79168      |                  |

## Seduhan F2 (pengulangan 2)

| Konsentrasi | Abs. Kontrol | Abs sampel | Nilai a<br>(sampel – kontrol) | T<br>$(1-10^{-a}) \times 100\%$ | %E<br>100 - T | EC <sub>50</sub> |
|-------------|--------------|------------|-------------------------------|---------------------------------|---------------|------------------|
| 60          | 0,0976       | 0,2534     | 0,1558                        | 30,1446                         | 69,8554       | 101,676          |
| 80          | 0,0976       | 0,3306     | 0,233                         | 41,52099                        | 58,47901      |                  |
| 100         | 0,0976       | 0,4018     | 0,3042                        | 50,36363                        | 49,63637      |                  |
| 120         | 0,0976       | 0,4875     | 0,3899                        | 59,25259                        | 40,74741      |                  |
| 140         | 0,0976       | 0,5751     | 0,4775                        | 66,69572                        | 33,30428      |                  |
| 160         | 0,0976       | 0,6741     | 0,5765                        | 73,48449                        | 26,51551      |                  |

## Seduhan F2 (pengulangan 3)

| Konsentrasi | Abs. Kontrol | Abs sampel | Nilai a<br>(sampel – kontrol) | T<br>$(1-10^{-a}) \times 100\%$ | %E<br>100 - T | EC <sub>50</sub> |
|-------------|--------------|------------|-------------------------------|---------------------------------|---------------|------------------|
| 60          | 0,0976       | 0,2602     | 0,1626                        | 31,22985                        | 68,77015      | 100,7268         |
| 80          | 0,0976       | 0,3234     | 0,2258                        | 40,54341                        | 59,45659      |                  |
| 100         | 0,0976       | 0,4154     | 0,3178                        | 51,89392                        | 48,10608      |                  |
| 120         | 0,0976       | 0,4835     | 0,3859                        | 58,87556                        | 41,12444      |                  |
| 140         | 0,0976       | 0,597      | 0,4994                        | 68,3335                         | 31,6665       |                  |
| 160         | 0,0976       | 0,6642     | 0,5666                        | 72,87311                        | 27,12689      |                  |



$$y = -0,4276x + 93,021$$

$$R^2 = 0,9901$$

$$y = 50$$

$$a = 93,021$$

$$b = -0,4276$$

$$y = -0,4302x + 93,741$$

$$R^2 = 0,9923$$

$$y = 50$$

$$a = 93,741$$

$$b = -0,4302$$

$$y = -0,4265x + 92,96$$

$$R^2 = 0,9876$$

$$y = 50$$

$$a = 92,96$$

$$b = -0,4265$$

$$\text{rata - rata} = \frac{100,6104 + 101,676 + 100,7268}{3} = 101,0044 \pm 0,5845$$

### 1.7 Seduhan F3

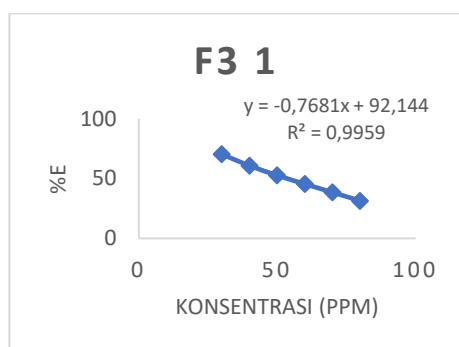
| Konsentrasi | Abs. Kontrol | Abs sampel | Nilai a<br>(sampel – kontrol) | T<br>(1-10 <sup>-a</sup> ) x 100% | %E<br>100 - T | EC <sub>50</sub> |
|-------------|--------------|------------|-------------------------------|-----------------------------------|---------------|------------------|
| 30          | 0,0957       | 0,2479     | 0,1522                        | 29,56314                          | 70,43686      | 54,86786         |
| 40          | 0,0957       | 0,3119     | 0,2162                        | 39,2145                           | 60,7855       |                  |
| 50          | 0,0957       | 0,3741     | 0,2784                        | 47,32555                          | 52,67445      |                  |
| 60          | 0,0957       | 0,4376     | 0,3419                        | 54,49072                          | 45,50928      |                  |
| 70          | 0,0957       | 0,5097     | 0,414                         | 61,45216                          | 38,54784      |                  |
| 80          | 0,0957       | 0,5981     | 0,5024                        | 68,5515                           | 31,4485       |                  |

### Seduhan F3 (pengulangan 2)

| Konsentrasi | Abs. Kontrol | Abs sampel | Nilai a<br>(sampel – kontrol) | T<br>(1-10 <sup>-a</sup> ) x 100% | %E<br>100 - T | EC <sub>50</sub> |
|-------------|--------------|------------|-------------------------------|-----------------------------------|---------------|------------------|
| 30          | 0,0957       | 0,2498     | 0,1541                        | 29,87062                          | 70,12938      | 54,16623         |
| 40          | 0,0957       | 0,3165     | 0,2208                        | 39,85493                          | 60,14507      |                  |
| 50          | 0,0957       | 0,3818     | 0,2861                        | 48,25123                          | 51,74877      |                  |
| 60          | 0,0957       | 0,4451     | 0,3494                        | 55,26989                          | 44,73011      |                  |
| 70          | 0,0957       | 0,5136     | 0,4179                        | 61,79678                          | 38,20322      |                  |
| 80          | 0,0957       | 0,6013     | 0,5056                        | 68,78236                          | 31,21764      |                  |

## Seduhan F3 (pengulangan 3)

| Konsentrasi | Abs. Kontrol | Abs sampel | Nilai a<br>(sampel – kontrol) | T<br>(1-10 <sup>-a</sup> ) x 100% | %E<br>100 - T | EC <sub>50</sub> |
|-------------|--------------|------------|-------------------------------|-----------------------------------|---------------|------------------|
| 30          | 0,0957       | 0,2598     | 0,1641                        | 31,46696                          | 68,53304      | 54,26216         |
| 40          | 0,0957       | 0,3262     | 0,2305                        | 41,18339                          | 58,81661      |                  |
| 50          | 0,0957       | 0,3779     | 0,2822                        | 47,78443                          | 52,21557      |                  |
| 60          | 0,0957       | 0,4274     | 0,3317                        | 53,40922                          | 46,59078      |                  |
| 70          | 0,0957       | 0,5098     | 0,4141                        | 61,46104                          | 38,53896      |                  |
| 80          | 0,0957       | 0,5884     | 0,4927                        | 67,84119                          | 32,15881      |                  |



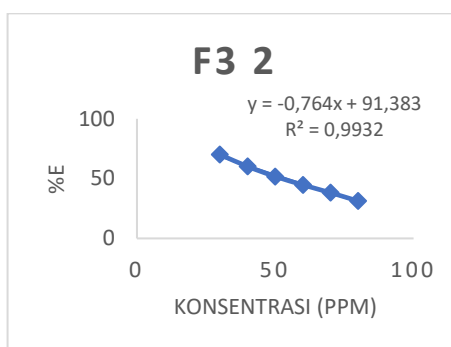
$$y = -0,7681x + 92,144$$

$$R^2 = 0,9959$$

$$y = 50$$

$$a = 92,144$$

$$b = -0,7681$$



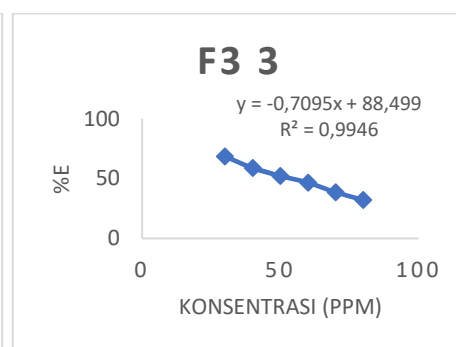
$$y = -0,764x + 91,383$$

$$R^2 = 0,9932$$

$$y = 50$$

$$a = 91,383$$

$$b = -0,764$$



$$y = -0,7095x + 88,499$$

$$R^2 = 0,9946$$

$$y = 50$$

$$a = 88,499$$

$$b = -0,7095$$

$$rata - rata = \frac{54,86786 + 54,16623 + 54,26216}{3} = 54,43208 \pm 0,38043$$

## Lampiran 7 Pengujian statistik

### Tests of Normality

| Kelompok |           | Kolmogorov-Smirnov <sup>a</sup> |    |      | Shapiro-Wilk |    |      |
|----------|-----------|---------------------------------|----|------|--------------|----|------|
|          |           | Statistic                       | df | Sig. | Statistic    | df | Sig. |
| EC50     | Formula 1 | .175                            | 3  | .    | 1.000        | 3  | .993 |
|          | Formula 2 | .349                            | 3  | .    | .831         | 3  | .190 |
|          | Formula 3 | .339                            | 3  | .    | .850         | 3  | .241 |
|          | Daun Teh  | .240                            | 3  | .    | .974         | 3  | .691 |
|          | Jahe      | .364                            | 3  | .    | .800         | 3  | .115 |
|          | Cengkeh   | .381                            | 3  | .    | .761         | 3  | .024 |

### Test of Homogeneity of Variances

EC50

| Levene Statistic | df1 | df2 | Sig. |
|------------------|-----|-----|------|
| 2.795            | 5   | 12  | .067 |

### ANOVA

EC50

|                | Sum of Squares | df | Mean Square | F          | Sig. |
|----------------|----------------|----|-------------|------------|------|
| Between Groups | 172542.379     | 5  | 34508.476   | 196610.638 | .000 |
| Within Groups  | 2.106          | 12 | .176        |            |      |
| Total          | 172544.485     | 17 |             |            |      |

## Post Hoc Tests

### Multiple Comparisons

Dependent Variable: EC50

|              |              |             | Mean<br>Difference (I-<br>J) | Std. Error | Sig. | 95% Confidence Interval |              |
|--------------|--------------|-------------|------------------------------|------------|------|-------------------------|--------------|
| (I) Kelompok | (J) Kelompok | Lower Bound |                              |            |      | Upper Bound             |              |
| Tukey HSD    | Formula 1    | Formula 2   | 32.28196667 <sup>*</sup>     | .34206903  | .000 | 31.1329839              | 33.4309495   |
|              |              | Formula 3   | 78.85428333 <sup>*</sup>     | .34206903  | .000 | 77.7053005              | 80.0032661   |
|              |              | Daun Teh    | 104.0635900 <sup>*</sup>     | .34206903  | .000 | 102.9146072             | 105.2125728  |
|              |              | Jahe        | -176.050733 <sup>*</sup>     | .34206903  | .000 | -177.1997161            | -174.9017505 |
|              |              | Cengkeh     | 110.2257700 <sup>*</sup>     | .34206903  | .000 | 109.0767872             | 111.3747528  |
|              | Formula 2    | Formula 1   | -32.28196667 <sup>*</sup>    | .34206903  | .000 | -33.4309495             | -31.1329839  |
|              |              | Formula 3   | 46.57231667 <sup>*</sup>     | .34206903  | .000 | 45.4233339              | 47.7212995   |
|              |              | Daun Teh    | 71.78162333 <sup>*</sup>     | .34206903  | .000 | 70.6326405              | 72.9306061   |
|              |              | Jahe        | -208.332700 <sup>*</sup>     | .34206903  | .000 | -209.4816828            | -207.1837172 |
|              |              | Cengkeh     | 77.94380333 <sup>*</sup>     | .34206903  | .000 | 76.7948205              | 79.0927861   |
|              | Formula 3    | Formula 1   | -78.8542833 <sup>*</sup>     | .34206903  | .000 | -80.0032661             | -77.7053005  |
|              |              | Formula 2   | -46.5723167 <sup>*</sup>     | .34206903  | .000 | -47.7212995             | -45.4233339  |
|              |              | Daun Teh    | 25.20930667 <sup>*</sup>     | .34206903  | .000 | 24.0603239              | 26.3582895   |
|              |              | Jahe        | -254.905017 <sup>*</sup>     | .34206903  | .000 | -256.0539995            | -253.7560339 |
|              |              | Cengkeh     | 31.37148667 <sup>*</sup>     | .34206903  | .000 | 30.2225039              | 32.5204695   |
|              | Daun Teh     | Formula 1   | -104.063590 <sup>*</sup>     | .34206903  | .000 | -105.2125728            | -102.9146072 |
|              |              | Formula 2   | -71.7816233 <sup>*</sup>     | .34206903  | .000 | -72.9306061             | -70.6326405  |
|              |              | Formula 3   | -25.2093067 <sup>*</sup>     | .34206903  | .000 | -26.3582895             | -24.0603239  |
|              |              | Jahe        | -280.114323 <sup>*</sup>     | .34206903  | .000 | -281.2633061            | -278.9653405 |
|              |              | Cengkeh     | 6.16218000 <sup>*</sup>      | .34206903  | .000 | 5.0131972               | 7.3111628    |
|              | Jahe         | Formula 1   | 176.0507333 <sup>*</sup>     | .34206903  | .000 | 174.9017505             | 177.1997161  |
|              |              | Formula 2   | 208.3327000 <sup>*</sup>     | .34206903  | .000 | 207.1837172             | 209.4816828  |
|              |              | Formula 3   | 254.9050167 <sup>*</sup>     | .34206903  | .000 | 253.7560339             | 256.0539995  |
|              |              | Daun Teh    | 280.1143233 <sup>*</sup>     | .34206903  | .000 | 278.9653405             | 281.2633061  |
|              |              | Cengkeh     | 286.2765033 <sup>*</sup>     | .34206903  | .000 | 285.1275205             | 287.4254861  |
|              | Cengkeh      | Formula 1   | -110.225770 <sup>*</sup>     | .34206903  | .000 | -111.3747528            | -109.0767872 |
|              |              | Formula 2   | -77.9438033 <sup>*</sup>     | .34206903  | .000 | -79.0927861             | -76.7948205  |
|              |              | Formula 3   | -31.3714867 <sup>*</sup>     | .34206903  | .000 | -32.5204695             | -30.2225039  |
|              |              | Daun Teh    | -6.16218000 <sup>*</sup>     | .34206903  | .000 | -7.3111628              | -5.0131972   |
|              |              | Jahe        | -286.276503 <sup>*</sup>     | .34206903  | .000 | -287.4254861            | -285.1275205 |

## Lampiran 8 Formulir uji skala kesukaan (hedonic scale test)

### Formulir uji skala kesukaan (*hedonic scale test*)

Nama Panelis :

Umur :

Jenis Kelamin :

Kriteria Mutu yang Dinilai : Bentuk (sediaan teh celup) Warna, Aroma, dan Rasa

Instruksi : Dihadapan saudara disajikan 3 sampel sediaan teh celup antioksidan kombinasi daun teh hijau, jahe, dan cengkeh. Saudara diminta untuk memberikan penilaian terhadap warna, aroma dan rasa dengan menggunakan skala penilaian sebagai berikut:

5 = Sangat suka

4 = Suka

3 = Agak suka

2 = Tidak suka

1 = Sangat tidak suka

Setelah saudara mencicipi salah satu sampel, Saudara diminta untuk berkumur dengan air putih yang telah disediakan sebelum mencicipi sampel yang lain. Selain itu saudara juga diminta memberikan kritik dan saran terhadap sampel.

| Kode Sampel  | Kriteria Penilaian |       |       |      |
|--------------|--------------------|-------|-------|------|
|              | Bentuk (Teh Celup) | Warna | Aroma | Rasa |
| <b>F I</b>   |                    |       |       |      |
| <b>F II</b>  |                    |       |       |      |
| <b>F III</b> |                    |       |       |      |

Kritik dan Saran:

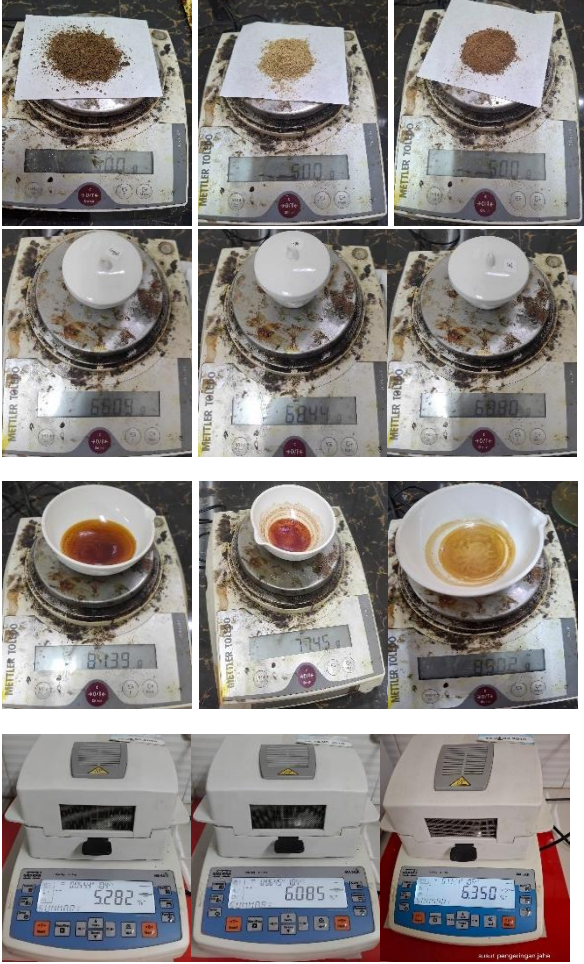
.....

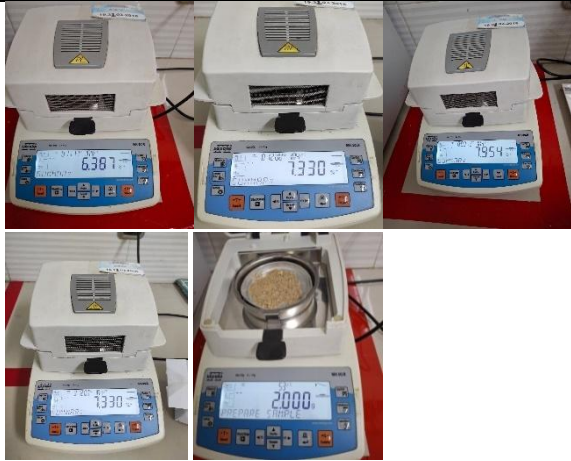
**Lampiran 9** Data uji hedonic

| No | Umur     | Jenis Kelamin | Rasa dari produk teh [Formula 1] | Rasa dari produk teh [Formula 2] | Rasa dari produk teh [Formula 3] | Warna dari produk teh [Formula 1] | Warna dari produk teh [Formula 2] | Warna dari produk teh [Formula 3] | Aroma dari produk teh [Formula 1] | Aroma dari produk teh [Formula 2] | Aroma dari produk teh [Formula 3] | Bentuk dari produk the |
|----|----------|---------------|----------------------------------|----------------------------------|----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|------------------------|
| 1  | 24 tahun | PEREMPUAN     | 5                                | 5                                | 4                                | 4                                 | 4                                 | 4                                 | 5                                 | 5                                 | 4                                 | 3                      |
| 2  | 24 tahun | Perempuan     | 5                                | 4                                | 4                                | 3                                 | 4                                 | 3                                 | 4                                 | 4                                 | 3                                 | 4                      |
| 3  | 24 tahun | laki-laki     | 5                                | 4                                | 3                                | 4                                 | 5                                 | 4                                 | 4                                 | 5                                 | 3                                 | 5                      |
| 4  | 23 tahun | Perempuan     | 3                                | 2                                | 1                                | 3                                 | 2                                 | 1                                 | 1                                 | 2                                 | 3                                 | 2                      |
| 5  | 23 tahun | Laki-laki     | 4                                | 4                                | 3                                | 4                                 | 5                                 | 4                                 | 4                                 | 5                                 | 5                                 | 4                      |
| 6  | 25 tahun | Perempuan     | 3                                | 3                                | 3                                | 4                                 | 3                                 | 3                                 | 4                                 | 4                                 | 3                                 | 4                      |
| 7  | 23 tahun | Perempuan     | 4                                | 3                                | 2                                | 3                                 | 3                                 | 3                                 | 4                                 | 3                                 | 2                                 | 4                      |
| 8  | 24 tahun | Perempuan     | 4                                | 3                                | 2                                | 3                                 | 3                                 | 4                                 | 4                                 | 3                                 | 2                                 | 4                      |
| 9  | 21 tahun | Laki-laki     | 4                                | 3                                | 3                                | 3                                 | 3                                 | 3                                 | 4                                 | 3                                 | 3                                 | 4                      |
| 10 | 24 tahun | Perempuan     | 4                                | 3                                | 2                                | 3                                 | 4                                 | 2                                 | 4                                 | 3                                 | 2                                 | 4                      |
| 11 | 27 tahun | Laki Laki     | 5                                | 4                                | 3                                | 4                                 | 5                                 | 4                                 | 5                                 | 4                                 | 3                                 | 4                      |
| 12 | 22 tahun | Laki- Laki    | 4                                | 3                                | 1                                | 3                                 | 4                                 | 3                                 | 4                                 | 3                                 | 2                                 | 4                      |
| 13 | 25 tahun | Laki-Laki     | 4                                | 3                                | 2                                | 3                                 | 4                                 | 4                                 | 4                                 | 4                                 | 2                                 | 4                      |
| 14 | 25 tahun | Laki-laki     | 5                                | 5                                | 5                                | 5                                 | 5                                 | 5                                 | 5                                 | 5                                 | 5                                 | 5                      |
| 15 | 23 tahun | Wanita        | 5                                | 3                                | 4                                | 3                                 | 4                                 | 5                                 | 5                                 | 3                                 | 2                                 | 4                      |

|    |          |           |   |   |   |   |   |   |   |   |   |   |
|----|----------|-----------|---|---|---|---|---|---|---|---|---|---|
| 16 | 29 tahun | LAKI-LAKI | 3 | 2 | 3 | 4 | 3 | 2 | 4 | 2 | 3 | 3 |
| 17 | 24 tahun | Perempuan | 5 | 4 | 4 | 4 | 5 | 4 | 4 | 4 | 5 | 5 |
| 18 | 24 tahun | Perempuan | 5 | 4 | 4 | 4 | 4 | 5 | 4 | 4 | 5 | 5 |
| 19 | 22tahun  | Laki-laki | 5 | 4 | 3 | 5 | 4 | 2 | 5 | 5 | 4 | 5 |
| 20 | 21tahun  | Perempuan | 2 | 5 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 5 |
| 21 | 23 tahun | Laki-laki | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| 22 | 22tahun  | Laki-laki | 5 | 4 | 3 | 4 | 4 | 5 | 5 | 5 | 3 | 5 |
| 23 | 24tahun  | Laki-laki | 5 | 4 | 3 | 4 | 5 | 5 | 5 | 5 | 4 | 4 |
| 24 | 24 tahun | Laki laki | 4 | 3 | 2 | 3 | 3 | 4 | 4 | 4 | 2 | 4 |
| 25 | 24 Tahun | Perempuan | 4 | 2 | 3 | 4 | 5 | 4 | 5 | 2 | 3 | 5 |

### Lampiran 10 Dokumentasi

| Kegiatan                     | Hasil                                                                               |
|------------------------------|-------------------------------------------------------------------------------------|
| Proses pengeringan simplisia |    |
| Proses penghalusan           |   |
| Kareterisasi simplisia       |  |

|                                 |                                                                                      |
|---------------------------------|--------------------------------------------------------------------------------------|
|                                 |    |
| Penyeduhan teh                  |     |
| Pengujian aktivitas antioksidan |   |
| Pengujian Hedonic               |  |



## Lampiran 11 Turnitin



## Lampiran 12 Kartu Bimbingan

|               |                                    |                   |                                                                                                                                                  |
|---------------|------------------------------------|-------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|
| NIM           | 231FF04017                         | Nama Mahasiswa    | MARTINI IRENE WELMINCE BOKOTEI                                                                                                                   |
| Program Studi | SI Farmasi                         | Jenis TA          | Skripsi                                                                                                                                          |
| Periode Mulai | 2024 Ganjil                        | SKS Lulus         | <b>151 SKS</b>                                                                                                                                   |
| Tgl. Mulai    | 4 Maret 2025                       | Judul Tugas Akhir | SEDIAAN TEH CELUP ANTIOKSIDAN KOMBINASI TEH HIJAU (Camellia sinensis), RIMPANG JAHE (Zingiber officinale) DAN BUNGA CENGEH (Syzygium aromaticum) |
| Tahap         | Sidang Akhir/ Komprehensif (Ujian) | Status            | Aktif                                                                                                                                            |

| No | Tanggal          | Dosen Pembimbing           | Topik                                       | Disetujui | Aksi                                                                                                                                                                        |
|----|------------------|----------------------------|---------------------------------------------|-----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1  | 13 Februari 2025 | apt. Lia Marlani, M.Si.    | Bimbingan                                   | ✓         |       |
| 1  | 23 April 2025    | apt. Aris Suhardiman, M.Si | Bimbingan hasil                             | ✓         |       |
| 2  | 19 Februari 2025 | apt. Lia Marlani, M.Si.    | Revisi                                      | ✓         |       |
| 2  | 29 April 2025    | apt. Aris Suhardiman, M.Si | Bimbingan hasil                             | ✓         |       |
| 3  | 24 Februari 2025 | apt. Lia Marlani, M.Si.    | Bimbingan Skripsi                           | ✓         |       |
| 3  | 2 Mei 2025       | apt. Aris Suhardiman, M.Si | Bimbingan hasil                             | ✓         |       |
| 4  | 17 Maret 2025    | apt. Lia Marlani, M.Si.    | Bimbingan hasil                             | ✓         |       |
| 4  | 16 Mei 2025      | apt. Aris Suhardiman, M.Si | Bimbingan skripsi                           | ✓         |       |
| 5  | 11 April 2025    | apt. Lia Marlani, M.Si.    | Bimbingan hasil                             | ✓         |       |
| 5  | 17 Mei 2025      | apt. Aris Suhardiman, M.Si | Bimbingan skripsi                           | ✓         |       |
| 6  | 20 Mei 2025      | apt. Lia Marlani, M.Si.    | Bimbingan hasil Skripsi                     |           |       |
| 6  | 22 April 2025    | apt. Lia Marlani, M.Si.    | Bimbingan hasil, skripsi                    | ✓         |       |
| 7  | 30 April 2025    | apt. Lia Marlani, M.Si.    | Bimbingan hasil                             | ✓         |       |
| 7  | 23 Mei 2025      | apt. Aris Suhardiman, M.Si | Bimbingan Hasil skripsi                     | ✓         |       |
| 8  | 5 Mei 2025       | apt. Lia Marlani, M.Si.    | Tanda tangan Halaman persetujuan kemajuan 1 | ✓         |       |
| 8  | 27 Mei 2025      | apt. Aris Suhardiman, M.Si | Bimbingan hasil Skripsi                     | ✓         |       |
| 9  | 17 Mei 2025      | apt. Lia Marlani, M.Si.    | Bimbingan Skripsi                           | ✓         |     |
| 10 | 15 Mei 2025      | apt. Lia Marlani, M.Si.    | Bimbingan hasil penelitian                  | ✓         |   |
| 11 | 27 Mei 2025      | apt. Lia Marlani, M.Si.    | Bimbingan Hasil skripsi                     | ✓         |   |

### Lampiran 13 Riwayat Hidup



#### **Biodata**

Nama Lengkap: Martini Irene Welmince Bokotei

Nama Panggilan : Tini

Tempat/Tanggal Lahir : Oenitas, 5 Mei 2001

Jenis Kelamin : Perempuan

Agama : Kristen Protestan

Alamat : Mbaoen Tengah, Kel. Busalangga, Kec. Rote Barat Laut, Kab. Rote Ndao, Prov. Nusa Tenggara Timur

Email : Martinibokotei65@gmail.com

Nama Ayah : Roberd Erwin Daut Bokotei

Nama Ibu : Tirenty Mariarty Bella

Anak ke- : 1 dari 3 bersaudara