

LAMPIRAN

Lampiran 1 Surat Determinasi

a. Determinasi Kulit Batang Faloak


INSTITUT TEKNOLOGI BANDUNG
SEKOLAH ILMU DAN TEKNOLOGI HAYATI
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Nomor : 8947/IT1.C11.2/TA.00/2024
Hal : Determinasi tumbuhan

05 Desember 2024

Yth, Dekan
Fakultas Farmasi
Universitas Bhakti Kencana
Jl. Soekarno Hatta No. 754
Bandung

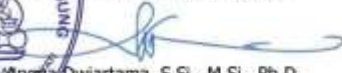
Memperhatikan permintaan Saudara dalam surat No. 0892/03.S1-FF/UBK/XI/2024 tanggal 26 November 2024 mengenai determinasi tumbuhan, dengan ini kami sampaikan bahwa setelah dilakukan pendeterminasian oleh staf kami, sampel tumbuhan yang dikirim oleh Indrawati Langu Wila (NIM: 231FF04008), yaitu:

No	Nama sampel	Hasil determinasi	Famili
1	Faloak	<i>Sterculia quadrifida</i> R.Br.	Malvaceae

Referensi:

- Darojati, U. A., Murwanti, R., & Hertiani, T. (2022). *Sterculia quadrifida* R. Br.: a comprehensive review of ethnobotany, phytochemistry, pharmacology and toxicology. *J Pharm Sci*, 1, 1-14.
- Lestari, N. (2019). Morphological and Anatomical Characteristic Kinship of Faloak Plant (*Sterculia quadrifida* R. Br) as Learning Source for Morphology and Anatomy of Plant Course Based on Local Natural Resources. In *4th Progressive and Fun Education International Conference (PFEIC 2019)* (pp. 72-75). Atlantis Press.
- Lestari, N. (2020). Diversity and clustering analysis of *Sterculia quadrifida* R. Br from Kupang, East Nusa Tenggara, Indonesia based on morphological and anatomical characters. In *IOP Conference Series: Earth and Environmental Science* (Vol. 456, No. 1, p. 012069). IOP Publishing.

Demikian yang kami sampaikan. Atas perhatian dan kerjasama yang diberikan, kami ucapkan terima kasih.


Angga Dwiartama, S.Si., M.Si., Ph.D.
STP-198302052012121002



Tembusan:
1. Dekan SITH ITB

Terakreditasi oleh:



b. Determinasi Jahe Merah

HERBARIUM JATINANGOR
LABORATORIUM TAKSONOMI TUMBUHAN
JURUSAN BIOLOGI FMIPA UNPAD
 Gedung D2-212, Jl. Raya Bandung Sumedang Km 21 Jatinangor
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LEMBAR IDENTIFIKASI TUMBUHAN

No.11/HB/04/2025.

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

Nama : Selviana Maria Ina Ose Tapowolo
 NIM/NIDN : 231FF04029
 Instansi : Universitas Bhakti Kencana.
 Lokasi : Bandung.

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

Hasil Identifikasi

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

Klasifikasi (Hirarki Taksonomi)

Kingdom	Plantae
Divisi	Magnoliophyta
Class	Lillipsida
Ordo	Zingiberales
Famili	Zingiberaceae
Genus	<i>Zingiber</i>
Species	<i>Zingiber officinale</i> Roscoe

Referensi:

Cronquist, Arthur. 1981. *An Integrated System of Classification of Flowering Plants*.
 Columbia University Press. New York
 The Plant List. *Website Dunia Tumbuhan*. <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

Lampiran 2 Perhitungan % rendemen

1. Ekstrak kulit batang faloak

Bobot cawan kosong	95,11 gram
Bobot cawan + ekstrak	209,81 gram
Bobot ekstrak	114,7 gram
Bobot simplisia	1 kg

$$\% \text{ Rendemen} = \frac{\text{bobot total ekstrak}}{\text{bobot total simplisia}} \times 100\%$$

$$\% \text{ Rendemen} = \frac{114,7 \text{ gram}}{1000 \text{ gram}} \times 100\%$$

$$\% \text{ Rendemen} = 11,47 \%$$

2. Ekstrak jahe merah

Bobot cawan kosong	77,28 gram
Bobot cawan + ekstrak	143,46 gram
Bobot ekstrak	66,18 gram
Bobot simplisia	1 kg

$$\% \text{ Rendemen} = \frac{\text{bobot total ekstrak}}{\text{bobot total simplisia}} \times 100\%$$

$$\% \text{ Rendemen} = \frac{66,18 \text{ gram}}{1000 \text{ gram}} \times 100\%$$

$$\% \text{ Rendemen} = 6,618 \%$$

Lampiran 3 Karakterisasi Simplisia

a. Kadar abu total

1. Kulit Batang Faloak

Berat krus kosong	72,41 gram
Bobot krus + isi 1	72,68 gram
Bobot krus + isi 2	72,66 gram
Bobot krus + isi 3	72,67 gram
Isi 1 - Bobot krus kosong	0,27 gram
Isi 2 - Bobot krus kosong	0,25 gram
Isi 3 - Bobot krus kosong	0,26 gram
Bobot simplisia	5 gram

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

$$\text{cawan 1} = \frac{0,27 \text{ gram}}{5 \text{ gram}} \times 100\%$$

$$= 5,4 \%$$

$$cawan\ 2 = \frac{0,25\ gram}{5\ gram} \times 100\%$$

$$= 5\ \%$$

$$cawan\ 3 = \frac{0,26\ gram}{5\ gram} \times 100\%$$

$$= 5,2\ \%$$

$$rata - rata = \frac{5,4 + 5 + 5,2}{3} = 5,2 \pm 0,2$$

2. Jahe merah

Berat krus kosong	70,78 gram
Bobot krus + isi 1	71,06 gram
Bobot krus + isi 2	71,03 gram
Bobot krus + isi 3	71,01 gram
Isi 1 - Bobot krus kosong	0,28 gram
Isi 2 - Bobot krus kosong	0,25 gram
Isi 3 - Bobot krus kosong	0,23 gram
Bobot simplisia	5 gram

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

$$cawan\ 1 = \frac{0,28\ gram}{5\ gram} \times 100\%$$

$$= 5,6\ \%$$

$$cawan\ 2 = \frac{0,25\ gram}{5\ gram} \times 100\%$$

$$= 5\ \%$$

$$cawan\ 3 = \frac{0,23\ gram}{5\ gram} \times 100\%$$

$$= 4,6\ \%$$

$$rata - rata = \frac{5,6 + 5 + 4,6}{3} = 5,067 \pm 0,53$$

b. Kadar Abu tidak Larut Asam

1. Kulit Batang Faloak

Berat krus kosong	72,41 gram
Bobot krus + isi 1	72,47 gram
Bobot krus + isi 2	72,46 gram
Bobot krus + isi 3	72,46 gram
Isi 1 - Bobot krus kosong	0,06 gram

Isi 2 - Bobot krus kosong	0,05 gram
Isi 3 - Bobot krus kosong	0,05 gram
Bobot simplisia	5 gram

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

$$cawan\ 1 = \frac{0,06\ gram}{5\ gram} \times 100\%$$

$$= 1,2\ \%$$

$$cawan\ 2 = \frac{0,05\ gram}{5\ gram} \times 100\%$$

$$= 1\ \%$$

$$cawan\ 3 = \frac{0,05\ gram}{5\ gram} \times 100\%$$

$$= 1\ \%$$

$$rata - rata = \frac{1,2 + 1 + 1}{3} = 1,067 \pm 0,115$$

2. Jahe Merah

Berat krus kosong	70,78 gram
Bobot krus + isi 1	70,8 gram
Bobot krus + isi 2	70,79 gram
Bobot krus + isi 3	70,8 gram
Isi 1 - Bobot krus kosong	0,02 gram
Isi 2 - Bobot krus kosong	0,01 gram
Isi 3 - Bobot krus kosong	0,02 gram
Bobot simplisia	5 gram

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

$$cawan\ 1 = \frac{0,02\ gram}{5\ gram} \times 100\%$$

$$= 0,4\ \%$$

$$cawan\ 2 = \frac{0,01\ gram}{5\ gram} \times 100\%$$

$$= 0,2\ \%$$

$$cawan\ 3 = \frac{0,02\ gram}{5\ gram} \times 100\%$$

$$= 0,4\ \%$$

$$rata - rata = \frac{0,4 + 0,2 + 0,4}{3} = 0,33 \pm 0,115$$

c. Kadar sari larut etanol

1. Kulit Batang Faloak

Berat cawan kosong	77,34 gram
cawan + ekstrak 1	77,45 gram
cawan + ekstrak 2	77,44 gram
cawan + ekstrak 3	77,45 gram
Isi 1 - Bobot cawan kosong	0,11 gram
Isi 2 - Bobot cawan kosong	0,10 gram
Isi 3 - Bobot cawan kosong	0,11 gram
Bobot simplisia	5 gram

$$Kadar\ sari\ larut\ etanol = \frac{bobot\ ekstrak \times 5}{bobot\ simplisia} \times 100\%$$

$$cawan\ 1 = \frac{0,11\ gram \times 5}{5\ gram} \times 100\%$$

$$= 11\ \%$$

$$cawan\ 2 = \frac{0,10\ gram \times 5}{5\ gram} \times 100\%$$

$$= 10\ \%$$

$$cawan\ 3 = \frac{0,11\ gram \times 5}{5\ gram} \times 100\%$$

$$= 11\ \%$$

$$rata - rata = \frac{11 + 10 + 11}{3} = 10,67 \pm 0,57$$

2. Jahe Merah

Berat cawan kosong	84,75 gram
cawan + ekstrak 1	84,86 gram
cawan + ekstrak 2	84,84 gram
cawan + ekstrak 3	84,85 gram
Isi 1 - Bobot cawan kosong	0,11 gram
Isi 2 - Bobot cawan kosong	0,09 gram
Isi 3 - Bobot cawan kosong	0,10 gram
Bobot simplisia	5 gram

$$Kadar\ sari\ larut\ etanol = \frac{bobot\ ekstrak \times 5}{bobot\ simplisia} \times 100\%$$

$$cawan\ 1 = \frac{0,11\ gram \times 5}{5\ gram} \times 100\%$$

$$= 11\ \%$$

$$cawan\ 2 = \frac{0,09\ gram \times 5}{5\ gram} \times 100\%$$

$$= 9\ \%$$

$$cawan\ 3 = \frac{0,10\ gram \times 5}{5\ gram} \times 100\%$$

$$= 10\ \%$$

$$rata - rata = \frac{11 + 9 + 10}{3} = 10 \pm 1$$

d. Kadar Sari Larut Air

1. Kulit Batang Faloak

Berat cawan kosong	81,18 gram
cawan + ekstrak 1	81,14 gram
cawan + ekstrak 2	81,39 gram
cawan + ekstrak 3	81,38 gram
Isi 1 - Bobot cawan kosong	0,22 gram
Isi 2 - Bobot cawan kosong	0,21 gram
Isi 3 - Bobot cawan kosong	0,20 gram
Bobot simplisia	5 gram

$$Kadar\ sari\ larut\ air = \frac{bobot\ ekstrak \times 5}{bobot\ simplisia} \times 100\%$$

$$cawan\ 1 = \frac{0,22\ gram \times 5}{5\ gram} \times 100\%$$

$$= 22\ \%$$

$$cawan\ 2 = \frac{0,21\ gram \times 5}{5\ gram} \times 100\%$$

$$= 21\ \%$$

$$cawan\ 3 = \frac{0,20\ gram \times 5}{5\ gram} \times 100\%$$

$$= 20\ \%$$

$$rata - rata = \frac{22 + 21 + 20}{3} = 21 \pm 1$$

2. Jahe Merah

Berat cawan kosong	84,75 gram
cawan + ekstrak 1	84,99 gram
cawan + ekstrak 2	84,98 gram
cawan + ekstrak 3	84,97 gram
Isi 1 - Bobot cawan kosong	0,24 gram
Isi 2 - Bobot cawan kosong	0,23 gram
Isi 3 - Bobot cawan kosong	0,22 gram
Bobot simplisia	5 gram

$$\text{Kadar sari larut air} = \frac{\text{bobot ekstrak} \times 5}{\text{bobot simplisia}} \times 100\%$$

$$\text{cawan 1} = \frac{0,24 \text{ gram} \times 5}{5 \text{ gram}} \times 100\%$$

$$= 24\%$$

$$\text{cawan 2} = \frac{0,23 \text{ gram} \times 5}{5 \text{ gram}} \times 100\%$$

$$= 23 \%$$

$$\text{cawan 3} = \frac{0,22 \text{ gram} \times 5}{5 \text{ gram}} \times 100\%$$

$$= 22 \%$$

$$\text{rata - rata} = \frac{24 + 23 + 22}{3} = 23 \pm 1$$

Lampiran 4 Perhitungan Nilai Rf

Sampel	Perhitungan Rf			
	AlCl ₃	FeCl ₃	DPPH	CUPRAC
Kulit batang faloak	0,090	0,072	0,072	0,090
Jahe merah	0,748	0,709	0,763	0,727

Batas atas : 0,5 cm

Batas bawah : 1 cm

Panjang plat : 7 cm

Jarak elusi : $7 - (1 + 0,5) = 5,5 \text{ cm}$

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

Perhitungan :

Sampel	Perhitungan			
	AlCl ₃	FeCl ₃	DPPH	CUPRAC
Kulit batang faloak	Tinggi bercak : 0,5 cm $= \frac{\text{Jarak bercak}}{\text{Jarak elusi}}$ $= \frac{0,5}{5,5}$ $= 0,090$	Tinggi bercak : 0,4 cm $= \frac{\text{Jarak bercak}}{\text{Jarak elusi}}$ $= \frac{0,4}{5,5}$ $= 0,072$	Tinggi bercak : 0,4 cm $= \frac{\text{Jarak bercak}}{\text{Jarak elusi}}$ $= \frac{0,5}{5,5}$ $= 0,072$	Tinggi bercak : 0,5 cm $= \frac{\text{Jarak bercak}}{\text{Jarak elusi}}$ $= \frac{0,5}{5,5}$ $= 0,090$
Jahe merah	Tinggi bercak : 4,1 cm $= \frac{\text{Jarak bercak}}{\text{Jarak elusi}}$ $= \frac{3,2}{5,5}$ $= 0,745$	Tinggi bercak : 3,9 $= \frac{\text{Jarak bercak}}{\text{Jarak elusi}}$ $= \frac{3,5}{5,5}$ $= 0,709$	Tinggi bercak : 4,2 $= \frac{\text{Jarak bercak}}{\text{Jarak elusi}}$ $= \frac{3,3}{5,5}$ $= 0,763$	Tinggi bercak : 4 $= \frac{\text{Jarak bercak}}{\text{Jarak elusi}}$ $= \frac{3,3}{5,5}$ $= 0,727$

Lampiran 5 Penetapan Kadar Flavonoid Total

Konsentrasi Baku	Absorbansi Baku	Sampel	Pengulangan	Absorbansi Sampel	Kadar Flavonoid total total
30	0,497	Kulit batang faloak 100 $\mu\text{g/mL}$	1	0,602	$38,10725 \pm 0,132828$
40	0,625		2	0,603	
50	0,765		3	0,605	
60	0,852	Jahe merah 100 $\mu\text{g/mL}$	1	0,258	$8,02029 \pm 0,100409$
70	0,988		2	0,256	
80	1,069		3	0,261	

1. Perhitungan Kulit Batang Faloak

Diketahui : $y = 0,0115x + 0,1651$ $R^2 : 0,9942$ Faktor pengenceran : 4 Labu ukur : 25 mL	
Pengulangan 1 $y = bx + a$ $x = \frac{y - a}{b}$ $x = \frac{0,602 - 0,1651}{0,0115}$ $x = 37,9913$	% kadar $= \frac{\text{konsentrasi} \times \text{faktor pengenceran} \times \text{labu ukur}}{\text{mg timbang}} \times 100\%$ $= \frac{37,9913 \times 4 \times 25}{10} \times 100\%$ $= 37,9913$
Pengulangan 2 $y = bx + a$ $x = \frac{y - a}{b}$ $x = \frac{0,603 - 0,1651}{0,0115}$ $x = 38,07826$	% kadar : $= \frac{\text{konsentrasi} \times \text{faktor pengenceran} \times \text{labu ukur}}{\text{mg timbang}} \times 100\%$ $= \frac{38,07826 \times 4 \times 25}{10} \times 100\%$ $= 38,07826$
Pengulangan 3 $y = bx + a$ $x = \frac{y - a}{b}$ $x = \frac{0,605 - 0,1651}{0,0115}$ $x =$ 38,25217	% kadar $= \frac{\text{konsentrasi} \times \text{faktor pengenceran} \times \text{labu ukur}}{\text{mg timbang}} \times 100\%$ $= \frac{38,25217 \times 4 \times 25}{10} \times 100\%$ $= 38,25217$

2. Perhitungan Jahe Merah

Diketahui : $y = 0,0115x + 0,1651$ $R^2 : 0,9942$ Faktor pengenceran : 4 Labu ukur : 25 mL	
Pengulangan 1 $y = bx + a$ $x = \frac{y - a}{b}$ $x = \frac{0,258 - 0,1651}{0,0115}$ $x = 8,078261$	% kadar $= \frac{\text{konsentrasi} \times \text{faktor pengenceran} \times \text{labu ukur}}{\text{mg timbang}} \times 100\%$ $= \frac{8,078261 \times 4 \times 25}{10} \times 100\%$ $= 8,078261$
Pengulangan 2 $y = bx + a$ $x = \frac{y - a}{b}$ $x = \frac{0,256 - 0,1651}{0,0115}$ $x = 7,904348$	% kadar : $= \frac{\text{konsentrasi} \times \text{faktor pengenceran} \times \text{labu ukur}}{\text{mg timbang}} \times 100\%$ $= \frac{7,904348 \times 4 \times 25}{10} \times 100\%$ $= 7,904348$
Pengulangan 3 $y = bx + a$ $x = \frac{y - a}{b}$ $x = \frac{0,258 - 0,1651}{0,0115}$ $x = 8,078261$	% kadar $= \frac{\text{konsentrasi} \times \text{faktor pengenceran} \times \text{labu ukur}}{\text{mg timbang}} \times 100\%$ $= \frac{8,078261 \times 4 \times 25}{10} \times 100\%$ $= 8,078261$

Lampiran 6 Penetapan Kadar Fenolik Total

Konsentrasi Baku	Absorbansi Baku	Sampel	Pengulangan	Absorbansi Sampel	Kadar Flavonoid total total
10	0,234	Kulit batang faloak 100 $\mu\text{g/mL}$	1	0,400	54,13333 $\pm$ 0,190476
20	0,325		2	0,401	
30	0,426		3	0,399	
40	0,527	Jahe merah 50 $\mu\text{g/mL}$	1	0,635	49,32063 $\pm$ 0,145479
50	0,617		2	0,634	
60	0,775		3	0,632	

1. Perhitungan kulit batang faloak

Diketahui : $y = 0,105 + 0,1158$ $R^2 : 0,9913$ Faktor pengenceran : 8 Labu ukur : 25 mL	
Pengulangan 1 $y = bx + a$ $x = \frac{y - a}{b}$ $x = \frac{0,40 - 0,1158}{0,0105}$ $x = 27,0667$	% kadar $= \frac{\text{konsentrasi} \times \text{faktor pengenceran} \times \text{labu ukur}}{\text{mg timbang}} \times 100\%$ $= \frac{27,0667 \times 8 \times 25}{10} \times 100\%$ $= 54,13333$
Pengulangan 2 $y = bx + a$ $x = \frac{y - a}{b}$ $x = \frac{0,401 - 0,1158}{0,0105}$ $x = 27,1619$	% kadar : $= \frac{\text{konsentrasi} \times \text{faktor pengenceran} \times \text{labu ukur}}{\text{mg timbang}} \times 100\%$ $= \frac{27,1619 \times 8 \times 25}{10} \times 100\%$ $= 54,32381$
Pengulangan 3 $y = bx + a$ $x = \frac{y - a}{b}$ $x = \frac{0,399 - 0,1158}{0,0105}$ $x = 26,97143$	% kadar $= \frac{\text{konsentrasi} \times \text{faktor pengenceran} \times \text{labu ukur}}{\text{mg timbang}} \times 100\%$ $= \frac{26,97143 \times 8 \times 25}{10} \times 100\%$ $= 53,94286$

2. Perhitungan jahe merah:

Diketahui : $y = 0,0105 + 0,1158$ $R^2 : 0,9913$ Faktor pengenceran : 4 Labu ukur : 25 mL	
Pengulangan 1 $y = bx + a$ $x = \frac{y - a}{b}$ $x = \frac{0,635 - 0,1158}{0,0105}$ $x = 49,44762$	% kadar $= \frac{\text{konsentrasi} \times \text{faktor pengenceran} \times \text{labu ukur}}{\text{mg timbang}} \times 100\%$ $= \frac{49,44762 \times 4 \times 25}{10} \times 100\%$ $= 49,44762$

Pengulangan 2 $y = bx + a$ $x = \frac{y - a}{b}$ $x = \frac{0,634 - 0,1158}{0,0105}$ $x = 49,35238$	% kadar : $= \frac{\text{konsentrasi} \times \text{faktor pengenceran} \times \text{labu ukur}}{\text{mg timbang}} \times 100\%$ $= \frac{49,35238 \times 4 \times 25}{10} \times 100\%$ $= 49,35238$
Pengulangan 3 $y = bx + a$ $x = \frac{y - a}{b}$ $x = \frac{0,632 - 0,1158}{0,0105}$ $x = 49,1619$	% kadar $= \frac{\text{konsentrasi} \times \text{faktor pengenceran} \times \text{labu ukur}}{\text{mg timbang}} \times 100\%$ $= \frac{49,1619 \times 4 \times 25}{10} \times 100\%$ $= 49,1619$

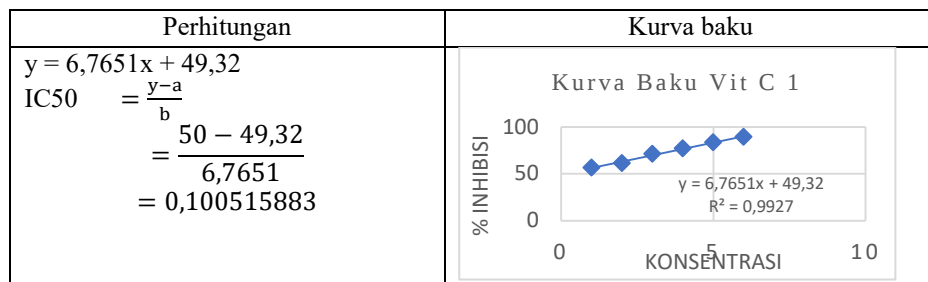
Lampiran 7 Uji Aktivitas Antioksidan Metode DPPH

1. Vitamin C

Absorbansi Kontrol	konsentrasi	Absorbansi (pengulangan)			% Inhibisi		
		I	II	III	I	II	III
0,7453	1	0,3656	0,357	0,3442	53,81725	54,56863	50,94593
	2	0,2895	0,2857	0,2665	64,24259	63,31679	61,15658
	3	0,2154	0,2187	0,2191	70,60244	71,44774	71,09889
	4	0,1719	0,1636	0,1509	79,75312	79,45794	76,93546
	5	0,1251	0,1197	0,1108	85,1335	84,67731	83,21481
	6	0,08	0,0714	0,0686	90,79565	89,34657	89,26607
IC ₅₀					0,56533	0,497195	0,22005
Rata-rata IC ₅₀ & Standar Deviasi					0,427527102 ± 0,182882		

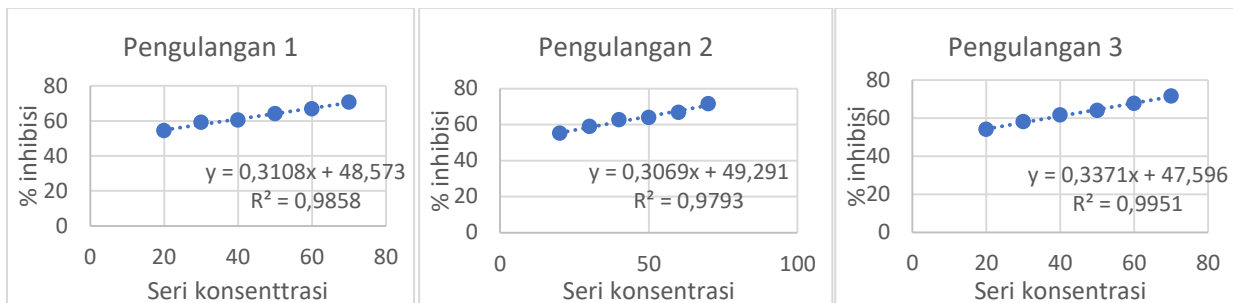
Contoh perhitungan % inhibisi

$$\begin{aligned}
 \% \text{ Inhibisi} &= \frac{\text{absorbansi kontrol} - \text{absorbansi sampel}}{\text{absorbansi kontrol}} \times 100\% \\
 &= \frac{0,7453 - 0,3656}{0,7453} \times 100\% \\
 &= 53,81725
 \end{aligned}$$



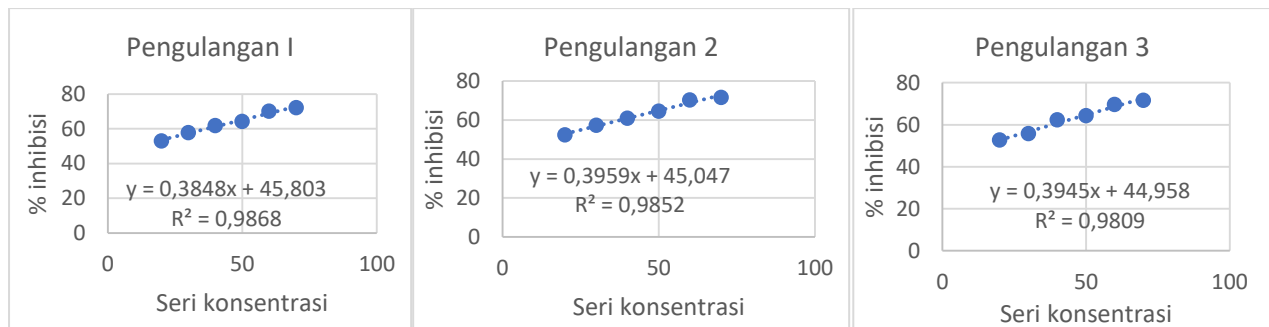
2. Kulit batang faloak

Absorbansi Kontrol	konsentrasi	Absorbansi (pengulangan)			% Inhibisi		
		I	II	III	I	II	III
0,7453	20	0,3409	0,3429	0,336	54,26003	53,99168	54,91748
	30	0,3046	0,3124	0,311	59,13055	58,08399	58,27184
	40	0,2948	0,2861	0,291	60,44546	61,61277	60,95532
	50	0,2682	0,2692	0,2697	64,01449	63,88032	63,81323
	60	0,2474	0,2416	0,2498	66,80531	67,58352	66,4833
	70	0,2184	0,2129	0,2196	70,69636	71,43432	70,53535
IC ₅₀					34,58816	37,13142	33,57309
Rata-rata IC ₅₀ dan Standar Deviasi					35,09756 ± 1,496672		



3. Jahe merah

Absorbansi Kontrol	konsentrasi	Absorbansi (pengulangan)			% Inhibisi		
		I	II	III	I	II	III
0,7453	20	0,3509	0,3549	0,3569	52,91829	52,38159	52,11324
	30	0,3146	0,3178	0,3207	57,78881	57,35945	56,97035
	40	0,2848	0,2911	0,2885	61,7872	60,9419	61,29076
	50	0,2672	0,2639	0,2676	64,14866	64,59144	64,095
	60	0,2234	0,2215	0,2242	70,02549	70,28042	69,91815
	70	0,2084	0,2116	0,2139	72,03811	71,60875	71,30015
IC ₅₀					40,90437	42,50568	42,91529
Rata-rata IC ₅₀ dan Standar Deviasi					42,10845 ± 1,062683		



4. Kombinasi kulit batang faloak dan jahe merah

Sampel	Perbandingan kombinasi	Kontrol	Absorbansi pengulangan			% Inhibisi		
			I	II	III	I	II	III
Kulit batang faloak : jahe merah	20 : 20	0,7453	0,2938	0,2937	0,2946	60,579632	60,59305	60,47229
	20 : 40		0,2751	0,2749	0,2741	63,088689	63,11552	63,22286
	40 : 20		0,2812	0,2814	0,2822	62,270227	62,24339	62,13605
	40 : 40		0,2602	0,2614	0,2613	65,087884	64,92688	64,94029

5. Hasil Uji SPSS DPPH

Hasil uji normalitas

Tests of Normality							
		Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	kelompok	Statistic	df	Sig.	Statistic	df	Sig.
inhibisi	kulit batang batang	.200	3	.	.995	3	.861
	jahe merah	.213	3	.	.990	3	.808
	kombinasi 1	.349	3	.	.832	3	.194
	kombinasi 2	.314	3	.	.893	3	.363
	kombinasi 3	.314	3	.	.893	3	.363
	kombinasi 4	.358	3	.	.812	3	.143

a. Lilliefors Significance Correction

Hasil uji homogenitas

Test of Homogeneity of Variances

		Levene Statistic	df1	df2	Sig.
inhibisi	Based on Mean	3.015	5	12	.054
	Based on Median	2.115	5	12	.134
	Based on Median and with adjusted df	2.115	5	4.347	.233
	Based on trimmed mean	2.961	5	12	.057

Hasil uji ANOVA

ANOVA

inhibisi

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	40.624	5	8.125	89.388	.000
Within Groups	1.091	12	.091		
Total	41.715	17			

Hasil uji Post Hoc

Post Hoc Tests

Multiple Comparisons							
Dependent Variable: inhibisi							
(I) kelompok	(J) kelompok	Mean Difference (I-J)	Std. Error	Sig.	85% Confidence Interval		
					Lower Bound	Upper Bound	
Tukey HSD	kulit batang batang	jaha merah	-.39543667	.24616153	.747	-1.1622738	.4914004
		kombinasi 1	.45619333	.24616153	.471	-.3706438	1.2830304
		kombinasi 2	-.213784000	.24616153	.000	-2.9646771	-1.3110029
		kombinasi 3	-.131204000	.24616153	.004	-2.0366771	-.3852629
		kombinasi 4	-.396050000	.24616153	.000	-4.8073371	-3.1536629
	jaha merah	kulit batang batang	.39543667	.24616153	.747	-.4914004	1.1622738
		kombinasi 1	.79163000	.24616153	.003	-.0362071	1.6194671
		kombinasi 2	-.180240333	.24616153	.008	-2.6292404	-.5755662
		kombinasi 3	-.87060333	.24616153	.036	-1.7034404	-.0487662
		kombinasi 4	-.364506333	.24616153	.000	-4.4719004	-2.8182262
	kombinasi 1	kulit batang batang	-.45619333	.24616153	.471	-1.2830304	.3706438
		jaha merah	-.79163000	.24616153	.003	-1.6194671	-.0362071
		kombinasi 2	-.259403333	.24616153	.000	-3.4208704	-1.7671962
		kombinasi 3	-.166823333	.24616153	.000	-2.4950704	-.8413962
		kombinasi 4	-.443069333	.24616153	.000	-5.2635304	-3.6088562

kombinasi 2	kult batang batang	2.13784000*	24816153	.000	1.3110029	2.9846771
	jale merah	1.80240333*	24816153	.000	.9755662	2.6292404
	kombinasi 1	2.59403333*	24816153	.000	1.7871962	3.4208704
	kombinasi 3	.92580000*	24816153	.025	.0989629	1.7526371
	kombinasi 4	-1.84286000*	24816153	.000	-2.6894971	-1.0158229
kombinasi 3	kult batang batang	1.21204000*	24816153	.004	.3852029	2.0388771
	jale merah	.87603333*	24816153	.036	.0497662	1.7034404
	kombinasi 1	1.88823333*	24816153	.000	.8413962	2.4950704
	kombinasi 2	-.92580000*	24816153	.025	-1.7526371	-.0989629
	kombinasi 4	-2.78848000*	24816153	.000	-3.5952971	-1.8416229
kombinasi 4	kult batang batang	3.98050000*	24816153	.000	3.1536629	4.8073371
	jale merah	3.64506333*	24816153	.000	2.8182262	4.4719004
	kombinasi 1	4.43869333*	24816153	.000	3.6098662	5.2635304
	kombinasi 2	1.84286000*	24816153	.000	1.0158229	2.8884971
	kombinasi 3	2.70046000*	24816153	.000	1.9416229	3.5952971

Lampiran 8 Hasil Uji Antioksidan Metode CUPRAC

1. Vitamin C

Absorbansi kontrol	Konsentrasi	Abs sampel (pengulangan)			Nilai a (abs sampel – abs control)		
		I	II	III	I	II	III
0,0952	1	0,2779	0,2451	0,2494	0,1827	0,1499	0,1542
	2	0,319	0,2983	0,3149	0,2238	0,2031	0,2197
	3	0,3941	0,3735	0,3879	0,2989	0,2783	0,2927
	4	0,4376	0,4483	0,4596	0,3424	0,3531	0,3644
	5	0,5297	0,5122	0,5207	0,4345	0,417	0,4255
	6	0,581	0,5853	0,5891	0,4858	0,4901	0,4939

Transmiten ($1-10^{-a} \times 100\%$)			%E ($100 - T$)		
I	II	III	I	II	III
34,34013	29,18912	29,88677	65,65987	70,81088	70,11323
40,26897	37,35304	39,7024	59,73103	62,64696	60,2976
49,75417	47,31342	49,03172	50,24583	52,68658	50,96828
54,54308	55,64935	56,78843	45,45692	44,35065	43,21157
63,22946	61,71753	62,4595	36,77054	38,28247	37,5405
67,32617	67,64808	67,92992	32,67383	32,35192	32,07008
EC ₅₀			3,268644	3,268644	3,268644
Rata-rata EC ₅₀ dan SD			3,366872 ± 0,095336		

Contoh perhitungan

$$\begin{aligned}
 \text{Nilai a} &= \text{absorbansi sampel} - \text{absorbansi kontrol} \\
 &= 0,2779 - 0,0952 \\
 &= 0,1827 \\
 \text{Transmiten} &= 1 - 10^{-a} \times 100\% \\
 &= 1 - 10^{-0,1827} \times 100\%
 \end{aligned}$$

$$= 34,3401$$

$$\% \text{ Eksibisi} = 100 - T$$

$$= 100 - 34,3401$$

$$= 65,65987$$



$$y = bx + a$$

$$x = \frac{y - a}{b}$$

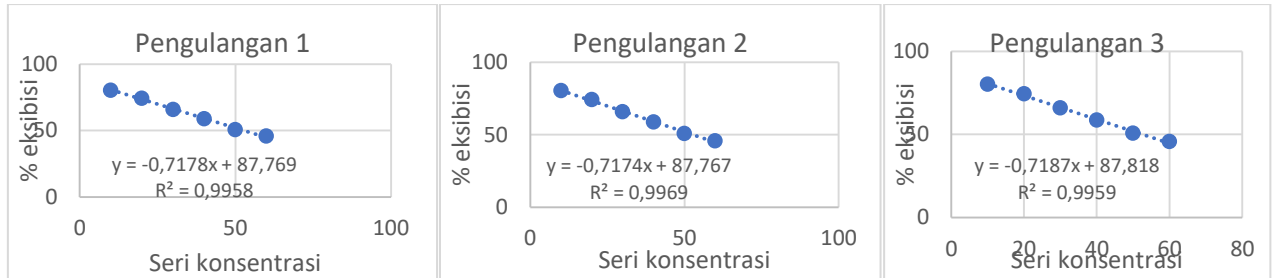
$$x = \frac{50 - 75,658}{-7,607}$$

$$EC_{50} = 3,37295$$

2. Kulit batang faloak

Absorbansi kontrol	Konsentrasi	Abs sampel (pengulangan)			Nilai a		
		I	II	III	I	II	III
0,0715	10	0,1663	0,1657	0,1667	0,0948	0,0942	0,0952
	20	0,2004	0,2013	0,1995	0,1289	0,1298	0,128
	30	0,2526	0,2526	0,2519	0,1811	0,1811	0,1804
	40	0,3014	0,3017	0,3024	0,2299	0,2302	0,2309
	50	0,3674	0,3653	0,3663	0,2959	0,2938	0,2948
	60	0,4108	0,4117	0,4115	0,3393	0,3402	0,34

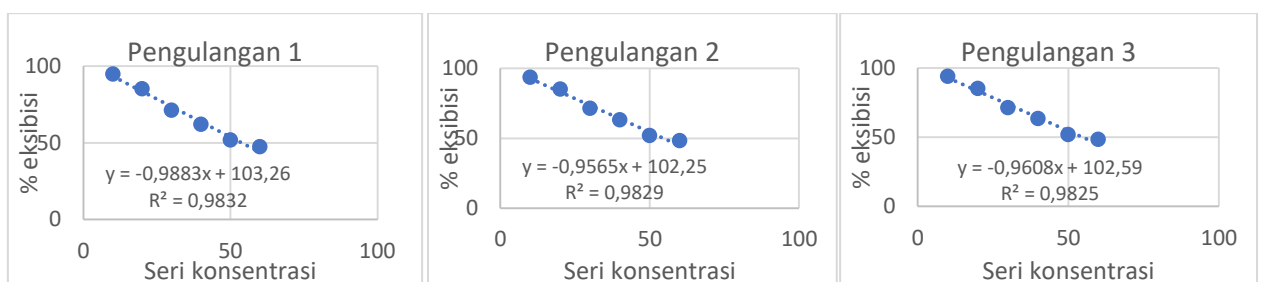
Transmiten			%E		
I	II	III	I	II	III
19,61038	19,49924	19,68438	80,38962	80,50076	80,31562
25,68098	25,83483	25,5268	74,31902	74,16517	74,4732
34,09779	34,09779	33,99148	65,90221	65,90221	66,00852
41,10207	41,14275	41,23754	58,89793	58,85725	58,76246
49,40589	49,16065	49,27758	50,59411	50,83935	50,72242
54,21745	54,31223	54,29118	45,78255	45,68777	45,70882
EC ₅₀			52,61772	52,61772	52,61772
Rata-rata EC ₅₀ dan SD			52,62733 ± 0,012012		



3. Jahe merah

Absorbansi kontrol	Konsentrasi	Abs sampel (pengulangan)			Nilai a		
		I	II	III	I	II	III
0,0715	10	0,095	0,1008	0,0989	0,0235	0,0293	0,0274
	20	0,1418	0,1421	0,1414	0,0703	0,0706	0,0699
	30	0,2196	0,2185	0,2181	0,1481	0,147	0,1466
	40	0,2789	0,2722	0,2698	0,2074	0,2007	0,1983
	50	0,3576	0,3573	0,3571	0,2861	0,2858	0,2856
	60	0,3962	0,3893	0,3882	0,3247	0,3178	0,3167

Transmiten			%E		
I	II	III	I	II	III
5,267282	6,524026	6,114181	94,73272	93,47597	93,88582
14,94497	15,0037	14,8666	85,05503	84,9963	85,1334
28,89502	28,7147	28,64901	71,10498	71,2853	71,35099
37,97025	37,00588	36,6568	62,02975	62,99412	63,3432
48,25123	48,21547	48,19162	51,74877	51,78453	51,80838
52,65218	51,89392	51,77192	47,34782	48,10608	48,22808
EC ₅₀			53,89052	53,89052	53,89052
Rata-rata EC ₅₀ dan SD			54,41747 ± 0,459616		



4. Kombinasi kulit batang faloak : jahe merah

Sampel	Perbandingan kombinasi	Absorbansi pengulangan			Nilai a		
		I	II	III	I	II	III
Kulit batang faloak : jahe merah	25 : 25	0,5519	0,5514	0,5509	0,4804	0,4799	0,4794
	25 : 50	0,5955	0,5993	0,6051	0,524	0,5278	0,5336
	50 : 25	0,5578	0,5557	0,5565	0,4863	0,4842	0,485
	50 : 50	0,6488	0,6424	0,6474	0,5773	0,5709	0,5759

Transmiten			%E		
I	II	III	I	II	III
66,91737	66,87926	66,84111	33,08263	33,12074	33,15889
70,07735	70,33803	70,73153	29,92265	29,66197	29,26847
67,36377	67,20558	67,26593	32,63623	32,79442	32,73407
73,53329	73,14037	73,44783	26,46671	26,85963	26,55217

5. Hasil uji SPSS

Hasil uji normalitas

Tests of Normality							
		Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	kelompok	Statistic	df	Sig.	Statistic	df	Sig.
eksibisi	kulit batang faloak	.179	3	.	.999	3	.949
	jahe merah	.219	3	.	.987	3	.781
	kombinasi 1	.175	3	.	1.000	3	.999
	kombinasi 2	.220	3	.	.986	3	.777
	kombinasi 3	.229	3	.	.982	3	.740
	kombinasi 4	.307	3	.	.904	3	.398

a. Lilliefors Significance Correction

Hasil uji homogenitas

Test of Homogeneity of Variances

		Levene Statistic	df1	df2	Sig.
eksibisi	Based on Mean	3.074	5	12	.051
	Based on Median	1.400	5	12	.292
	Based on Median and with adjusted df	1.400	5	4.763	.365
	Based on trimmed mean	2.948	5	12	.058

Hasil uji ANOVA

ANOVA

eksibisi

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1803.060	5	360.612	12368.421	.000
Within Groups	.350	12	.029		
Total	1803.410	17			

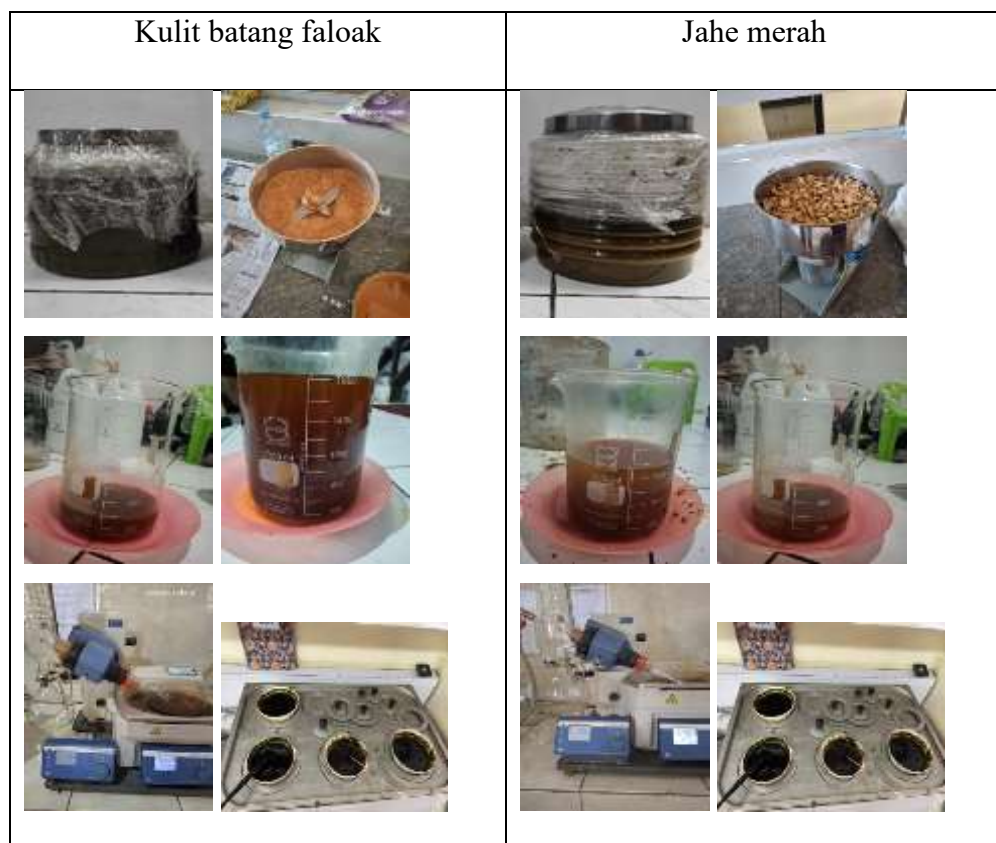
Hasil uji Post Hoc

Post Hoc Tests							
Multiple Comparisons							
Dependent Variable: esibisi							
	(I) kelompok	(J) kelompok	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
Tukey HSD	kultiforasi bakteri	jajhe merahi	-1.0619333 ^a	.13941750	.000	-1.5302257	-.5936410
		kombinasi 1	17.5878733 ^a	.13941750	.000	17.1295810	18.0661657
		kombinasi 2	21.1009300 ^a	.13941750	.000	20.8326377	21.5692223
		kombinasi 3	17.8870533 ^a	.13941750	.000	17.5287610	18.4653457
		kombinasi 4	24.0924566 ^a	.13941750	.000	23.6241643	24.5607490
	jajhe merahi	kultiforasi bakteri	1.0619333 ^a	.13941750	.000	.5936410	1.5302257
		kombinasi 1	18.6598066 ^a	.13941750	.000	18.1915143	19.1280990
		kombinasi 2	22.1628633 ^a	.13941750	.000	21.8945710	22.4311057
		kombinasi 3	19.0489866 ^a	.13941750	.000	18.5906943	19.5272790
		kombinasi 4	25.1543900 ^a	.13941750	.000	24.8860977	25.6226823
	kombinasi 1	kultiforasi bakteri	-17.5878733 ^a	.13941750	.000	-18.0661657	-17.1295810
		jajhe merahi	-18.6598066 ^a	.13941750	.000	-19.1280990	-18.1915143
		kombinasi 2	3.5030566 ^a	.13941750	.000	3.0347643	3.9713490
		kombinasi 3	.3981800 ^a	.13941750	.113	-.0691123	.8674723
		kombinasi 4	6.4945833 ^a	.13941750	.000	6.0262910	6.9628757

kombinasi 2	kulit batang falok	-21.1009300 ^a	13941750	.000	-21.5692223	-20.6326377
	jahe merah	-22.1628633 ^a	13941750	.000	-22.6311557	-21.6945710
	kombinasi 1	-3.50305667 ^a	13941750	.000	-3.9713490	-3.0347643
	kombinasi 3	-3.10387667 ^a	13941750	.000	-3.5721690	-2.6355843
	kombinasi 4	2.99152667 ^a	13941750	.000	-2.5232343	3.4598190
kombinasi 3	kulit batang falok	-17.9970533 ^a	13941750	.000	-18.4653457	-17.5287810
	jahe merah	-19.0589867 ^a	13941750	.000	-19.5272790	-18.5906943
	kombinasi 1	-3.9918000	13941750	.113	-.0674723	.0691123
	kombinasi 2	3.10387667 ^a	13941750	.000	2.6355843	3.5721690
	kombinasi 4	8.09540333 ^a	13941750	.000	5.6271110	6.5636957
kombinasi 4	kulit batang falok	-24.0924567 ^a	13941750	.000	-24.5607490	-23.6241843
	jahe merah	-25.1543900 ^a	13941750	.000	-25.6226823	-24.6880877
	kombinasi 1	-6.49458333 ^a	13941750	.000	-6.9626757	-6.0262910
	kombinasi 2	-2.99152667 ^a	13941750	.000	-3.4598190	-2.5232343
	kombinasi 3	-8.09540333 ^a	13941750	.000	-6.5636957	-5.6271110

Lampiran 9 Dokumentasi

1. Pembuatan Ekstrak



2. Karakterisasi Simplisia

No	Parameter	Sampel	
		Kulit batang faloak	Jahe merah
1	Kadar abu total		
2	Kadar abu tidak larut asam		
3	Kadar sari larut air		
4	Kadar sari larut etanol		
5	Susut pengeringan		

			
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3. Skrining Fitokimia

Sampel	Golongan senyawa	Hasil
Kulit batang faloak	Alkaloid	   Mayer Dragendorff Wagner
	Flavonoid	
	Tanin	
	Saponin	
	Triterpenoid	

Jahe merah	Alkaloid	 Mayer Dragendorff Wagner	
	Flavonoid		
	Tanin		
	Saponin		
	Terpenoid		

4. Penetapan Kadar Flavonoid Total

No	Perlakuan	Keterangan
1	Penimbangan Kuersetin	

2	Penimbangan kulit batang faloak	
3	Penimbangan jahe merah	
4	Seri konsentrasi kuersetin	
5	Sampel	

5. Penetapan Kadar Fenolik Total

No	Perlakuan	Keterangan
2	Penimbangan kulit batang faloak	

3	Penimbangan jahe merah	
4	Pembuatan baku asam galat	  
5	Sampel	

6. Uji aktivitas antioksidan

Uji aktivitas antioksidan metode DPPH	Uji aktivitas antioksidan metode CUPRAC
  	   

Lampiran 10 Hasil Turnitin



Lampiran 11 Kartu Bimbingan

No.	Tanggal	Guru Pembimbing	Topik	Ditetujui	Aksi
1	25 Februari 2025	Dr.apt. Hermi Kusriani, M.Si.	Bimbingan terkait uji antikoagulan DPPH	✓	 
1	13 Februari 2025	apt. Lia Marlani, M.Si.	Bimbingan	✓	 
2	18 Februari 2025	apt. Lia Marlani, M.Si.	Revisi	✓	 
2	6 Maret 2025	Dr.apt. Hermi Kusriani, M.Si.	perhitungan kadar CURBAC	✓	 
3	14 April 2025	Dr.apt. Hermi Kusriani, M.Si.	Bimbingan hasil Perhitungan kadar	✓	 
3	24 Februari 2025	apt. Lia Marlani, M.Si.	Bimbingan skripsi	✓	 
4	17 Maret 2025	apt. Lia Marlani, M.Si.	Bimbingan hasil	✓	 
4	15 April 2025	Dr.apt. Hermi Kusriani, M.Si.	Diskusi hasil Antikoagulan DPPH	✓	 
5	11 April 2025	apt. Lia Marlani, M.Si.	Bimbingan hasil	✓	 
5	17 April 2025	Dr.apt. Hermi Kusriani, M.Si.	Konsultasi hasil kombinasi DPPH	✓	 
6	22 April 2025	apt. Lia Marlani, M.Si.	Bimbingan hasil	✓	 
6	22 April 2025	Dr.apt. Hermi Kusriani, M.Si.	konsultasi terkait observasi CURBAC	✓	 
7	24 April 2025	Dr.apt. Hermi Kusriani, M.Si.	Bimbingan terkait hasil antikoagulan Metode CURBAC	✓	 
7	30 April 2025	apt. Lia Marlani, M.Si.	Bimbingan hasil	✓	 
8	5 Mei 2025	apt. Lia Marlani, M.Si.	Kemajuan 1	✓	 
8	20 April 2025	Dr.apt. Hermi Kusriani, M.Si.	Konsultasi terkait hasil kombinasi CURBAC	✓	 
9	1 Mei 2025	Dr.apt. Hermi Kusriani, M.Si.	Konsultasi kombinasi CURBAC	✓	 
9	15 Mei 2025	apt. Lia Marlani, M.Si.	Bimbingan hasil KLT	✓	 
10	29 Mei 2025	apt. Lia Marlani, M.Si.	Bimbingan hasil Skripsi	✓	 
10	5 Mei 2025	Dr.apt. Hermi Kusriani, M.Si.	Kemajuan 1 TA 2	✓	 
11	7 Mei 2025	Dr.apt. Hermi Kusriani, M.Si.	Bimbingan KLT	✓	 
12	9 Mei 2025	Dr.apt. Hermi Kusriani, M.Si.	Bimbingan KLT	✓	 
13	16 Mei 2025	Dr.apt. Hermi Kusriani, M.Si.	Bimbingan KLT	✓	 
14	29 Mei 2025	Dr.apt. Hermi Kusriani, M.Si.	Bimbingan hasil skripsi	✓	 

Lampiran 12 Biodata

CURRICULUM VITAE	
PERSONAL DATA Nama : Selviana Maria Ina Ose Tapowolo Tempat, Tgl. Lahir : Larantuka, 01 April 2001 Jenis Kelamin : Perempuan Tinggi Badan : 156 cm Berat Badan : 47 Kg Alamat : Kelurahan Weri, RT 009 RW 004 Kec. Larantuka, Kab. Flores Timur, NTT Telepon : 081239168760 Email : selvianatapowolo@gmail.com Sosial Media : IG @elmatapowolo_ 	
RIWAYAT PENDIDIKAN 2006 – 2007 TK Negeri Pembina Weri 2007 – 2013 SD Negeri Weri 2013 – 2016 SMP Katolik Mater Inviolata Larantuka 2016 – 2019 SMA Swasta Katolik Frateran Podor Larantuka 2019 – 2022 D3 Farmasi Politeknik Kesehatan Kupang 2023 – 2025 S1 Farmasi Universitas Bhakti Kencana	
RIWAYAT ORGANISASI -	
KEMAMPUAN - Microsoft Word, Canva	