

LAMPIRAN

Lampiran 1 Perhitungan dalam Pembuatan Larutan DPPH 0,1 mM

Pembuatan larutan DPPH 0,1 Mm sebanyak 50 ml dengan Mr DPPH nya adalah 394,32 mg/mmol.

$$M = \frac{\text{gr}}{\text{Mr}} \times \frac{1000}{\text{mL larutan}}$$

$$\frac{0,1}{1000} = \frac{\text{gr}}{394,32 \text{ mg/mmol}} \times \frac{1000}{50 \text{ mL}}$$

$$0,0001 \text{ mmol} = \frac{\text{gr}}{394,32 \text{ mg/mmol}} \times 20 \text{ mL}$$

$$\text{gr} = \frac{0,0001 \text{ mmol}}{20 \text{ mL}} \times 394,32 \text{ mg/mmol}$$

$$\text{gr} = 0,001971 \text{ gr} \longrightarrow 1,971 \text{ mg}$$

Lampiran 2 Perhitungan dalam Pembuatan Larutan Sampel

1. Pembuatan Larutan Induk

Pembuatan larutan induk dengan masing-masing 40 mg ekstrak etanol dan etil asetat daun Pandan Wangi (*Pandanus amaryllifolius Roxb.*) dalam 20 ml etanol pro analisis.

$$\text{Konsentrasi (ppm)} = \frac{\text{mg}}{\text{L}}$$

$$= \frac{40 \text{ mg}}{0,02 \text{ L}}$$

$$= 2000 \text{ ppm}$$

2. Pembuatan Larutan Sampel 20 ppm (100 ml)

$$\text{ppm}_1 \times V_1 = \text{ppm}_2 \times V_2$$

$$2000 \text{ ppm} \times V_1 = 20 \text{ ppm} \times 100 \text{ ml}$$

$$V_1 = \frac{20 \text{ ppm} \times 100 \text{ ml}}{2000 \text{ ppm}}$$

$$V_1 = 1 \text{ ml}$$

3. Pembuatan Larutan Sampel 40 ppm (100)

$$\text{ppm}_1 \times V_1 = \text{ppm}_2 \times V_2$$

$$2000 \text{ ppm} \times V_1 = 40 \text{ ppm} \times 100 \text{ ml}$$

$$V_1 = \frac{40 \text{ ppm} \times 100 \text{ ml}}{2000 \text{ ppm}}$$

$$V_1 = 2 \text{ ml}$$

4. Pembuatan Larutan Sampel 60 ppm (100 ml)

$$\text{ppm}_1 \times V_1 = \text{ppm}_2 \times V_2$$

$$2000 \text{ ppm} \times V_1 = 60 \text{ ppm} \times 100 \text{ ml}$$

$$V_1 = \frac{60 \text{ ml} \times 100 \text{ ml}}{2000 \text{ ppm}}$$

$$V_1 = 3 \text{ ml}$$

5. Pembuatan Larutan Sampel 80 ppm (100 ml)

$$\text{ppm}_1 \times V_1 = \text{ppm}_2 \times V_2$$

$$2000 \text{ ppm} \times V_1 = 80 \text{ ppm} \times 100 \text{ ml}$$

$$V_1 = \frac{80 \text{ ppm} \times 100 \text{ ml}}{2000 \text{ ppm}}$$

$$V_1 = 4 \text{ ml}$$

6. Pembuatan Larutan Sampel 100 ppm (100 ml)

$$\text{ppm}_1 \times V_1 = \text{ppm}_2 \times V_2$$

$$2000 \text{ ppm} \times V_1 = 100 \text{ ppm} \times 100 \text{ ml}$$

$$V_1 = \frac{100 \text{ ppm} \times 100 \text{ ml}}{2000 \text{ ppm}} = 5 \text{ ml}$$

Lampiran 3 Perhitungan Pembuatan Larutan Kuersetin

1. Pembuatan Larutan Induk

Pembuatan larutan induk 2,5 mg kuersetin dalam 50 ml pelarut etanol pro analis

$$\begin{aligned}\text{Konsentrasi (ppm)} &= \frac{\text{mg}}{\text{L}} \\ &= \frac{2,5 \text{ mg}}{0,05 \text{ L}} \\ &= 50 \text{ ppm}\end{aligned}$$

2. Pembuatan Larutan 2 ppm (50 ml)

$$\begin{aligned}\text{ppm}_1 \times V_1 &= \text{ppm}_2 \times V_2 \\ 50 \text{ ppm} \times V_1 &= 2 \text{ ppm} \times 50 \text{ ml} \\ V_1 &= \frac{2 \text{ ppm} \times 50 \text{ ml}}{50 \text{ ppm}} \\ V_1 &= 2 \text{ ml}\end{aligned}$$

3. Pembuatan Larutan 4 ppm (50 ml)

$$\begin{aligned}\text{ppm}_1 \times V_1 &= \text{ppm}_2 \times V_2 \\ 50 \text{ ppm} \times V_1 &= 4 \text{ ppm} \times 50 \text{ ml} \\ V_1 &= \frac{4 \text{ ppm} \times 50 \text{ ml}}{50 \text{ ppm}} \\ V_1 &= 4 \text{ ml}\end{aligned}$$

4. Pembuatan Larutan 6 ppm (50 ml)

$$\begin{aligned}\text{ppm}_1 \times V_1 &= \text{ppm}_2 \times V_2 \\ 50 \text{ ppm} \times V_1 &= 6 \text{ ppm} \times 50 \text{ ml} \\ V_1 &= \frac{6 \text{ ppm} \times 50 \text{ ml}}{50 \text{ ppm}} \\ V_1 &= 6 \text{ ml}\end{aligned}$$

5. Pembuatan Larutan 8 ppm (50 ml)

$$\begin{aligned}\text{ppm}_1 \times V_1 &= \text{ppm}_2 \times V_2 \\ 50 \text{ ppm} \times V_1 &= 8 \text{ ppm} \times 50 \text{ ml} \\ V_1 &= \frac{8 \text{ ppm} \times 50 \text{ ml}}{50 \text{ ppm}} \\ V_1 &= 8 \text{ ml}\end{aligned}$$

6. Pembuatan Larutan 10 ppm (50 ml)

$$\begin{aligned}\text{ppm}_1 \times V_1 &= \text{ppm}_2 \times V_2 \\ 50 \text{ ppm} \times V_1 &= 10 \text{ ppm} \times 50 \text{ ml} \\ V_1 &= \frac{10 \text{ ppm} \times 50 \text{ ml}}{50 \text{ ppm}} \\ V_1 &= 10 \text{ ml}\end{aligned}$$

Lampiran 4 Perhitungan % Rendemen Ekstrak

$$\begin{aligned}\text{Rendemen} &= \frac{\text{berat ekstrak}}{\text{berat simplisia}} \times 100 \% \\ &= \frac{81,423 \text{ gram}}{500 \text{ gram}} \times 100 \% \\ &= 16,2846 \%\end{aligned}$$

Lampiran 5 Perhitungan % Inhibisi

$$\% \text{ inhibisi} = \frac{\text{absorbansi kontrol} - \text{absorbansi ekstrak}}{\text{absorbansi kontrol}} \times 100\%$$

1. Konsentrasi Kuersetin 2 ppm

$$\begin{aligned} \% \text{ inhibisi} &= \frac{0,087 - 0,052333}{0,087} \times 100\% \\ &= \frac{0,034667}{0,087} \times 100\% \\ &= 0,398471 \times 100\% \\ &= 39,8471 \% \end{aligned}$$

2. Konsentrasi Kuersetin 4 ppm

$$\begin{aligned} \% \text{ inhibisi} &= \frac{0,087 - 0,050667}{0,087} \times 100\% \\ &= \frac{0,036333}{0,087} \times 100\% \\ &= 0,417620 \times 100\% \\ &= 41,762 \% \end{aligned}$$

3. Konsentrasi Kuersetin 6 ppm

$$\begin{aligned} \% \text{ inhibisi} &= \frac{0,087 - 0,049333}{0,087} \times 100\% \\ &= \frac{0,037667}{0,087} \times 100\% \\ &= 0,432954 \times 100\% \\ &= 43,2954 \% \end{aligned}$$

4. Konsentrasi Kuersetin 8 ppm

$$\begin{aligned} \% \text{ inhibisi} &= \frac{0,087 - 0,048667}{0,087} \times 100\% \\ &= \frac{0,038333}{0,087} \times 100\% \\ &= 0,440609 \times 100\% \\ &= 44,0609 \% \end{aligned}$$

5. Konsentrasi Kuersetin 10 ppm

$$\begin{aligned} \% \text{ inhibisi} &= \frac{0,087 - 0,046333}{0,087} \times 100\% \\ &= \frac{0,040667}{0,087} \times 100\% \\ &= 0,467436 \times 100\% \\ &= 46,7436 \% \end{aligned}$$

6. Konsentrasi Sampel 20 ppm

$$\begin{aligned} \% \text{ inhibisi} &= \frac{0,087 - 0,047333}{0,087} \times 100\% \\ &= \frac{0,039667}{0,087} \times 100\% \\ &= 0,455942 \times 100\% \\ &= 45,5942 \% \end{aligned}$$

7. Konsentrasi Sampel 40 ppm

$$\begin{aligned}\% \text{ inhibisi} &= \frac{0,087-0,047}{0,087} \times 100\% \\ &= \frac{0,04}{0,087} \times 100\% \\ &= 0,459770 \times 100\% \\ &= 45,977 \%\end{aligned}$$

8. Konsentrasi Sampel 60 ppm

$$\begin{aligned}\% \text{ inhibisi} &= \frac{0,087-0,047}{0,087} \times 100\% \\ &= \frac{0,04}{0,087} \times 100\% \\ &= 0,459770 \times 100\% \\ &= 45,977 \%\end{aligned}$$

9. Konsentrasi Sampel 80 ppm

$$\begin{aligned}\% \text{ inhibisi} &= \frac{0,087-0,046667}{0,087} \times 100\% \\ &= \frac{0,040333}{0,087} \times 100\% \\ &= 0,463597 \times 100\% \\ &= 46,3597 \%\end{aligned}$$

10. Konsentrasi Sampel 100 ppm

$$\begin{aligned}\% \text{ inhibisi} &= \frac{0,087-0,043}{0,087} \times 100\% \\ &= \frac{0,044}{0,087} \times 100\% \\ &= 0,505747 \times 100\% \\ &= 50,5747 \%\end{aligned}$$

Lampiran 6 Perhitungan IC₅₀

Rumus : $y = ax + b$

1. Kuersetin

$$y = 0,8046x + 38,314$$

$$50 = 0,8046x + 38,314$$

$$x = \frac{50-38,314}{0,8046}$$

$$x = 14,5239 \text{ ppm}$$

2. Sampel Ekstrak Daun Pandan Wangi

$$y = 0,0517x + 43,793$$

$$50 = 0,0517x + 43,793$$

$$x = \frac{50-43,793}{0,0517}$$

$$x = 120,0580 \text{ ppm}$$

Lampiran 7 Proses Pembuatan Simplisia

No.	Kegiatan	Dokumentasi
1.	Pengumpulan bahan	
2.	Sortasi Basah	
3.	Pencucian	
4.	Perajangan	
5.	Pengeringan	

6.	Penyerbukan dan Pengayakan	
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Lampiran 8 Pembuatan Ekstrak Etanol 70% Daun Pandan Wangi

No.	Kegiatan	Dokumentasi
1.	Penimbangan serbuk	
2.	Proses maserasi	 
3.	Proses penyaringan	

4.	Ekstrak cair diuapkan dengan <i>rotary evaporator</i>	
5.	Ekstrak etanol 70% daun pandan wangi	 

Lampiran 9 Hasil Skrining Fitokimia

No.	Jenis Senyawa	Dokumentasi
1.	Alkaloid	Mayer:  Bouchardat 

		Dragendrof 
2.	Flavonoid	
3.	Tanin	
4.	Saponin	
5.	Steroid	

6.	Fenolik	
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Lampiran 10 Pembuatan Larutan Sampel

Timbang Ekstrak 	Larutkan dengan 20 ml etanol pro analisis 
Buat Konsentrasi 20 ppm, 40 ppm, 60 ppm, 80 ppm, 100 ppm 	

Lampiran 11 Pembuatan Larutan Kuersetin

Timbang Kuersetin 	Larutkan dengan 50 ml etanol pro analisis 
Buat Konsentrasi Larutan 2 ppm, 4 ppm, 6 ppm, 8 ppm, 10 ppm	



Lampiran 12 Pembuatan Larutan DPPH

Timbang serbuk DPPH



Larutkan dengan 50 ml etanol pro
analisis

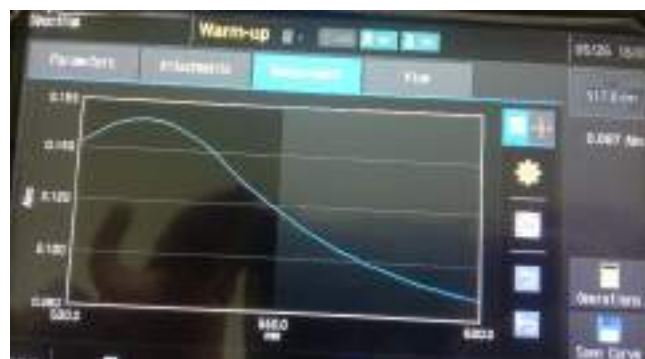


Larutan DPPH



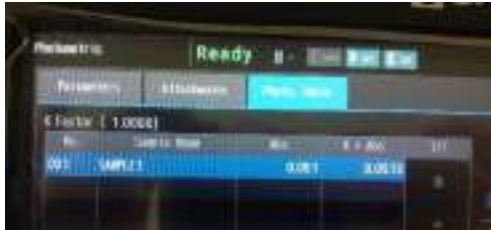
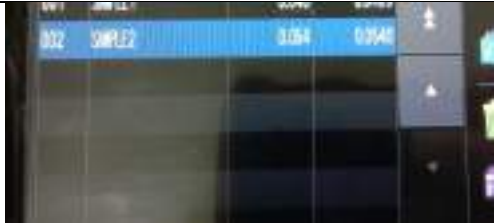
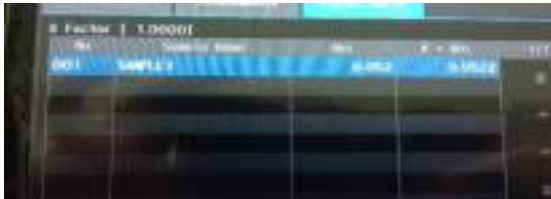
Lampiran 13 Pengukuran Aktivitas Antioksidan

Pencampuran larutan dengan vortex hingga homogen 	Inkubasi setiap konsentrasi larutan sampel dan kuersetin selama 30 menit suhu 37°C 
Pengujian aktivitas antioksidan 	

Lampiran 14 Panjang Gelombang Maksimum

Lampiran 15 Absorbansi Kuersetin

Konsentrasi 2 ppm

P1 0,051	P2 0,054
	
P3 0,052	
	

Konsentrasi 4 ppm

P1 & P2	P3
	

Konsentrasi 6 ppm

P1	P2
	

P3



No.	Sample Name	Abs	K * Abs	Unit
001	SAMPLE1	0.051	0.0513	

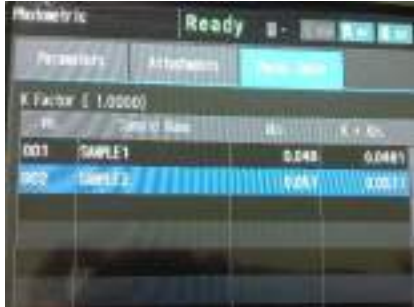
Konsentrasi 8 ppm

P1



No.	Sample Name	Abs	K * Abs	Unit
001	SAMPLE1	0.047	0.0468	

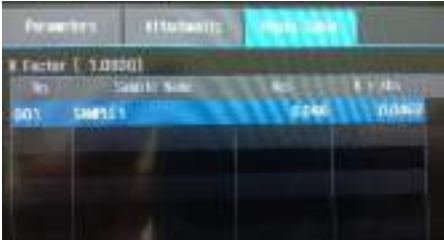
P2 & P3



No.	Sample Name	Abs	K * Abs	Unit
001	SAMPLE1	0.048	0.0481	
002	SAMPLE2	0.047	0.0468	

Konsentrasi 10 ppm

P1



No.	Sample Name	Abs	K * Abs	Unit
001	SAMPLE1	0.046	0.0462	

P2



No.	Sample Name	Abs	K * Abs	Unit
001	SAMPLE1	0.047	0.0474	

P3

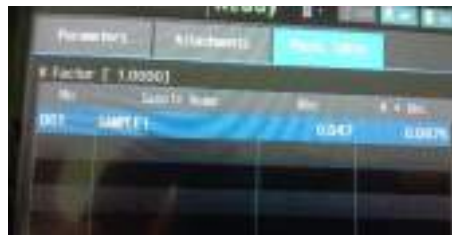


No.	Sample Name	Abs	K * Abs	Unit
001	SAMPLE1	0.046	0.0466	

Lampiran 16 Absorbansi Sampel

Konsentrasi 20 ppm

P1

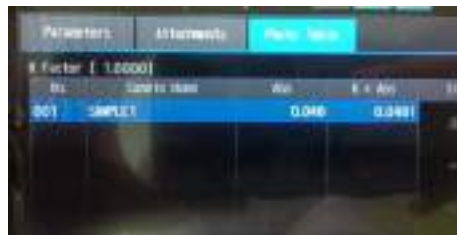


Parameters Attachments **Ready**

K Factor [1.0000]

No	Sample Name	Ab	K x Ab	DT
001	SAMPLE1	0.043	0.0430	

P2

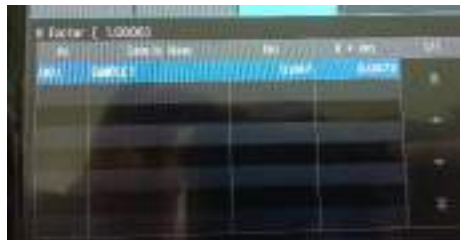


Parameters Attachments **Ready**

K Factor [1.0000]

No	Sample Name	Ab	K x Ab	DT
001	SAMPLE1	0.046	0.0460	

P3



K Factor [1.0000]

No	Sample Name	Ab	K x Ab	DT
001	SAMPLE1	0.047	0.0470	

Konsentrasi 40 ppm

P1

Parameters Attachments **Ready**

K Factor [1.0000]

No	Sample Name	Ab	K x Ab	DT
001	SAMPLE1	0.046	0.0460	

P2

Parameters Attachments **Ready**

K Factor [1.0000]

No	Sample Name	Ab	K x Ab	DT
001	SAMPLE1	0.046	0.0460	

P3

Parameters Attachments **Ready**

K Factor [1.0000]

No	Sample Name	Ab	K x Ab	DT
001	SAMPLE1	0.047	0.0470	

Konsentrasi 60 ppm

P1

Parameters Attachments **Warm-up**

K Factor [1.0000]

No	Sample Name	Ab	K x Ab	DT
001	SAMPLE1	0.046	0.0460	

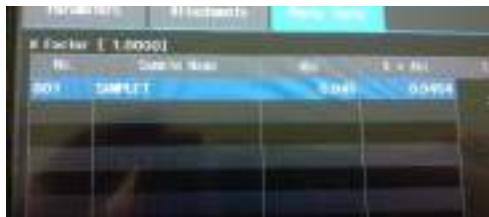
P2

Parameters Attachments **Ready**

K Factor [1.0000]

No	Sample Name	Ab	K x Ab	DT
001	SAMPLE1	0.046	0.0460	

P3



No.	Sample Name	Abs	K + Abs
001	SAMPLE1	0.044	0.0494

Konsentrasi 80 ppm

P1

PORTABLE IC

Ready

Parameters Attachments Photo Table

K Factor [1.0000]

No.	Sample Name	Abs	K + Abs
001	SAMPLE1	0.040	0.0479

P2

K Factor [1.0000]

No.	Sample Name	Abs	K + Abs
001	SAMPLE1	0.044	0.0488

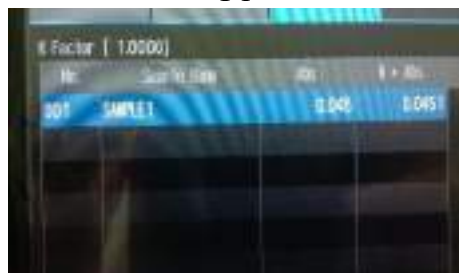
P3

K Factor [1.0000]

No.	Sample Name	Abs	K + Abs	1/1
001	SAMPLE1	0.040	0.0479	±

Konsentrasi 100 ppm

P1



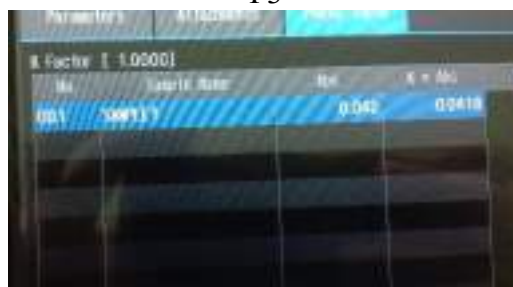
No	Sample Name	Abs	S = Abs
001	SAMPLE1	0.042	0.045

P2



No	Sample Name	Abs	S = Abs
001	SAMPLE1	0.042	0.0422

P3



No	Sample Name	Abs	S = Abs
001	SAMPLE1	0.042	0.0418

Lampiran 17 Surat Penelitian



Kementerian Kesehatan Poltekkes Tanjungkarang

Alamat: Sukarno Hatta No.5 Bandar Lampung
Lampung 35145
Telp: (0721) 281802
Email: info@poltekkes-tjg.ac.id

Nomor : PP.01.04/F.XLIII/389/2025
Lampiran : 1 eks
Hal : Izin Penelitian

17 Januari 2025

Yth. Rektor Universitas Lampung
Di- Tempat

Sehubungan dengan penyusunan Laporan Tugas Akhir bagi mahasiswa Tingkat III Program Studi Farmasi Program Diploma Tiga Jurusan Farmasi Poltekkes Kesehatan Kementerian Kesehatan Tanjungkarang Tahun Akademik 2024/2025, maka kami mengharapkan dapat diberikan izin kepada mahasiswa kami untuk dapat melakukan penelitian di Institusi yang Bapak/Ibu pimpin. Berikut terlampir mahasiswa yang melakukan penelitian.

Atas perhatian dan kerjasamanya diucapkan terima kasih.

Direktur Poltekkes Kesehatan Kementerian
Kesehatan Tanjungkarang,



Dewi Purwaningsih, S.SiT., M.Kes

Tembusan:
1. Ka Jurusan Farmasi
2. Ka Jurusan MIPA

Kementerian Kesehatan tidak menerima suap dihalus grahikasi dalam bentuk apapun. Jika terdapat potensi suap atau grahikasi silahkan laporkan melalui HALO KEMENKES 1500567 dan halo.kemkes.go.id. Untuk verifikasi keaslian tanda tangan elektronik, silahkan unggah dokumen pada laman <https://ha.keminfo.go.id/verifPDF>.



Lampiran 1 : Izin Penelitian
 Nomor : PP.01.04/F.XLIII/389/2024
 Tanggal : 17 Januari 2025

DAFTAR JUDUL PENELITIAN
MAHASISWA PROGRAM STUDI FARMASI PROGRAM DIPLOMA TIGA JURUSAN FARMASI
POLITEKNIK KESEHATAN KEMENTERIAN KESEHATAN TANJUNGPINANG
TA.2024/2025

No	NAMA	NIM	JUDUL PENELITIAN	TEMPAT PENELITIAN
1	Dara Amanda	2248401042	IDENTIFIKASI METABOLIT SEKUNDER dan Uji Aktivitas Antioksidan Ekstrak Metanol Daun Cengkeh (<i>Syzygium aromaticum</i> L.) dengan menggunakan Metode DPPH	LAB BOTANI UNILA
2	AMELLYA RAKHMADHANI	2248401030	FORMULASI SEDIAAN HAIR TONIC KOMBINASI EKSTRAK HERBA SELEDRI (<i>Apium graveolens</i> L.) DAN MINYAK ALPUKAT (<i>Persea americana</i> MILL.) SEBAGAI ZAT AKTIF	
3	ALLIA MARSHA ARVIYANTI	2248401035	IDENTIFIKASI FLAVONOID EKSTRAK DAUN KOPI ROBUSTA (<i>Coffea canephora</i>) ASAL LAMPUNG BARAT DENGAN METODE KROMATOGRAFI LAPIS TIPIS (KLT)	
4	ANIS SUZETTA	2248401089	SKRINING FITOKimia dan Potensi Aktivitas Antioksidan Ekstrak Etanol 70% Pada Daun Pandan Wangi (<i>Pandanus amaryllifolius</i> Roxb.) dengan Metode DPPH	
5	DIAJENG RAHMA PUTRI HINDARTO	2248401046	UJI MUTU SIMPLISIA DAUN KOPI ROBUSTA (<i>Coffea canephora</i>) asal Lampung Barat	
6	MELA ADELIYA	2248401060	PENGARUH WAKTU KAREMELISASI BAWANG HITAM (<i>Black Garlic</i>) TERHADAP KADAR ANTIOKSIDAN DENGAN METODE DPPH	
7	AURELIA D.Y PANJAITAN	2248401037	UJI AKTIVITAS ANTIBAKTERI EKSTRAK ETANOL DAUN KOPI ROBUSTA (<i>Coffea canephora</i>) LAMPUNG BARAT TERHADAP PERTUMBUHAN BAKTERI <i>Streptococcus mutans</i>	
8	TANIA MAWAR AZZAHRA	2248401083	IDENTIFIKASI METABOLIT SEKUNDER DAN Uji FLAVONOID TOTAL EKSTRAK KULIT NANAS (<i>Ananas comosus</i> (L.) Merr.) HASIL MASERASI BERTINGKAT	

Direktur Politeknik Kesehatan Kementerian
 Kesehatan Tanjungpinang,



Dewi Purwaningsih, S.SiT., M.Kes

Dokumen ini telah disahkan secara elektronik menggunakan sertifikat elektronik yang diterbitkan oleh Badan Penyelenggara Sertifikasi Elektronik (BPSI), Badan Siber dan Sandi Negara.

Lampiran 18 Determinasi Tanaman

 KEMENTERIAN PENDIDIKAN TINGGI, SAINS, DAN TEKNOLOGI
UNIVERSITAS LAMPUNG
FAKULTAS MATEMATIKA DAN ILMU PENGETAHUAN ALAM
JURUSAN BIOLOGI
Jalan Prof. Dr. Soemartono Ibrodjonogoro No.1 Bandar Lampung 35145
Website : <http://fmipa.unila.ac.id/web/biology> - Telp. 0721-704625-Fax. 0721-704625

Bandar Lampung, 11 Maret 2025

Kepada yth,
Sdr : Anis Suzetta
NPM : 2248401089

Dengan hormat

Bersama ini kami sampaikan hasil determinasi tumbuhan dari Laboratorium Botani Jurusan Biologi FMIPA Unila adalah sebagai berikut. Nama ilmiah untuk Tanaman Pandan Wangi adalah *Pandanus amaryllifolius* Roxb.

Demikian hasil determinasi ini, semoga berguna bagi saudara

Mengetahui,
Kepala Laboratorium Botani



Dr. Sri Wuliyuningsih, M.Si.
NIP 196111251990032001

Penanggung Jawab Determinasi



Dea Yulianty, M.Si.
NIP 196507131991032002



KEMENTERIAN PENDIDIKAN TINGGI, SAINS, DAN TEKNOLOGI
UNIVERSITAS LAMPUNG
FAKULTAS MATEMATIKA DAN ILMU PENGETAHUAN ALAM
JURUSAN BIOLOGI

Jalan Prof. Dr. Soemartini Brodjonegoro No.1 Bandar Lampung 35145
Website : <http://fmipa.unila.ac.id/web/biologi/> - Telp. 0721-704625-Fax. 0721-704625

Klasifikasi Tanaman Pandan Wangi menurut sistem klasifikasi Cronquist (1981) adalah sebagai berikut :

Kerajaan	: Plantae
Divisi	: Magnoliophyta
Kelas	: Liliopsida
Bangsa	: Pandanales
Suku	: Pandanaceae
Marga	: <i>Pandanus</i>
Jenis	: <i>Pandanus amaryllifolius</i> Roxb.

Sumber Klasifikasi :

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



Lampiran 19 Surat Ekstraksi

	KEMENTERIAN PENDIDIKAN TINGGI, SAINS, DAN TEKNOLOGI
	UNIVERSITAS LAMPUNG
	FAKULTAS MATEMATIKA DAN ILMU PENGETAHUAN ALAM
	JURUSAN BIOLOGI
	Laboratorium Botani
	Jalan Prof. Dr. Soenarto Brodjonegoro No.1 Bandar Lampung 35145
	Website : http://fmipa.unila.ac.id/web/biologi/ - Telp. 0721-704625-Fax. 0721-704625

SURAT KETERANGAN

Dengan ini saya PLP Laboratorium Botani :

Nama	: Dhiny Santya Putri,S.P.,M.Si.
NIP	: 198912152015032005
Jabatan	: Prunata Laboratorium Pendidikan
Instansi	: Lab. Botani FMIPA Universitas Lampung

Memberikan keterangan sebagai berikut :

Nama	: Anis Suzeta
NPM	: 2248401089
Instansi	: Politeknik Kesehatan Tanjung Karang

Telah Melakukan ekstraksi/Evaporasi sample Daun Pandan (*Pandanus amaryllifolius* Roxb) pada tanggal 12 Februari 2025 s.d 26 Februari 2025 di Laboratorium Botani Jurusan Biologi, FMIPA, Universitas Lampung.

Demikian surat keterangan ini dibuat agar dapat digunakan sebagaimana mestinya.

Bandar Lampung, 26 Februari 2025
PLP Laboratorium Botani,



Dhiny Santya Putri,S.P.,M.Si.
NIP. 198912152015032005

Lampiran 20 Surat COA aquadest



Report No. 01779KAN/PAQ
Date: January 11, 2023



KAN
Kualitas Air Bersih
LP-024-02H



SUCOFINDO
Testing Office
Jl. Asean Tol Crossing No. 1, Gedung Bekasi 1720, Indonesia
Phone/Fax: +62 21 8521175/21 8521198
Email: su.sdg@sucofindo.co.id

REPORT OF ANALYSIS

The following sample (s) was submitted and identified by Sucofindo Jakarta Branch Office :

CLIENT	: PURE INDONESIA, CV Central Park, GORHO Lantai 11 No. 1121, Room 1006 Jl. S. Parman Kav. 18 RT.003 RW. 005
TYPE OF SAMPLE	: CLEAN WATER
DATE OF ORDER	: January 2, 2023
DATE OF ANALYSIS	: January 2, 2023 to January 11, 2023
TESTED FOR	: Physical and Chemical analysis
DESCRIPTION OF SAMPLE	: Packing : Unsealed plastic bottle
SAMPLE IDENTIFICATION	: Base Water (Purified Water)
YOUR REFERENCE	: -

Parameter	Unit	Test Result	Method *) Part Number
pH at Lab	-	7.7	4500 H-P-B
Total Hardness as CaCO ₃	mg/L	< 1	2340 B
E. Conductivity at lab	µS/cm	1.9	2510 B
Turbidity at lab	NTU	< 0.06	2130 B
Total Dissolved Solid	mg/L	1	POLK40 (Electrometric)
Chloride	mg/L	< 0.9	4500 Cl-D
Organic Matter by KMnO ₄ *	mg/L	< 1.5	SN 08-6989.22 : 2004
Total Silica *	mg/L	< 0.8	3120 B, 3030 E
Iron	mg/L	< 0.02	3120 B, 3030 E
Appearance	-	Negative	Visual

*) Standard Methods, 23rd Edition 2017, APHA-AWWA-WEF
*) Excluded the scope of accreditation KAN

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This test result is related to the sample(s) submitted only and the report cannot be reproduced in any way, except with full consent and with the prior approval in writing from Sucofindo Laboratory


Sucofindo Environment Laboratory
 Edo Widaryanto

CBT102.1.00008323



4351807

BCI-2107A

Lampiran 21 Surat COA etanol 70%

CERTIFICATE OF ANALYSIS

Re : SOLVENT 70%
Batch No : 002024.7.020
Date of Manufacture : 20 Juli 2024
Date of Expiration : No Expiry

N O	PARAMETER	DIMENTIO N	RESULT	METHOD E
1	Ethanol contains 15C	% V/V	70.02%	BP
2	Acidity	Ppm	7.5	SNI
3	Fusel Oil Constituents	Ppm	18.5	AOAC
4	Test Time 15C	Minutes	7.9	BP
5	Methanol Contains %	Ppm	26%	-
6	Residu After Evaporation	Ppm	0.80	SCI TABLE
7	Isopropil Alkohol	Ppm	28%	Flam

Jakarta, 20 Juli 2024

(QC)

Lampiran 22 Surat COA etanol pro analisis



Certificate of Analysis

1.00863.0000 Ethanol absolute for analysis EMSURE® ACS,ISO,Reag. Ph Eur
Batch 11157183

	Spec. Values		Batch Values	
Purity (GC)	≥ 99.9	%	99.9	%
Identity (IR)	conforms		conforms	
Appearance	conforms		conforms	
Color	≤ 10	Hazen	< 5	Hazen
Solubility in water	conforms		conforms	
Acidity or alkalinity	≤ 30	ppm	≤ 30	ppm
Titrable acid	≤ 0.0002	meq/g	0.0001	meq/g
Titrable base	≤ 0.0002	meq/g	< 0.0002	meq/g
Density (d 20 °C/20 °C)	0.790 - 0.793		0.791	
UV absorption	conforms		conforms	
Aldehydes (as Acetaldehyde)	≤ 0.001	%	≤ 0.001	%
Fusel oils	conforms		conforms	
Substances reducing potassium permanganate (as O)	≤ 0.0002	%	≤ 0.0002	%
Substances reducing permanganate (ACS)	conforms		conforms	
Carbonyl compounds (as CO)	≤ 0.003	%	≤ 0.003	%
Readily carbonizable substances	conforms		conforms	
Acetone, Isopropyl Alcohol (ACS)	conforms		conforms	
Acetone (GC)	≤ 0.001	%	≤ 0.001	%
Ethylmethyleketone (GC)	≤ 0.02	%	≤ 0.01	%
Isopropyl alcohol (GC)	≤ 0.05	%	≤ 0.01	%
2-Propanol (GC)	≤ 0.01	%	≤ 0.01	%
Higher alcohols (GC)	≤ 0.01	%	≤ 0.01	%
Volatile impurities (GC) (Acetaldehyde and Acetal)	≤ 10	ppm	≤ 10	ppm
Volatile impurities (GC) (Benzene)	≤ 2	ppm	≤ 1	ppm
Volatile impurities (GC) (Methanol)	≤ 100	ppm	≤ 50	ppm
Volatile impurities (GC) (Total of other impurities)	≤ 300	ppm	≤ 100	ppm
Volatile impurities (GC) (Unregulated limit)	≤ 9	ppm	0	ppm
Chloride (Cl)	≤ 0.3	ppm	≤ 0.1	ppm
Nitrate (NO ₃)	≤ 0.3	ppm	≤ 0.1	ppm
Phosphate (PO ₄)	≤ 0.3	ppm	≤ 0.1	ppm
Sulfate (SO ₄)	≤ 0.3	ppm	≤ 0.1	ppm
Ag (Silver)	≤ 0.000002	%	≤ 0.000002	%
Al (Aluminum)	≤ 0.00005	%	≤ 0.00005	%
As (Arsenic)	≤ 0.000002	%	≤ 0.000002	%
Au (Gold)	≤ 0.000002	%	≤ 0.000002	%
Ba (Barium)	≤ 0.00001	%	≤ 0.00001	%
Be (Beryllium)	≤ 0.000002	%	≤ 0.000002	%
Bi (Bismuth)	≤ 0.000002	%	≤ 0.000002	%
Ca (Calcium)	≤ 0.00005	%	≤ 0.00005	%

Merck KGaA
Corporation with General Partners
Frankfurter Straße 250
64290 Darmstadt, Germany

The life science business of Merck KGaA, Darmstadt,
Germany operates as MilliporeSigma in the U.S. and
Canada.

Page 1 of 2

Certificate of Analysis

1.00983.0000 Ethanol absolute for analysis EMSURE® ACS,ISO,Reag. Ph Eur
Batch I1157183

Cd (Cadmium)	≤ 0.000005	%	≤ 0.000005	%
Co (Cobalt)	≤ 0.000002	%	≤ 0.000002	%
Cr (Chromium)	≤ 0.000002	%	≤ 0.000002	%
Cu (Copper)	≤ 0.000002	%	≤ 0.000002	%
Fe (Iron)	≤ 0.00001	%	≤ 0.00001	%
Ga (Gallium)	≤ 0.000002	%	≤ 0.000002	%
In (Indium)	≤ 0.000002	%	≤ 0.000002	%
Li (Lithium)	≤ 0.000002	%	≤ 0.000002	%
Mg (Magnesium)	≤ 0.00001	%	≤ 0.00001	%
Mn (Manganese)	≤ 0.000002	%	≤ 0.000002	%
Mo (Molybdenum)	≤ 0.000002	%	≤ 0.000002	%
Ni (Nickel)	≤ 0.000002	%	≤ 0.000002	%
Pb (Lead)	≤ 0.00001	%	≤ 0.00001	%
Pl (Platinum)	≤ 0.000002	%	≤ 0.000002	%
Sb (Antimony)	≤ 0.000002	%	≤ 0.000002	%
Sn (Tin)	≤ 0.00001	%	≤ 0.00001	%
Ti (Titanium)	≤ 0.000002	%	≤ 0.000002	%
Tl (Thallium)	≤ 0.000002	%	≤ 0.000002	%
V (Vanadium)	≤ 0.000002	%	≤ 0.000002	%
Zn (Zinc)	≤ 0.00001	%	≤ 0.00001	%
Zr (Zirconium)	≤ 0.000002	%	≤ 0.000002	%
Evaporation residue	≤ 0.0025	%	0.0001	%
Water	≤ 0.1	%	≤ 0.1	%

Date of release (DD.MM.YYYY) 26.07.2021
Minimum shelf life (DD.MM.YYYY) 31.03.2026

Jeannette David
Responsible laboratory manager quality control

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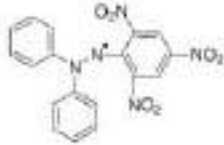
Lampiran 23 Surat COA dpph



3050 Spruce Street, Saint Louis, MO 63103, USA
 Website: www.sigma-aldrich.com
 Email: USA: techserv@sigmaaldrich.com
 Outside USA: surtechserv@sigmaaldrich.com

Certificate of Analysis

Product Name : 2,3-Di phenyl-1-picrylhydrazyl
 Product Number : 09132-10
 Batch Number : 0000438836
 Source Batch : 0000404286
 CAS Number : 1888-66-4
 MDL Number : MFCD00007231
 Storage Temperature : +2°C to +6°C
 Molecular Formula : C₂₁H₁₂N₄O₆
 Formula Weight : 384.32 g/mol
 Recommended Release Date : Dec 2027
 Quality Release Date : 17 Dec 2024



Test	Specification	Result
Appearance (Color) Green to Very Dark Green and Black	Conforms to Requirements	Black
Appearance (Form)	Powder	Powder
Solubility (Color) BOMQ/ML, CHCl ₃	Dark Purple	Dark Purple
Carbon Content	51.6 - 56.1 %	56.1 %
Nitrogen Content	15.6 - 16.8 %	17.9 %
Infrared Spectrum	Conforms to Structure	Conforms
Recommended Release Period 3 YEARS		



Thomas Katers (R&D) Manager
 Analytical
 Belgium
 (H)

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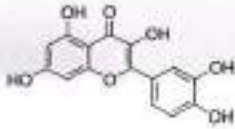
Lampiran 24 Surat COA kuersetin

Sigma-Aldrich

3558 Spruce Street, Saint Louis, MO 63103, USA
 Website: www.sigma-aldrich.com
 Email USA: techserv@sigma.com
 Outside USA: eurtechserv@sigma.com

Certificate of Analysis

Product Name :	Quercetin ≥95% (HPLC), solid
Product Number :	Q4951-180
Batch Number :	0000435915
Source Batch :	0000400901
CAS Number :	117-39-3
Molecular Formula :	C ₁₅ H ₁₀ O ₇
Formula Weight :	302.24 g/mol
Quality Release Date :	10 Dec 2024



Test	Specification	Result
Appearance (Color)	Conforms	Conforms
Appearance (Form)	Powder	Powder
¹ H NMR Spectrum	Conforms to Structure	Conforms
Loss on Drying	≤ 4 %	1 %
Purity (HPLC)	≥ 95 %	97 %

J. J. Jorgensen
 Jorgensen Yacaman, Supervisor
 Quality Assurance
 St. Louis, Dakota
 US

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Lampiran 25 Lembar Konsultasi Tugas Akhir

1. Lembar Konsultasi Pembimbing Utama

LEMBAR KONSULTASI LAPORAN TUGAS AKHIR (2)

NAMA MAHASISWA : Anis Suzetta

NIM : 2248401089

DOSEN PEMBIMBING 2 : Ani Hartati, S.Si, Apt., M.Si

NO	TANGGAL	KEGIATAN		PARAF	
		MASALAH	PENYELESAIAN	DOSEN	MHS
1.	27/02 2025	Pengajuan Bab 1, II, III	Revisi lembar Tabel dan Penulisan di Bab II		
2.	11/03 2025	Pengumpulan revisi lembar tabel dan Penulisan di bab II	Dilanjut Perbaikan dan pengerjaan Bab 4 dan 5		
3.	28/04 2025	Pengajuan Bab 4 dan Bab 5	Revisi perhitungan % inhibisi dan IC50		
4.	23/05 2025	Pengumpulan revisi hasil	Revisi grafik dan Persamaan regresi linier		
5.	28/05 2025	Pengumpulan revisi hasil	ACC Semhas		

NO	TANGGAL	KEGIATAN		PARAF	
		MASALAH	PENYELESAIAN	DOSEN	MHS
6.	07/2025 02	Pengumpulan Bab I, II dan III	• Revisi tambahan Penelitian	UA	Bah.
7.	10/2025 02	Pengumpulan Bab I, II dan Revisi bab II	Revisi penulisan Daftar Pustaka	UA	Bah.
8.	14/2025 02	Pengumpulan Bab I, II, dan III	ACC Bab I, Bab II, dan III	UA	Bah.
9.	17/2025 02	Mengumpulkan Revisi Perbaikan Bab I, Bab II, dan Bab III	Merevisi Penulisan dan Penambahan tinjauan Pustaka tentang Pelaut	UA	Bah.
10.	09/2025 03	Konsultasi perbaikan bab I Bab II dan Bab III	Melanjutkan Penelitian	UA	Bah.
11.	17/2025 04	Konsultasi Hasil Penelitian	Melanjutkan Bab IV, dan Bab V	UA	Bah.
12.	22/2025 04	Mengumpulkan Bab IV, dan Bab V	Merevisi Pembahasan dan Saran	UA /	Bah.
13.	06/2025 05	Mengumpulkan Revisi bab IV dan Bab V	Merevisi penulisan dan lampiran	UA	Bah.

NO	TANGGAL	KEGIATAN		PARAF	
		MASALAH	PENYELESAIAN	DOSEN	MHS
M.	20/2025 05	Mengumpulkan Bab I, Bab II, III, IV, dan V	Merevisi penulisan dan lampiran, serta daftar pustaka	U	
IS.	22/2025 05	Mengumpulkan revisi Bab I, II, III, IV, dan V	Ace Sambar	U	

2. Lembar Konsultasi Pembimbing Pendamping

LEMBAR KONSULTASI LAPORAN TUGAS AKHIR (2)

NAMA MAHASISWA : Anis Suzetta

NIM : 2248401089

DOSEN PEMBIMBING 2 : Ani Hartati, S.Si., Apt., M.Si

NO	TANGGAL	KEGIATAN		PARAF	
		MASALAH	PENYELESAIAN	DOSEN	MHS
1.	27/02 2025	Pengajuan Bab 1, 3, 13	Revisi lembar Tabel dan Persamaan di Bab 3		
2.	11/03 2025	Pengumpulan revisi lembar tabel dan Penulisan di bab 3	Dilanjut perenthan dan pengerjaan Bab 4 dan 5		
3.	28/04 2025	Pengajuan Bab 4 dan Bab 5	Revisi perhitungan % inhibisi dan IC50		
4.	23/05 2025	Pengumpulan revisi hasil	Revisi grafik dan Persamaan regresi linier		
5.	28/05 2025	Pengumpulan revisi hasil	ACC Semhas		

3. Lembar Perbaikan Seminar Hasil

LEMBAR PERBAIKAN
SEMINAR HASIL TUGAS AKHIR

Hari / Tanggal : Kamis, 03 Juli 2005
 Nama Mahasiswa : Anis Suletha
 Judul Tugas Akhir : Strategi Etimologi dan Biologi Asamulat
 Antikodon Berasal Etanol 10% Pada Daun
 Pandan Wangi (Pandanus amaryllifolius Forb.) Dengan Metode DPM

HASIL MASUKAN :

Penguji 1:

1. PENDAHULUAN KATA CATIN DIPERBAIKI
2. HAL 30. PERUBAHAN EKSTRAK SIMPOSIA DAUN PANDAN WANGI
DIBUANG DAN YE DI LAKUKAN. → 80 98
3. PENDAHULUAN ALAT YE BUKAN BATU INDOnesia, DIPERUBAH
4. PENDAHULUAN WATER BATH SUHU TERKENDAL
5. TABEL 4.2. HASIL PENGULAN KANDUNGAN DITAMBAHKAN
6. HAL 32. PEMERIKSAAN PLASMOID BELUM MUNGUL
7. PEMERIKSAAN STROK / TRITRIFID : PENGULAN MENCUKAN M₂ : H₂O₂
8. LEMBAR DI LITERATUR IC 50 KURANG BEBERAPA * BANYAK
9. BANYAK MAIL YE KURANG PERSEGI DARI PANDAN WANGI (R : 0,612)
FAKTOR 3 AM LAIN YE MENYERABKAN HAL TERSEBUT
10. PADA LAPORAN : TAMBAHKAN CARA MENGHITUNG % INHIBISI

Penguji 2:

1. JUDUL : JENIS DAN PEMERIKSAAN " POKOK ATAU AKTIVITAS "
2. KATA KUNCI : TULIS YE SPESIFIK
3. PEMERIKSAAN : % INHIBISI DIBUTULIKAN
4. ——— IC 50 ——— DIBUTULIKAN
5. MEMBUK SEKUNDER PENDAHULUAN ATAU TAMBAH CHECK ULANG
6. DAFTAR RISTAKA BANYAK YE BELUM TERCATUM

Mengetahui

Penguji 1,

Penguji 2

Penguji 3,

Endang Retnawati Mulyatash, D.Si
 Nip. 1988 0829 201503 2003

Ani Hartati, S.Si, Apt, M.Si
 Nip. 19780509199903 2002

Dra. Dita Andini, Apt, MTA
 Nip. 19660127199912 3001

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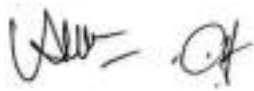
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**LEMBAR BUKTI PENGECEKAN SIMILARITY/PLAGIARISM
DENGAN TURNITIN**

Nama : Anis Suzella
 NIM : 2248401089
 Judul LTA : Skrining Fitokimia Dan Potensi Antioksidan Ekstrak Etanol 70% Pada Daun Pandan Wangi (*Pandanus amaryllifolius* Roxb.) Dengan Metode DPPH.
 Prodi : DIII Farmasi

Telah melakukan pengecekan Turnitin sebagai berikut :

Ke-	Tanggal	Hasil (Nilai)	Paraf Petugas Perpustakaan dan Cap
1	Kamis, 24-01-2025	26 %	
2			
3			

Mengetahui,

Pembimbing 1



(Dra. Dias Ardini, Apt., MTA)
 NIP. 196601271999122001

Pembimbing 2



(Ani Hartati, S.Si., Apt., M.Si)
 NIP. 197405091999032002

Catatan : Pengisian kolom tanggal dan hasil ditulis tangan