

LAMPIRAN

Lampiran 1 Determinasi Tanaman

**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

LEMBAR IDENTIFIKASI TUMBUHAN

No.65/HB/05/2024.

Herbarium Jatinangor, Laboratorium Taksonomi Tumbuhan, Jurusan Biologi FMIPA

UNPAD, dengan ini menerangkan bahwa:

Nama : Farhana Khairunnisa
NIM/NIDN : 221FF04045
Instansi : Universitas Bhakti Kencana.
Lokasi : Bandung.

Telah melakukan identifikasi tumbuhan, dengan No. Koleksi: -
Tanggal Koleksi : 29 Mei 2024.

Hasil Identifikasi

Nama Ilmiah : *Cassia alata* L.
Sinonim : *Senna alata* [L.] Roxb.
Nama Lokal : Daun Ketepang cina
Suku/Famili : Fabaceae

Klasifikasi (Hirarki Taksonomi)

Kingdom : Plantae
Divisi : Tracheophyta
Class : Magnoliopsida
Ordo : Fabales
Famili : Fabaceae
Genus : *Cassia*
Species : *Cassia alata* L.

Referensi:

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

Jatinangor, 31 Mei 2024.

Identifikator,

LABORATORIUM TAKSONOMI TUMBUHAN
JURUSAN BIOLOGI FMIPA-UNPAD

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

Lampiran 2 Surat Keterangan Bakteri

1. *Esherichia coli* ATCC 25922



Thermo Fisher Scientific
Microbiology
12076 Santa Fe Trail Drive
12230 Santa Fe Trail Drive
Lenexa, KS 66215
800.255.6730
800.447.5761 fax
www.thermofisher.com

Certificate of Analysis

Product Name: E. coli ATCC 25922 PK/5
Lot Number: 629933

Product Number: R4607050
Expiration Date: 2024-08-21
(YYYY-MM-DD)

This product has been manufactured, processed and packaged in accordance with Quality Systems Regulation, 21 CFR Part 820. Representative samples were tested per Remel Inc., a part of Thermo Fisher Scientific Quality Control specifications and were found to meet performance criteria for this product.

Purity:

Standardized aliquots of the rehydrated product are inoculated onto nonselective media and examined for pure growth following the appropriate incubation. Selective and Differential media are also tested where applicable.

Viability And Quantification:

Each organism is recovered from the preserved state within the required time frame and at an acceptable level. Passage number is stated as the current preserved state.

Macroscopic And Microscopic Morphology:

Colony morphology is consistent with documented referenced description.
Traditional staining is performed.

Characterization:

Organism exhibits characteristic biochemical, enzymatic, genotypical and/or biochemical reactions. Automated and/or conventional testing was performed and results were within established limits. Antimicrobial testing performed where applicable. Results within expected ranges.

CFU/loop: >10(4)	Passage: 3
Gram Reaction: Gram Negative Rod	Identification Profile: MicroSEQ® or Vitek® 2
Appearance: Preserved Gel Matrix suspended in inoculating loop	
pH: N/A	

2. *Staphylococcus aureus* ATCC 6538

 The world leader in serving science	Thermo Fisher Scientific Microbiology 12076 Santa Fe Trail Drive Lenexa, KS 66215 800.255.6730 800.447.5761 fax www.thermofisher.com
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Certificate of Analysis - Certified Reference Material

Thermo Scientific™ Trademark™	Product Number R4607016
Product Name	S. aureus ssp aureus ATCC 6538 PK/5
Lot Number	747735
Usage Decision	Accepted (OK)
Expiration Date	2025-04-29

This product has been manufactured, processed and packaged in accordance with Quality Systems Regulation, 21 CFR Part 820.
The results were derived from a representative sample of the batch and were obtained at the time of release.
Refer to the enclosed product insert for instructions, intended use, hazard/safety requirements, and storage conditions.

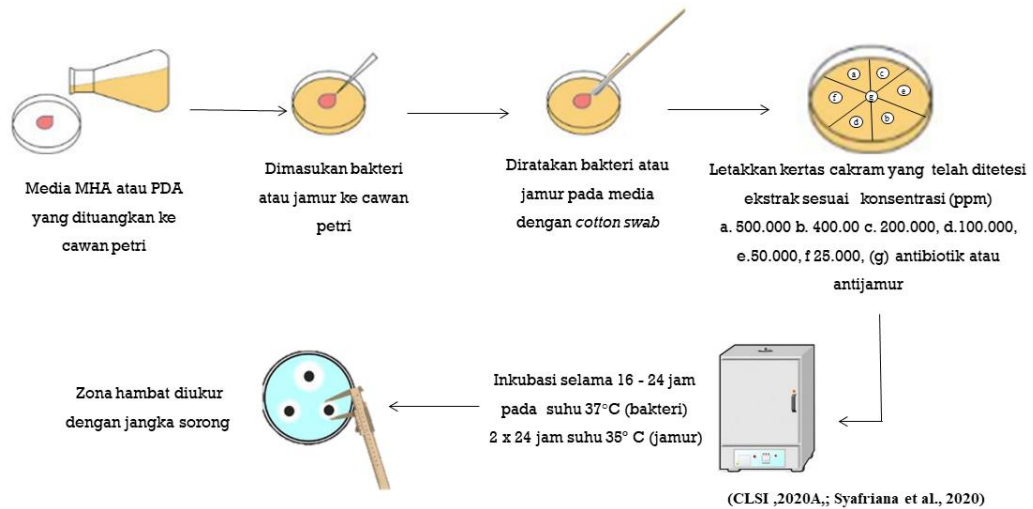
Product Char Results	
Purity	Demonstrates pure growth on applicable media
Viability	Recovered at acceptable level within test period
Passage	3 (Current preserved state)

Microbiological testing	Results	Specification
>85% Identification on Vitek 2C GP	100	85 - 100
>95% Identification on MicroSEQ	Pass	95 - 100
Microscopic Features		

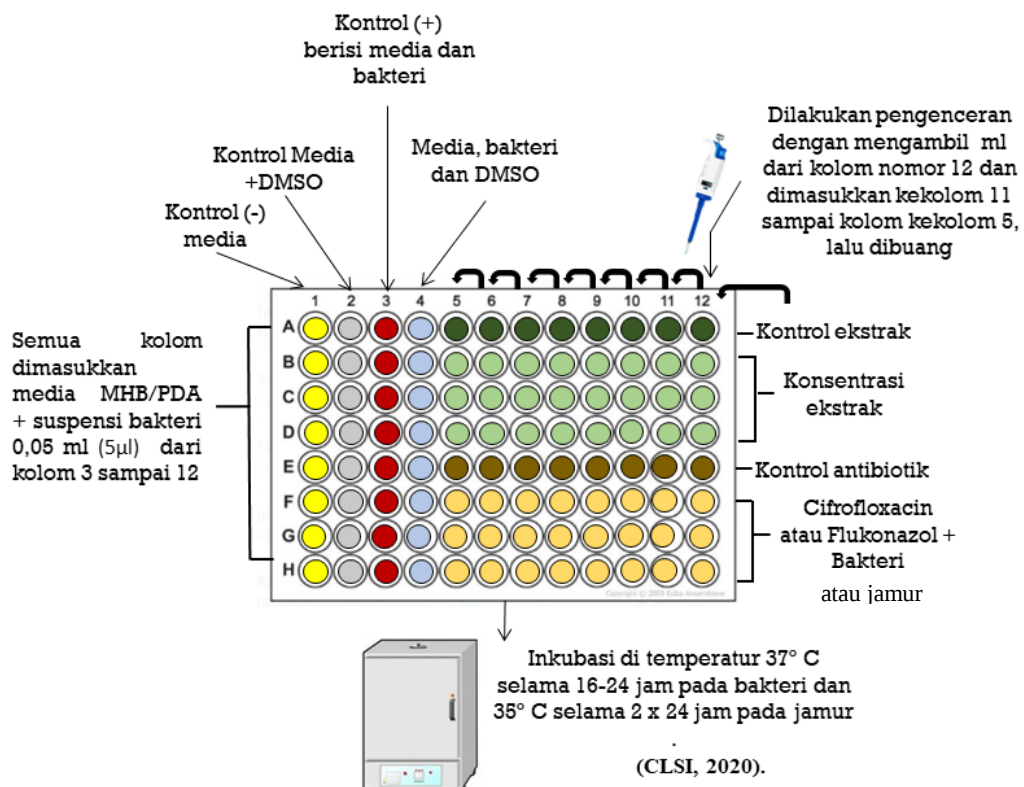
These tests are performed in accordance with ISO 17025 guidelines.
Thermo Fisher Scientific has determined each loop of this reference material to be sufficiently homogeneous for its intended use.
Individual products are traceable to a recognized culture collection.
Although the Vitek(TM) panel uses many conventional tests, the unique environment of the card, combined with the short incubation period, may produce results that differ from published results obtained by other methods

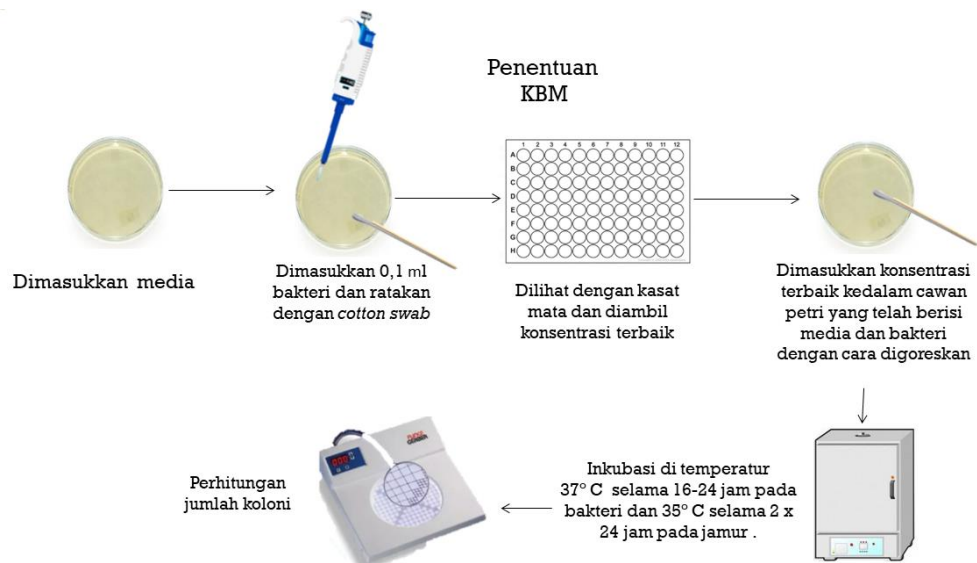
Lampiran 3 Prosedur Penelitian

a. Alur prosedur cakram kertas

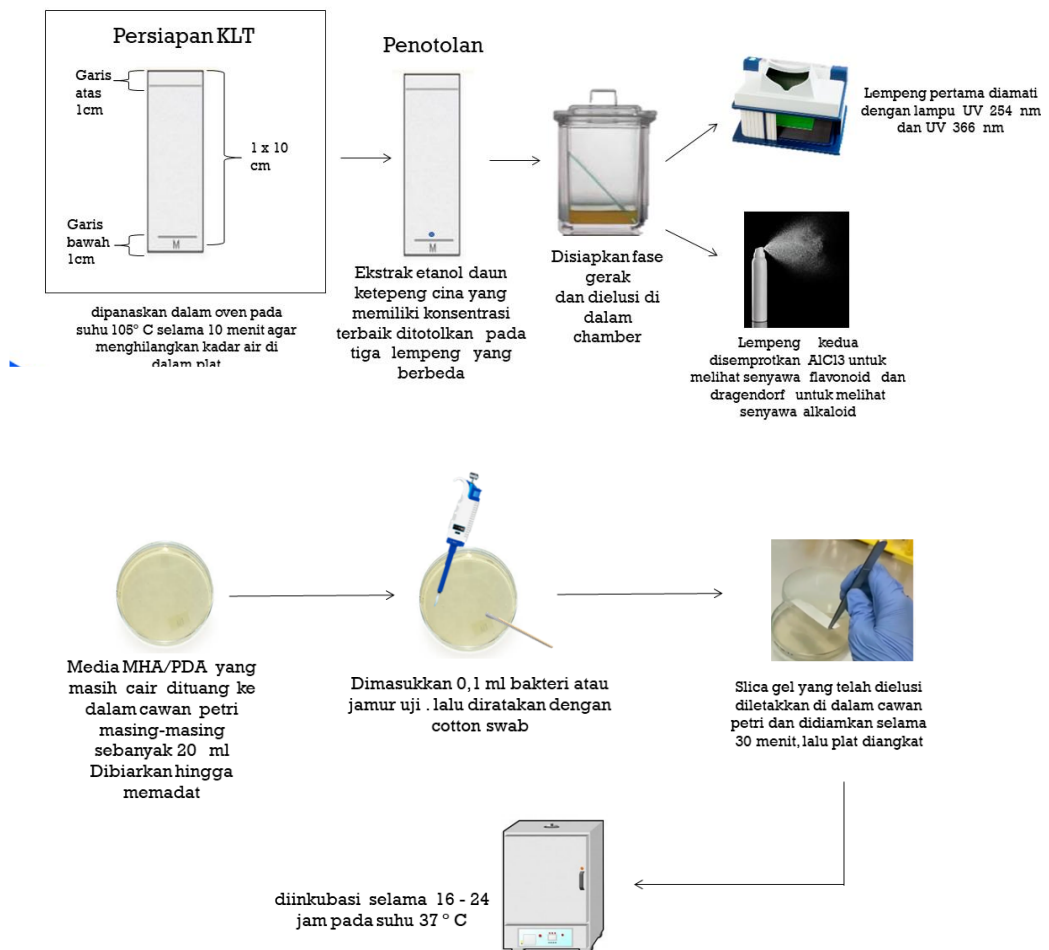


b. Alur prosedur metode mikrodilusi





c. Alur prosedur KLT bioautografi



Lampiran 4 Perhitungan Rendemen Ekstrak

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

$$\text{Rendemen ekstrak} = \frac{88,5 \text{ gram}}{500 \text{ gram}} \times 100 \% = 17,7\%$$

Lampiran 5 Karakterisasi Simplisia

Uji	Gambar	Hasil
Susut pengeringan		3,032%
Kadar sari larut air		Cawan kosong : 80,361 gram Cawan isi : 80,728 gram Kadar sari larut air $= \frac{\text{cawan isi} - \text{cawan kosong}}{\text{bobot simplisia}} \times \frac{\text{vol pelarut}}{\text{vol filtrat}} \times 100\%$ $= \frac{80,728 \text{ gram} - 80,361 \text{ gram}}{5 \text{ gram}} \times \frac{100}{20} \times 100\%$ = 36,7%
Kadar sari larut etanol		Cawan kosong: 125,355 gram Cawan isi : 125,180 gram Kadar sari larut etanol $= \frac{\text{cawan isi} - \text{cawan kosong}}{\text{bobot simplisia}} \times \frac{\text{vol pelarut}}{\text{vol filtrat}} \times 100\%$ $= \frac{125.36 \text{ gram} - 125,18 \text{ gram}}{5 \text{ gram}} \times \frac{100}{20} \times 100\%$ = 17,5%

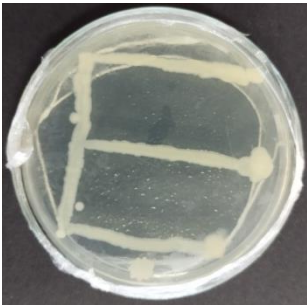
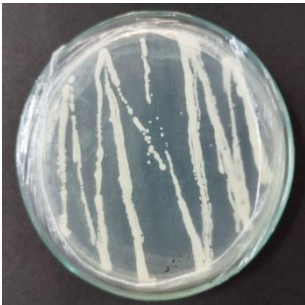
Lampiran 6 Hasil Penapisan Fitokimia

No.	Golongan Senyawa	Gambar	Keterangan (hasil uji)
1	Alkaloid	 (Mayer, Dragendroff, Bouchardat)	<i>Mayer</i> - Terbentuknya endapan putih - Hasil (+) alkaloid <i>Dragendroff</i> - Terbentuknya endapan merah bata/coklat kemerahan - Hasil (+) alkaloid <i>Bouchardat</i> - Terbentuknya endapan coklat - Hasil (+) alkaloid
2	Flavonoid		- Terbentuknya larutan berwarna orange kemerahan - Hasil (+) flavonoid
3	Saponin		- Terbentuknya larutan berwarna hijau kehitaman - Hasil (+) saponin
4	Tanin		- Berwarna orange kemerahan - Hasil (+) tanin

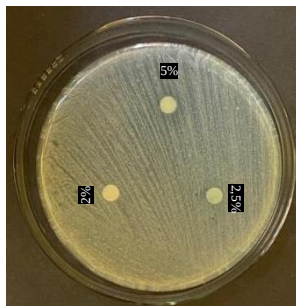
			
5	Terpenoid/ Steroid		- Terbentuknya warna hijau kehitaman - Hasil (-) terpenoid dan steroid

Lampiran 7 Hasil Penelitian

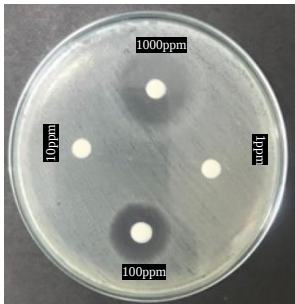
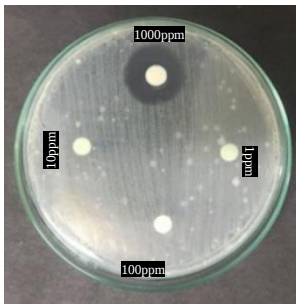
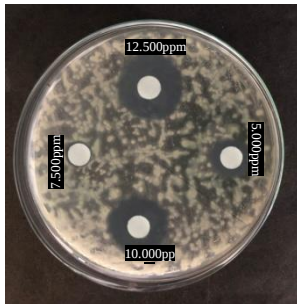
1. Peremajaan bakteri dan jamur

		
<i>Escherichia coli</i>	<i>Staphylococcus aureus</i>	<i>Malassezia furfur</i>

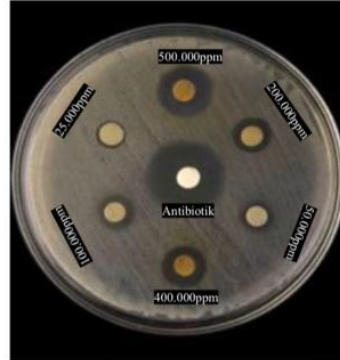
2. Optimasi DMSO



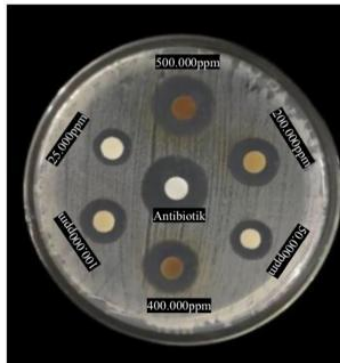
3. Optimasi Antibiotik dan Antijamur

		
<i>Escherichia coli</i>	<i>Staphylococcus aureus</i>	<i>Malassezia furfur</i>

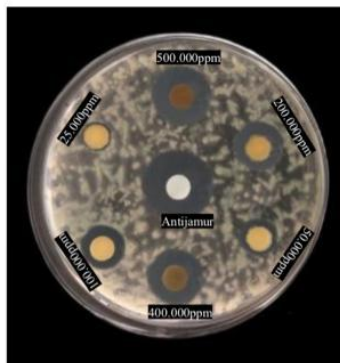
4. Cakram Kertas



Escherecia coli

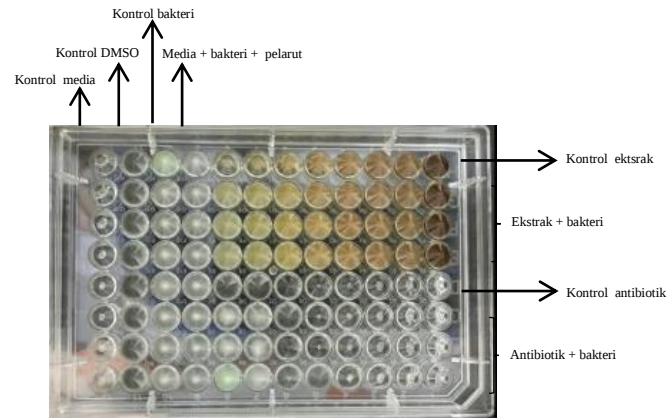


Staphylococcus aureus



Malassezia furfur

5. Mikrodilusi



Escherechia coli

	1	2	3	4	5	6	7	8	9	10	11	12
A	-	-	+	+	-	-	-	-	-	-	-	-
B	-	-	+	+	+	+	+	+	-	-	-	-
C	-	-	+	+	+	+	+	+	-	-	-	-
D	-	-	+	+	+	+	+	+	-	-	-	-
E	-	-	+	+	-	-	-	-	-	-	-	-
F	-	-	+	+	+	+	-	-	-	-	-	-
G	-	-	+	+	+	+	-	-	-	-	-	-
H	-	-	+	+	+	+	-	-	-	-	-	-

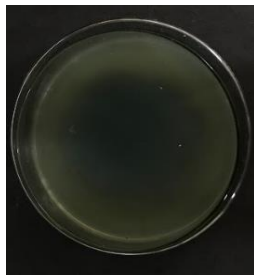
Keterangan: (-) jernih

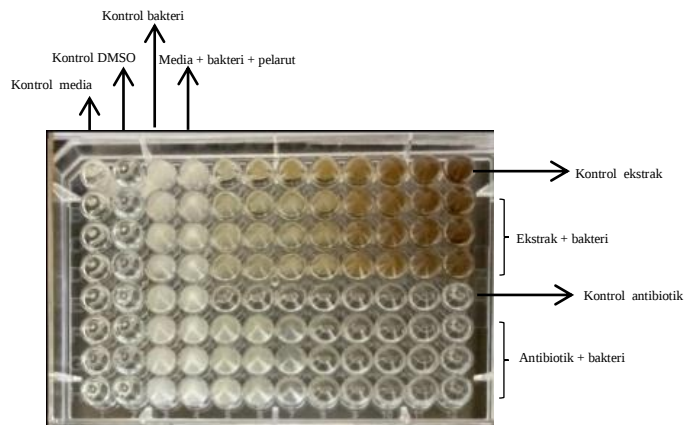
(+) keruh atau ada endapan

Perhitungan jumlah koloni

$$\% \text{ Inhibisi} = \frac{\text{jumlah koloni bakteri awal} - \text{jumlah koloni bakteri akhir}}{\text{jumlah koloni bakteri awal}} \times 100\%$$

$$= \frac{50.000 - 8}{50.000} \times 100\% = 99,98\%$$





Staphylococcus aureus

	1	2	3	4	5	6	7	8	9	10	11	12
A	-	-	+	+	-	-	-	-	-	-	-	-
B	-	-	+	+	+	+	+	+	-	-	-	-
C	-	-	+	+	+	+	+	+	-	-	-	-
D	-	-	+	+	+	+	+	+	-	-	-	-
E	-	-	+	+	-	-	-	-	-	-	-	-
F	-	-	+	+	+	+	-	-	-	-	-	-
G	-	-	+	+	+	+	-	-	-	-	-	-
H	-	-	+	+	+	+	-	-	-	-	-	-

Keterangan: (-) jernih

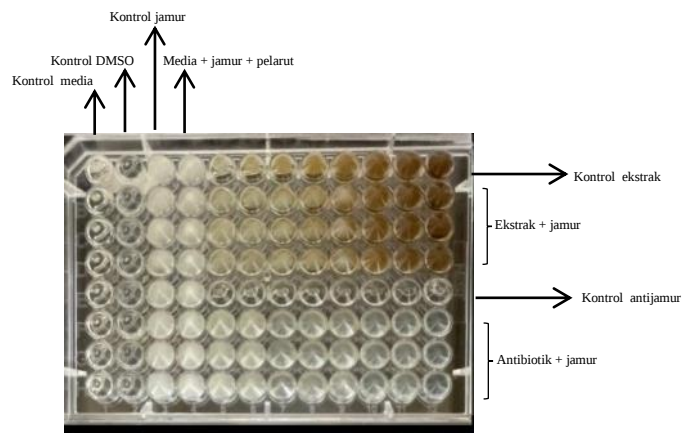
(+) keruh atau ada endapan

Perhitungan jumlah koloni



$$\% \text{ Inhibisi} = \frac{\text{jumlah koloni bakteri awal} - \text{jumlah koloni bakteri akhir}}{\text{jumlah koloni bakteri awal}} \times 100\%$$

$$= \frac{50.000 - 2}{50.000} \times 100\% = 99,99\%$$



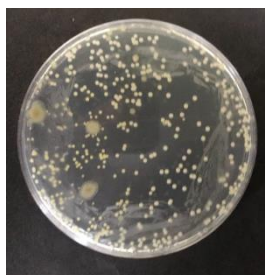
Malassezia furfur

	1	2	3	4	5	6	7	8	9	10	11	12
A	-	-	+	+	-	-	-	-	-	-	-	-
B	-	-	+	+	+	+	+	+	+	-	-	-
C	-	-	+	+	+	+	+	+	+	-	-	-
D	-	-	+	+	+	+	+	+	+	-	-	-
E	-	-	+	+	-	-	-	-	-	-	-	-
F	-	-	+	+	+	+	-	-	-	-	-	-
G	-	-	+	+	+	+	-	-	-	-	-	-
H	-	-	+	+	+	+	-	-	-	-	-	-

Keterangan: (-) jernih

(+) keruh atau ada endapan

Perhitungan jumlah koloni



$$\% \text{ Inhibisi} = \frac{\text{jumlah koloni bakteri awal} - \text{jumlah koloni bakteri akhir}}{\text{jumlah koloni bakteri awal}} \times 100\%$$

$$= \frac{50.000 - 453}{50.000} \times 100\% = 99,09\%$$

f. Hasil Kromatografi Lapis Tipis (KLT)

		
UV 254nm	UV 366nm	Hasil Penampak bercak sitroborat pada UV 366nm

$$R_f = \frac{\text{jarak tempuh analit}}{\text{jarak tempuh eluen}}$$

$$= \frac{3,2}{4,5} = 0,71$$

Lampiran 8 Hasil Turnitin

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1. Pembimbing Utama

[illegible]

2. Pembimbing Serta

[illegible]

Lampiran 10 Riwayat Hidup



BIODATA

Nama Lengkap	: Farhana Khairunnisa
Nama Panggilan	: Hana
Tempat/Tanggal Lahir	: Mudung Darat, 07 Juli 2001
Jenis Kelamin	: Perempuan
Agama	: Islam
Status Perkawinan	: Belum Kawin
Alamat	: Dusun Buyut Swalan RT.05 Desa Mudung Darat Kecamatan Maro Sebo
Email	: farhankhairunnisa2017@gmail.com
No. Telp	: +62 822-3774-1210
Anak ke	: 3 dari 3 bersaudara