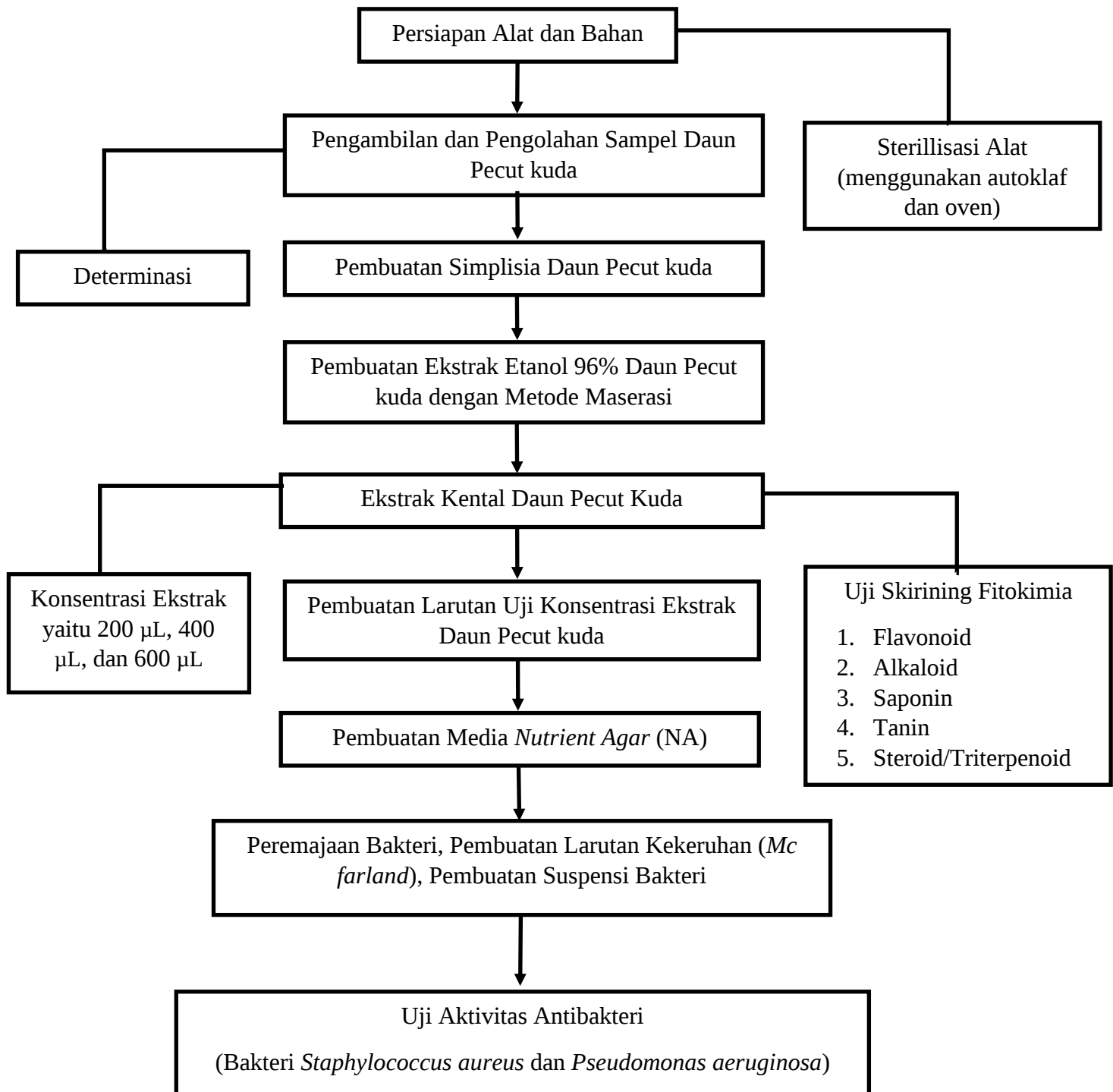
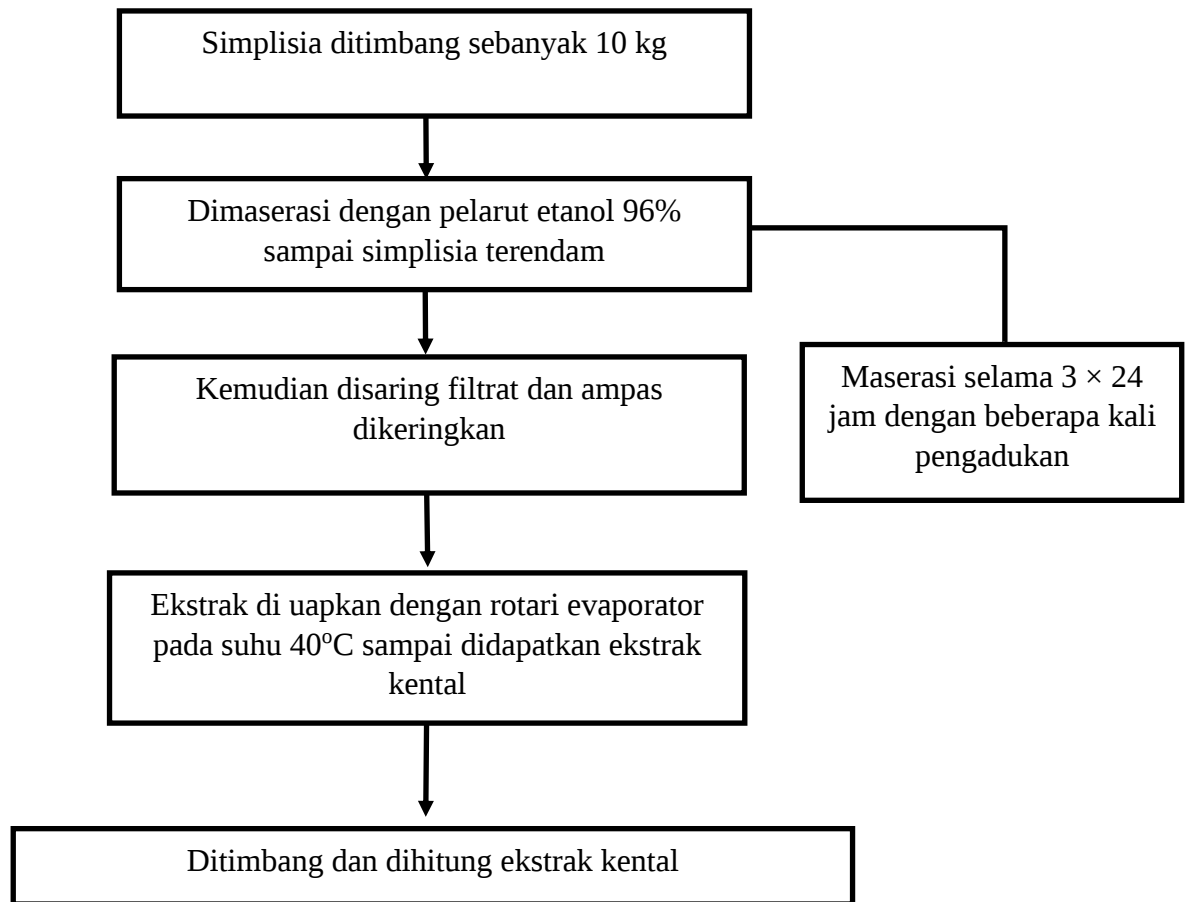


LAMPIRAN

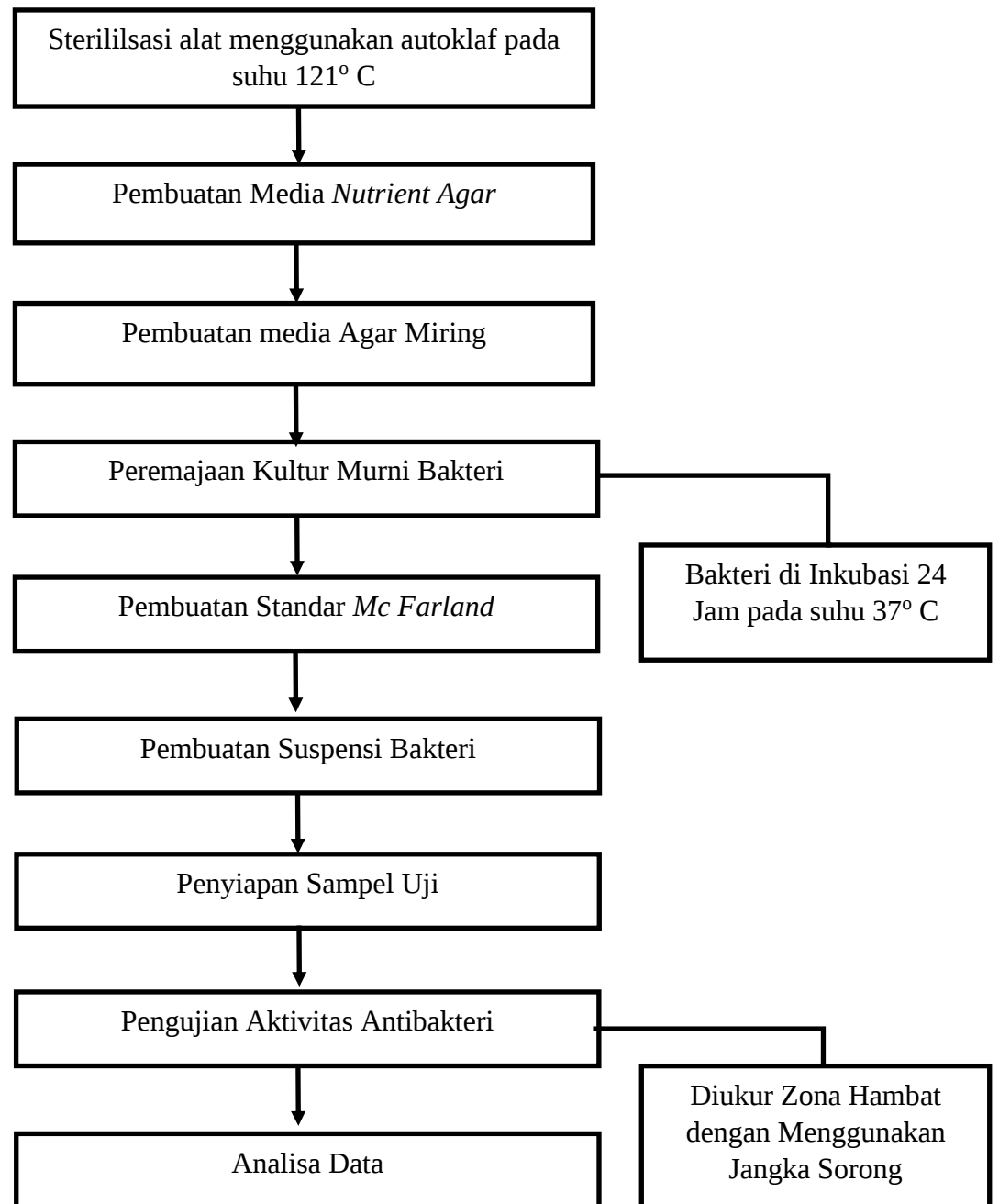
Lampiran 1. Skema Alur Penelitian



Lampiran 2. Skema Pembuatan Ekstraksi



Lampiran 3. Skema kerja uji aktivitas antibakteri



Lampiran 4. Determinasi Daun Pecut Kuda



HERBARIUM UNIVERSITAS ANDALAS (ANDA)
Departemen Biologi FMIPA Universitas Andalas Kampus Limau Manih Padang
Sumbar Indonesia 25163 Telp. +62-751-777427 e-mail: herbariumanda@yahoo.com

Nomor : 167/K-ID/ANDA/II/2025
Lampiran : -
Perihal : Hasil Identifikasi

Kepada yth,
Suhaera, S.Farm.,M.Pharm.Sci
Di
Tempat

Dengan hormat,
Sehubungan dengan surat permohonan determinasi sampel dari Institut Kesehatan Mitra Bunda No. 030/K/S1-Farmasi/IKMB/II/2025 tanggal 17 Februari 2025 di Herbarium Universitas Andalas Departemen Biologi FMIPA Universitas Andalas, kami telah membantu mengidentifikasi tumbuhan yang dibawa, dari:

Nama : Suhaera, S.Farm.,M.Pharm.Sci
Instansi : Institut Kesehatan Mitra Bunda

Berikut ini diberikan hasil identifikasi yang dikeluarkan dari Herbarium Universitas Andalas,

No	Family	Spesies
1.	Verbenaceae	<i>Stachytarpheta jamaicensis</i> (L.) Vahl

Demikian surat ini dibuat untuk dapat digunakan seperlunya.

Padang, 26 Februari 2025
Kepala,

Dr. Nurainas
NIP. 196908141995122001



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Lampiran 5. Sertifikat Bakteri *Staphylococcus aureus*

ThermoFisher SCIENTIFIC 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												
Certificate of Analysis - Certified Reference Material thermo scientific													
Thermo Scientific™ Trademark™ Product Number R4607010 Product Name S. aureus ATCC 25923 PK/5 Lot Number 162589 Usage Decision Accepted (OK) Expiration Date 2026-02-25													
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)												
<table border="1"><thead><tr><th>Microbiological testing</th><th>Results</th><th>Specification</th></tr></thead><tbody><tr><td>>85% Identification on Vitek 2C GP</td><td>99</td><td>85 - 100</td></tr><tr><td>>95% Identification on MicroSEQ</td><td></td><td>95 - 100</td></tr><tr><td>Microscopic Features</td><td>Pass</td><td></td></tr></tbody></table>		Microbiological testing	Results	Specification	>85% Identification on Vitek 2C GP	99	85 - 100	>95% Identification on MicroSEQ		95 - 100	Microscopic Features	Pass	
Microbiological testing	Results	Specification											
>85% Identification on Vitek 2C GP	99	85 - 100											
>95% Identification on MicroSEQ		95 - 100											
Microscopic Features	Pass												
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 6. Sertifikat Bakteri *Pseudomonas aeruginosa*

thermoscientific

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: P. aeruginosa ATCC 27853 PK/5
Lot Number: 571191

Product Number: R4607060
Expiration Date: 2026-04-25
(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

Morphology: Two colony types may be observed.

Lampiran 7. Peremajaan Bakteri *Staphylococcus aureus*



Lampiran 8. Peremajaan Bakteri *Pseudomonas aeruginosa*



Lampiran 9. Hasil Penetapan Kadar Air Simplisia

Berat cawan kosong (A)	Berat cawan + ekstrak sebelum di oven (B)	Berat cawan + ekstrak setelah di oven (C)	% Kadar air
75,475 g	77,450 g	P1= 77,290 g	8,25%
		P2= 77,287 g	
		P3= 77,287 g	

Perhitungan % kadar air:

$$\begin{aligned}\% \text{ Kadar Air} &= \left(\frac{(B-C)}{(B-A)} \times 100\% \right) \\ &= \left(\frac{(77,450 - 77,287)}{(77,450 - 75,475)} \times 100\% \right) \\ &= \left(\frac{(163)}{(1,975)} \times 100\% \right) \\ &= 8,25\%\end{aligned}$$

Lampiran 10. Hasil Penetapan Susut Pengeringan

Berat krus kosong (A)	Berat krus + ekstrak sebelum di oven (B)	Berat krus + ekstrak setelah di oven (C)	% Susut pengeringan
29,025 g	31,025 g	P1= 30,870 g	7,9%
		P2= 30,867 g	
		P3= 30,867 g	

$$\begin{aligned}
 \% \text{ Susut pengeringan} &= \left(\frac{(B-A)-(C-A)}{(B-A)} \times 100\% \right) \\
 &= \left(\frac{(31,025-29,025)-(30,867-29,025)}{(31,025-29,025)} \times 100\% \right) \\
 &= \left(\frac{(2,000)-(1,842)}{(2,000)} \times 100\% \right) \\
 &= 7,9\%
 \end{aligned}$$

Lampiran 11. Hasil Penetapan Kadar Abu

Berat krus kosong (A)	Berat krus + ekstrak sebelum di oven (B)	Berat krus + ekstrak setelah di oven (C)	% Kadar abu
52,130 g	54,130 g	P1= 52,257 g	6,2%
		P2= 52,254 g	
		P3= 52,254 g	

$$\begin{aligned}
 \% \text{ Kadar abu} &= \left(\frac{(C-A)}{(B-A)} \times 100\% \right) \\
 &= \left(\frac{(52,254-52,130)}{(54,130-52,130)} \times 100\% \right) \\
 &= \left(\frac{(124)}{(2000)} \times 100\% \right) \\
 &= 6,2\%
 \end{aligned}$$

Lampiran 12. Perhitungan Rendemen

$$\% \text{ Rendemen} = \frac{\text{berat ekstrak kental yang didapat}}{\text{berat simplisia yang digunakan}} \times 100\%$$

$$\% \text{ Rendemen} = \frac{203 \text{ gram}}{1,800 \text{ gram}} \times 100\%$$

$$= 11,27\%$$

Lampiran 13. Perhitungan Konsentrasi Ekstrak

- **Konsentrasi 200 µg**

$$\frac{\text{Berat ekstrak}}{\text{Volume pelarut}} = \frac{10 \text{ mg}}{1 \text{ ml}}$$

$$= 10 \text{ mg} / 1 \text{ ml}$$

$$= 10.000 \text{ µg} / 1000 \text{ µl}$$

$$= 200 \text{ µg} / 20 \text{ µl}$$

Maka timbang sebanyak 10 mg ekstrak kental dan masukkan ke dalam vial, lalu tambahkan 1 ml DMSO 10% dan homogenkan dengan alat vortex mixer.

- **Konsentrasi 400 µg**

$$\frac{\text{Berat ekstrak}}{\text{Volume pelarut}} = \frac{20 \text{ mg}}{1 \text{ ml}}$$

$$= 20 \text{ mg} / 1 \text{ ml}$$

$$= 20.000 \text{ µg} / 1000 \text{ µl}$$

$$= 400 \text{ µg} / 20 \text{ µl}$$

Maka timbang sebanyak 20 mg ekstrak kental dan masukkan ke dalam vial, lalu tambahkan 1 ml DMSO 10% dan homogenkan dengan alat vortex mixer.

- **Konsentrasi 600 µg**

$$\frac{\text{Berat ekstrak}}{\text{Volume pelarut}} = \frac{30 \text{ mg}}{1 \text{ ml}}$$

$$= 30 \text{ mg} / 1 \text{ ml}$$

$$= 30.000 \text{ µg} / 1000 \text{ µl}$$

$$= 600 \text{ µg} / 20 \text{ µl}$$

Maka timbang sebanyak 30 mg ekstrak kental dan masukkan ke dalam vial, lalu tambahkan 1 ml DMSO 10% dan homogenkan dengan alat vortex mixer.

Lampiran 14. Hasil Uji Skrining Fitokimia Ekstrak Daun Pecut Kuda

Pemeriksaan	Reagen	Hasil uji	Keterangan	Gambar
Alkaloid	Pereaksi Mayer	-	Tidak terbentuk endapan	
Flavonoid	HCl pekat dan serbuk Mg	+	Terbentuk warna kuning jingga	
Saponin	Aquadest panas dan HCl	+	Terdapat busa	
Tanin	Air panas dan FeCl ₃	+	Terbentuk warna Hijau kehitaman	

Steroid	CH ₃ COOH glassial dan H ₂ SO ₄	+	Terbentuk warna hijau kebiruan	
Terpenoid		+	Terbentuk warna merah kecokelatan	

Lampiran 15. Surat Etik

	YAYASAN HARAPAN BUNDA BATAM INSTITUT KESEHATAN MITRA BUNDA KOMITE ETIK PENELITIAN Jl. Seraya No 1 KOTA BATAM Telp/Fax (0778) 429431, website : http://ikmb.ac.id SURAT KEPUTUSAN MENTERI PENDIDIKAN DAN KEBUDAYAAN REPUBLIK INDONESIA No. 284/M/2020
KOMITE ETIK PENELITIAN INSTITUT KESEHATAN MITRA BUNDA <i>THE RESEARCH ETHICAL COMMITTEE INSTITUTE KESEHATAN MITRA BUNDA</i> SURAT KETERANGAN <i>ETHICAL APPROVAL</i> No. 120/K/KEP/IKMB/VIII/2025	
Komite Etik Penelitian Institut Kesehatan Mitra Bunda, menyatakan dengan ini bahwa penelitian dengan judul : <i>The Research Ethical Committee of Institut Kesehatan Mitra Bunda states hereby that the following proposal :</i> "Uji Aktivitas Antibakteri Ekstrak Etanol Daun Pecut Kuda (<i>Stachytarpheta jamaicensis</i>) Terhadap Bakteri <i>Staphylococcus aureus</i> dan <i>Pseudomonas aeruginosa</i>" <i>"Antibacterial Activity Test of Ethanol Extract of Horsehip Leaf (Stachytarpheta jamaicensis) Against Staphylococcus aureus and Pseudomonas aeruginosa Bacteria"</i> Peneliti Utama : Nurul Saskia <i>Principal Investigator</i> Lokasi Penelitian : Laboratorium Mikrobiologi Institut Kesehatan Mitra Bunda <i>Research Location</i> Waktu Penelitian : Juni - Agustus 2025 <i>Time Schedule</i> Responden/Subjek Penelitian : 2 Produk <i>Respondent/Research Subject</i> Telah melalui prosedur kaji etik dan dinyatakan layak untuk dilaksanakan <i>Has proceeded the ethical assessment procedure and been approved for implementation</i>	
Batam, 26 Agustus 2025 Ketua, Chairman,  dr. Ibnu Rusd, M.K.M.	

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