LAMPIRAN

Lampiran 1. Kode Etik

Lembaga Penelitian dan Pengabdian kepada Masyarakat
Universitas Muhammadiyah Palopo
Institution of Research and Community Services
Muhammadiyah University Palopo

KETERANGAN LAYAK PENELITIAN
ETHICAL APPROVAL LETTER
Nomor/Number: 393/KEP/III.3.AU/F/2026

Komisi Etik Penelitian Universitas Muhammadiyah Palopo, setelah mempelajari dan melakukan kajian etik secara seksama usulan rancangan penelitian, dengan ini menyatakan bahwa penelitian dengan:

The Research Ethics Commission of Muhammadiyah University Palopo, having thoroughly scutinized and completed ethical reviews on the research plan proposal, hereby certifies that:

Judul : **Formulasi Dan Uji Stabilitas Sediaan Toner Wajah Herbal Dengan Ekstrak Bunga Kecombrang (Etlingera Elatior) Sebagai Antijerawat**

Title : **Formulation and Stability Test of Herbal Facial Toner Preparations with Torch Ginger Flower Extract (Etlingera Elatior) as an Anti-Acne Agent**

Researcher : 1. Asmiranda
2. Apt. Waode Suiyarti, S.Si., M.Si
3. Anggra Alfian, S.Pd., M.Si

Dengan ini menyatakan bahwa protokol tersebut DITERIMA
Hereby declares that the protocol is APPROVED

Palopo, 21 Juli 2026
Ketua / Chairman

Junaidi, S.E., M.Ak., Ph.D.
NIDN.0910067705

Lampiran 2. Surat keterangan bebas laboratorium

PIMPINAN PUSAT MUHAMMADIYAH
MAJELIS PENDIDIKAN TINGGI, PENELITIAN, DAN PENGEMBANGAN
UNIVERSITAS MUHAMMADIYAH PALOPO
FAKULTAS ILMU KESEHATAN
PROGRAM STUDI FARMASI
LABORATORIUM FARMASI
Kampus: Jl. Jenderal Sudirman Km. 3 Binturu Kota Palopo
Telp/Fax. (0471) 327429 Email: institusi@umpalopo.ac.id
Website: http//www.umpalopo.ac.id

SURAT KETERANGAN
NOMOR: 057KET/III.3.AU/LAB-FARM/F/2026

Yang bertanda tangan dibawah ini :

Nama	: apt. Waode Suiyarti., S.Si., M.Si
Jabatan	: Ketua Program Studi Farmasi

Menerangkan dengan sesungguhnya bahwa :

Nama	: Asmiranda
Nim	: 221320041
Judul	: FORMULASI DAN UJI STABILITAS SEDIAAN TONER WAJAH HERBAL DENGAN EKSTRAK BUNGA KECOMBRANG (*Etlingera Elatior)* SEBAGAI ANTI JERAWAT
Fakultas/Prodi	: FIKES/ Farmasi
Perguruan Tinggi	: Universitas Muhammadiyah Palopo

Telah menyelesaikan segala kewajiban terkait dengan peminjaman/penggunaan fasilitas Laboratorium selama yang bersangkutan melaksanakan kegiatan penelitian di lingkup laboratorium Farmasi Universitas Muhammadiyah Palopo, sehingga diberikan Surat Keterangan bebas Laboratorium ini.

Demikian Surat Keterangan ini diberikan untuk dipergunakan sebagaimana mestinya.

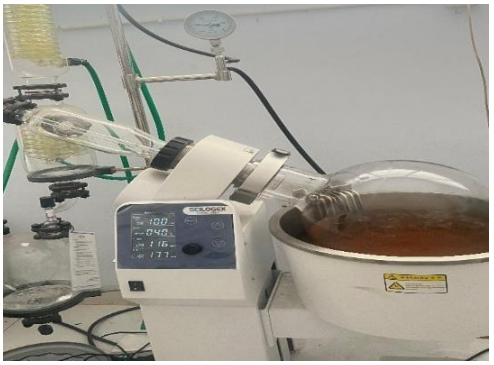
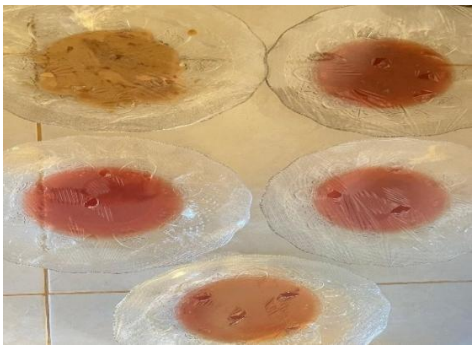
Palopo, 21 Juli 2026
Ketua Program Studi Farmasi

apt. Waode Suiyarti., S.Si., M.Si
NIDN. 0904108703

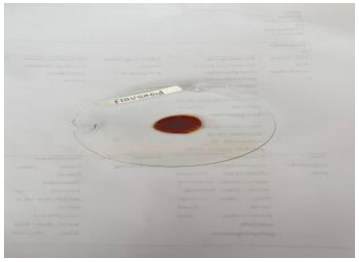
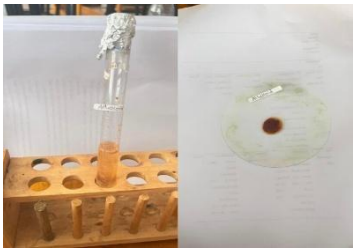
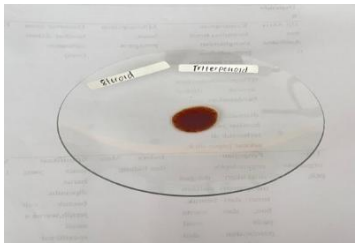
Lampiran 3. Proses pengambilan dan pengolahan sampel

Gambar	Keterangan
	Pengambilan Sampel
	Perajangan
	Proses pengeringan

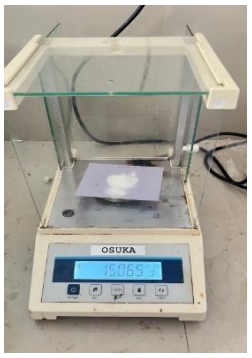
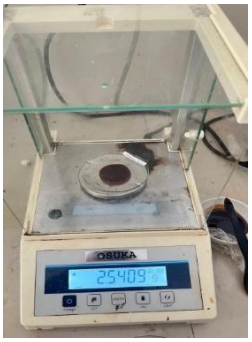
	Proses setelah pengeringan
	Proses penyerbukan simplisia
	Proses perendaman simplisia

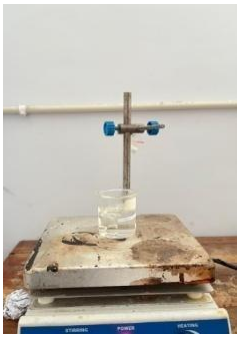
	Proses Pengentalan/ Rotary evavorator
	Proses pengeringan eksrak
	Ekstrak Kental

Lampiran 4. Proses Uji skrining fitokimia

Gambar	Keterangan
	Proses uji skrining flavanoid
	Proses uji skrining alkaloid
	Proses uji skiring terpenoid
	Proses uji skiring Tanin
	Proses uji skrining Saponin

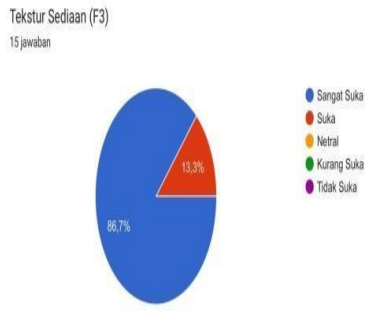
Lampiran 5. Proses pembuatan sediaan toner

Gambar	Keterangan
	Proses penimbangan cawan kosong
	Proses penimbagan bobot ekstrak
	Proses penimbagan bahan
	Proses penimbagan esktrak

	Proses pemanasan aquadest
	Proses pencampuran bahan
	Hasil dari semua pencampuran
	Proses kalibrasi

	Setelah hasil proses kalibrasi
	Proses memasukkan toner kedalam wadah
	Hasil pembuatan tonr

Lampiran 6. Proses Evaluasi toner

Gambar	Keterangan
	Proses uji organoleptik
	Proses uji homogenitas
	Proses uji Ph
	Proses uji hedonik

	Proses uji iritasi

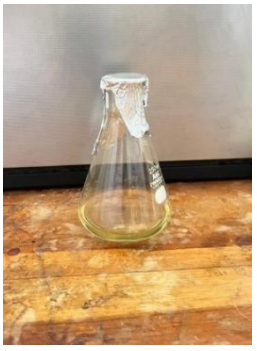
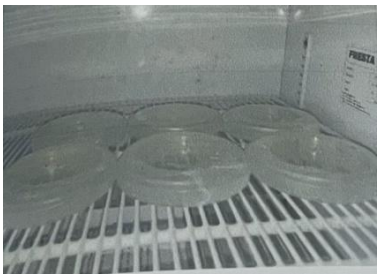
Lampiran 7. Proses sterilisasi alat dan media

Gambar	Keterangan
	Sterilisasi alat
	Sterilisasi menggunakan oven
	Sterilisasi media menggunakan autoklaf

Lampiran 8. Proses peremajaan dan penanaman bakteri

Gambar	Keterangan
	Pembuatan media Na
	Melarutkan media
	Penanaman bakteri
	Penanaman bakteri

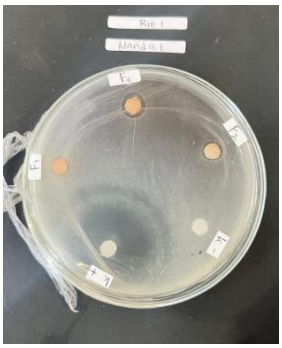
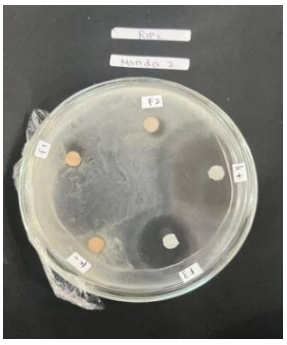
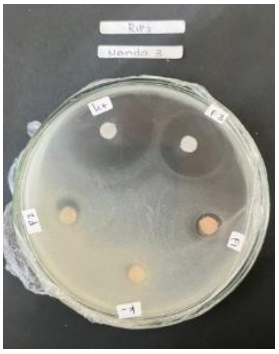
Lampiran 9. proses inkubasi

Gambar	Keterangan
	Media Na
	Media NB
	Media agar

Lampiran 10. Proses pembuatan larutan uji

Gambar	Keterangan
	Larutan konsentrasi 5%
	Larutan konsentrasi 10%
	Larutan konsentrasi 15%
	Kontrol positif (clindamisin)

Lampiran 11. hasil uji zona hambat

Gambar	Keterangan
	Hasil uji zona hambat replika 1
	Hasil uji zona hambat replika 2
	Hasil uji zona hambat replika 3

Lampiran 12. Perhitungan Bahan

1. **F0**

   Gliserin 2 % $= \frac{2}{100}\ x\ 50 = 1$ gr

   Natrium metabisulfit 0,1 % $= \frac{0,1}{100}\ x\ 50 = 0,05$ gr

   NaCMC 3 % $= \frac{3}{100}\ x\ 50 = 1,5$ gr

   Nipagin 0,1 % $= \frac{0,1}{100}\ x\ 50 = 0,5$ gr

   Aquadest ad $50 = 50\ -(1 + 0,05 + 1,5 + 0,5)$

   = 50 – 3,05

   = 47 ml

2. **F1**

   Ekstrak 5 % $= \frac{5}{100}\ x\ 50 = 2,5$ gr

   Gliserin 2 % $= \frac{2}{100}\ x\ 50 = 1$ gr

   Natrium metabisulfit 0,1 % $= \frac{0,1}{100}\ x\ 50 = 0,05$ gr

   NaCMC 3 % $= \frac{3}{100}\ x\ 50 = 1,5$ gr

   Nipagin 0,1 % $= \frac{0,1}{100}\ x\ 50 = 0,5$ gr

   Aquadest ad $50 = 50\ -(2,5 + 1 + 0,05 + 1,5 + 0,5)$

   = 50 – 5,1

   = 45 ml

3. **F2**

   Ekstrak 10 % $= \frac{10}{100}\ x\ 50 = 5$ gr

   Gliserin 2 % $= \frac{2}{100}\ x\ 50 = 1$ gr

   Natrium metabisulfit 0,1 % $= \frac{0,1}{100}\ x\ 50 = 0,05$ gr

   NaCMC 3 % $= \frac{3}{100}\ x\ 50 = 1,5$ gr

   Nipagin 0,1 % $= \frac{0,1}{100}\ x\ 50 = 0,5$ gr

   Aquadest ad $50 = 50\ -(5 + 1 + 0,05 + 1,5 + 0,5)$

   = 50 – 7,6

   = 42,4 ml

4. F3

Ekstrak 15 % $= \frac{15}{100}\ x\ 50 = 7{,}5$ gr

Gliserin 2 % $= \frac{2}{100}\ x\ 50 = 1$ gr

Natrium metabisulfit 0,1 % $= \frac{0{,}1}{100}\ x\ 50 = 0{,}05$ gr

NaCMC 3 % $= \frac{3}{100}\ x\ 50 = 1{,}5$ gr

Nipagin 0,1 % $= \frac{0{,}1}{100}\ x\ 50 = 0{,}5$ gr

Aquadest ad $50 = 50\ - (7{,}5 + 1 + 0{,}05 + 1{,}5 + 0{,}5)$

$= 50 - 10{,}05$

$= 39{,}95$ ml

Lampiran 13. Perhitungan Zona Hambat

1. Replikasi 1

K+ = 28,8 + 35,1 = 63,9
= 63,9 : 2
= 31,95
K- = -
F1 = 7,6 + 7,5 = 15
= 15 : 2
= 7,55
F2 = 7,5 + 8,6 = 16,1
= 16,1 : 2
= 8,05
F3 = 9,8 + 10,8 = 20,6
= 20,6 : 2
= 10,3

2. Replikasi 2

K+ = 28,7 + 31,2 = 59,9
= 59,9 : 2
= 29,95
K- = -
F1 = 9,4 + 8,2 = 15
= 17,6 : 2
= 8,8
F2 = 8,5 + 8,1 + 9,6 + 8 = 34,2
= 34,2 : 2
= 6,84
F3 = 22,3 + 23,2 = 45,5
= 45,5 : 2
= 22, 75

3. Replikasi 3

K+ = 33,2 + 29,1 = 62,3
= 62,3 : 2

= 31,15

K- = -

F1 = 8,4 + 8,3 = 16,7

= 16,7 : 2

= 8,35

F2 = 10,9 + 9,7 = 20,6

= 20,6 : 2

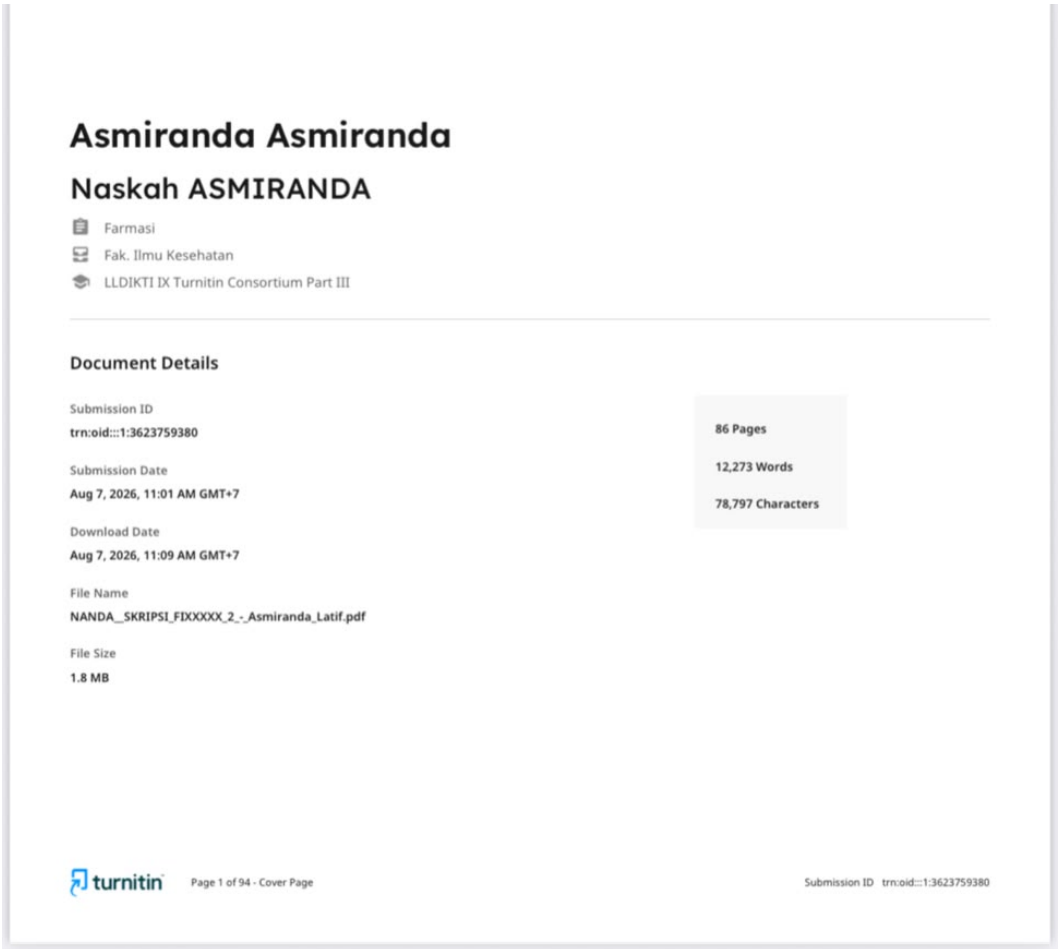
= 10,3

F3 = 24,9 + 23,4 = 48,3

= 28,3 : 2

= 24,15

Lampiran 14. Uji Turnitin



Asmiranda Asmiranda

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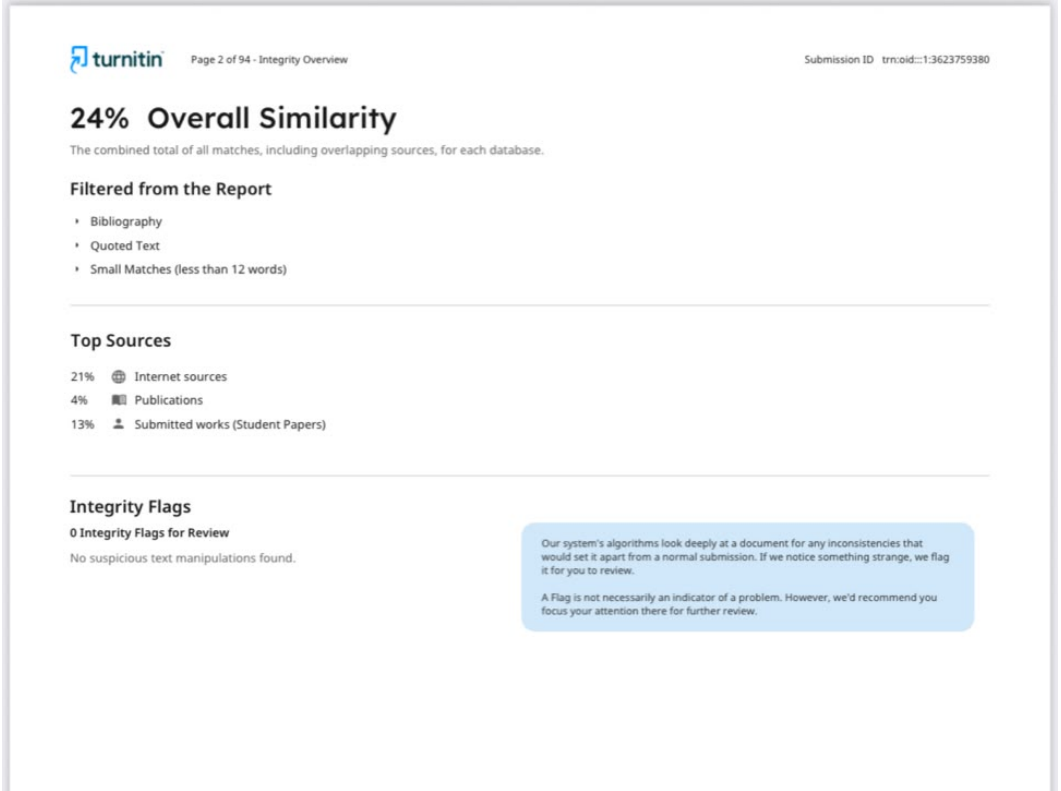

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