

LAMPIIRAN

Lampiran 1. Perhitungan

a. F0 (Basis salep)

CMC-Na	$= \frac{0,5}{100} \times 60 = 0,3 \text{ gr}$
Nipagin	$= \frac{0,1}{100} \times 60 = 0,06 \text{ gr}$
Sorbitol	$= \frac{0,2}{100} \times 60 = 0,12 \text{ gr}$
Propilenglikol	$= \frac{0,25}{100} \times 60 = 0,15 \text{ gr}$
Asam askorbat	$= \frac{0,1}{100} \times 60 = 0,06 \text{ gr}$
Aquadest ad	$= 60 - (0,3 + 0,06 + 0,12 + 0,15 + 0,06)$ $= 60 - 0,69$ $= 59,31$

b. FI (Konsentrasi 1%)

Ekstrak Daun Sambiloto	$= \frac{1}{100} \times 60 = 0,6 \text{ gr}$
CMC-Na	$= \frac{0,5}{100} \times 60 = 0,3 \text{ gr}$
Nipagin	$= \frac{0,1}{100} \times 60 = 0,06 \text{ gr}$
Sorbitol	$= \frac{0,2}{100} \times 60 = 0,12 \text{ gr}$
Propilenglikol	$= \frac{0,25}{100} \times 60 = 0,15 \text{ gr}$
Asam askorbat	$= \frac{0,01}{100} \times 60 = 0,06 \text{ gr}$
Aquadest ad	$= 60 - (0,6 + 0,3 + 0,06 + 0,12 + 0,15 + 0,06)$ $= 60 - 1,29 = 58,71$

c. FII(Konsentrasi 3%)

$$\begin{aligned}
 \text{Ekstrak Daun Sambiloto} &= \frac{3}{100} \times 60 = 1,8 \text{ gr} \\
 \text{CMC-Na} &= \frac{0,5}{100} \times 60 = 0,3 \text{ gr} \\
 \text{Nipagin} &= \frac{0,1}{100} \times 60 = 0,06 \text{ gr} \\
 \text{Sorbitol} &= \frac{0,2}{100} \times 60 = 0,12 \text{ gr} \\
 \text{Propilenglikol} &= \frac{0,25}{100} \times 60 = 0,15 \text{ gr} \\
 \text{Asam askorbat} &= \frac{0,1}{100} \times 60 = 0,06 \text{ gr} \\
 \text{Aquadest ad} &= 60 - (1,8 + 0,3 + 0,06 + 0,12 + 0,15 + 0,06) \\
 &= 60 - 2,49 \\
 &= 57,51
 \end{aligned}$$

d. FIII(Konsentrasi 5%)

$$\begin{aligned}
 \text{Ekstrak Daun Sambiloto} &= \frac{5}{100} \times 60 = 3 \text{ gr} \\
 \text{CMC-Na} &= \frac{0,1}{100} \times 60 = 0,3 \text{ gr} \\
 \text{Nipagin} &= \frac{0,1}{100} \times 60 = 0,06 \text{ gr} \\
 \text{Sorbitol} &= \frac{0,2}{100} \times 60 = 0,12 \text{ gr} \\
 \text{Propilenglikol} &= \frac{0,25}{100} \times 60 = 0,15 \text{ gr} \\
 \text{Asam askorbat} &= \frac{0,1}{100} \times 60 = 0,06 \text{ gr} \\
 \text{Aquadest ad} &= 60 - (3 + 0,3 + 0,06 + 0,12 + 0,15 + 0,06) \\
 &= 60 - 3,69 \\
 &= 56,31
 \end{aligned}$$

e. Bobot jenis F0

$$BJ = \frac{47,4-22}{47,4-22} = 1,00 \text{ g/mL}$$

f. Bobot jenis FI

$$BJ = \frac{47,6-22}{47,4-22} = 1,01 \text{ g/mL}$$

g. Bobot jenis FII

$$BJ = \frac{47,6-22}{47,4-22} = 1,01 \text{ g/mL}$$

h. Bobot jenis FIII

$$BJ = \frac{47,7-22}{47,4-22} = 1,01 \text{ g/mL}$$

Lampiran 2. Dokumentasi preparasi sampel daun sambiloto

No	Gambar	Keterangan
1		Pengambilan tanaman daun sambiloto (<i>Andrographis paniculata</i> N.).
2		Pembersihan daun sambiloto (<i>Andrographis paniculata</i> N.) menggunakan air mengalir
3		Proses perajangan daun sambiloto (<i>Andrographis paniculata</i> N.).

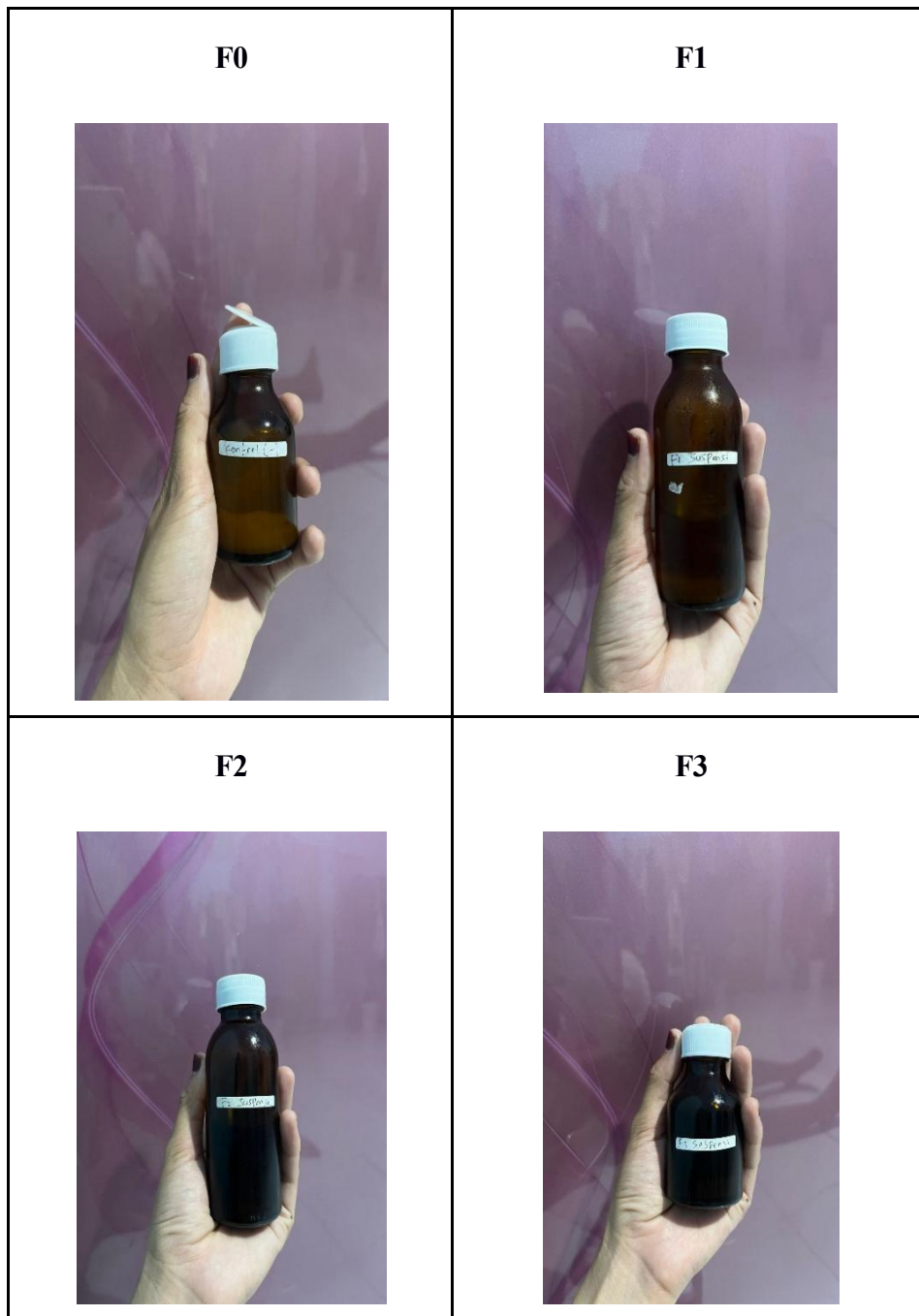
4		Proses pengeringan daun sambiloto (<i>Andrographis paniculata N.</i>) dengan di angin anginkan.
5		Proses penghalusan daun sambiloto (<i>Andrographis paniculata N.</i>) menggunakan blender.
6		Gambar etanol 96%, sebagai pelarut untuk maserasi serbuk daun sambiloto (<i>Andrographis paniculata N.</i>).

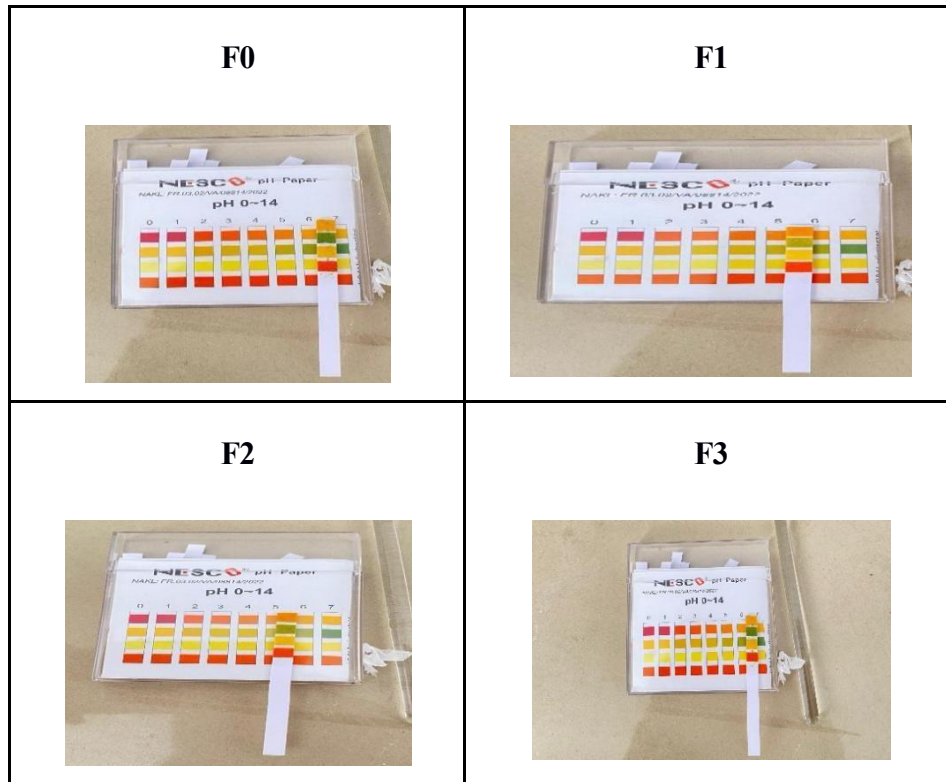
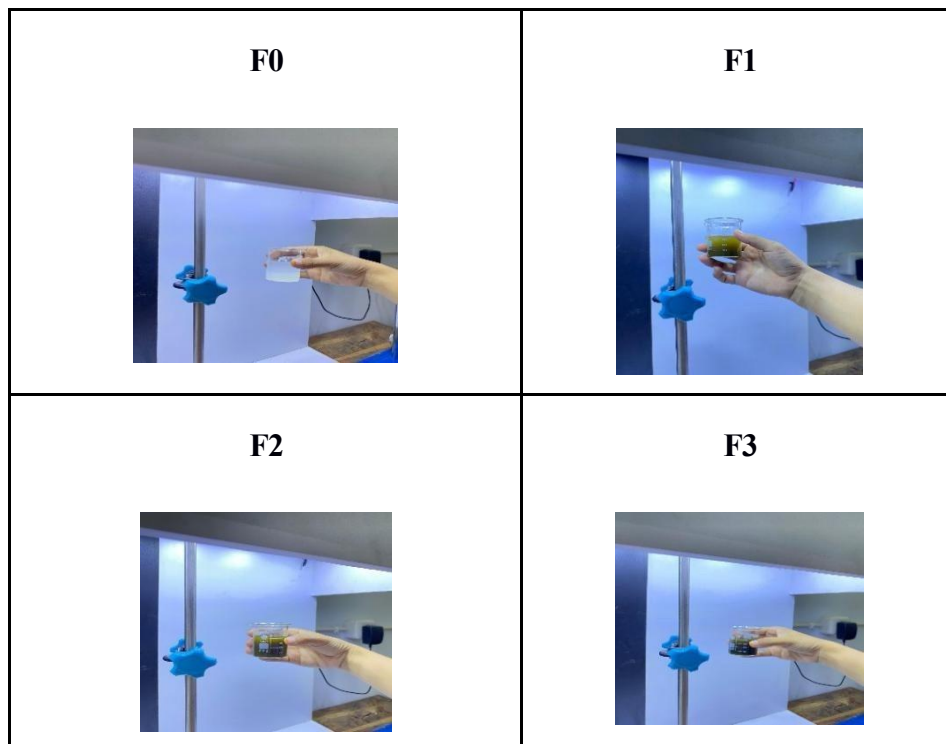
7		Proses maserasi serbuk daun sambiloto (<i>Andrographis paniculata</i> N.) dengan etanol 96%.
8		Proses penyaringan dengan alat filtrasi vakum.
9		Proses penguapan menggunakan rotary evaporator dengan suhu 40 C untuk mendapatkan ekstrak kental.
10		Gambar ekstrak kental yang di peroleh.

Lampiran 3. Gambar bahan yang digunakan dalam formulasi sediaan suspensi

No	Gambar	Keterangan
1		Na-CMC
2		Nipagin
3		Sorbitol

4		Propilenglikol
5		Asam askorbat
6		Minyak jeruk

Lampiran 4. Dokumentasi hasil uji organoleptik dan sediaan suspensi

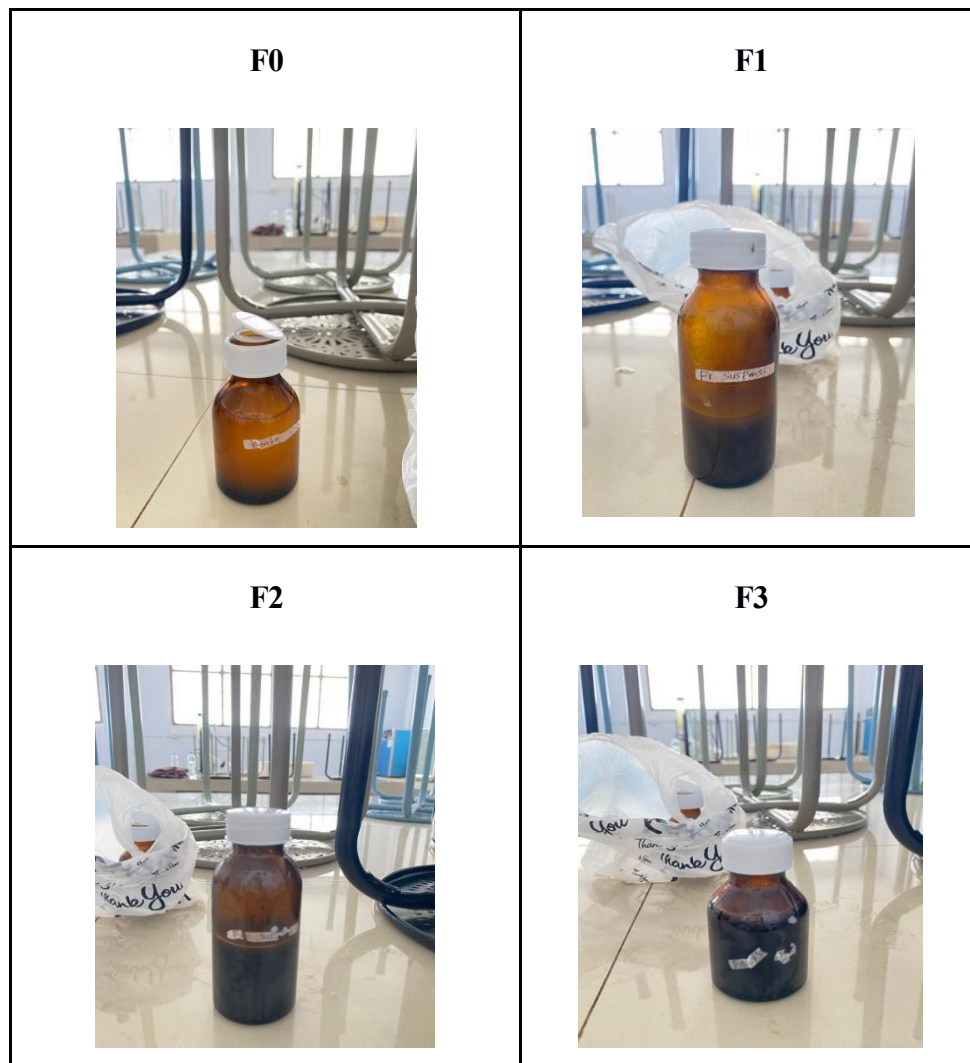
Lampiran 5. Dokumentasi hasil uji pH**Lampiran 6. Dokumentasi hasil homogenitas**

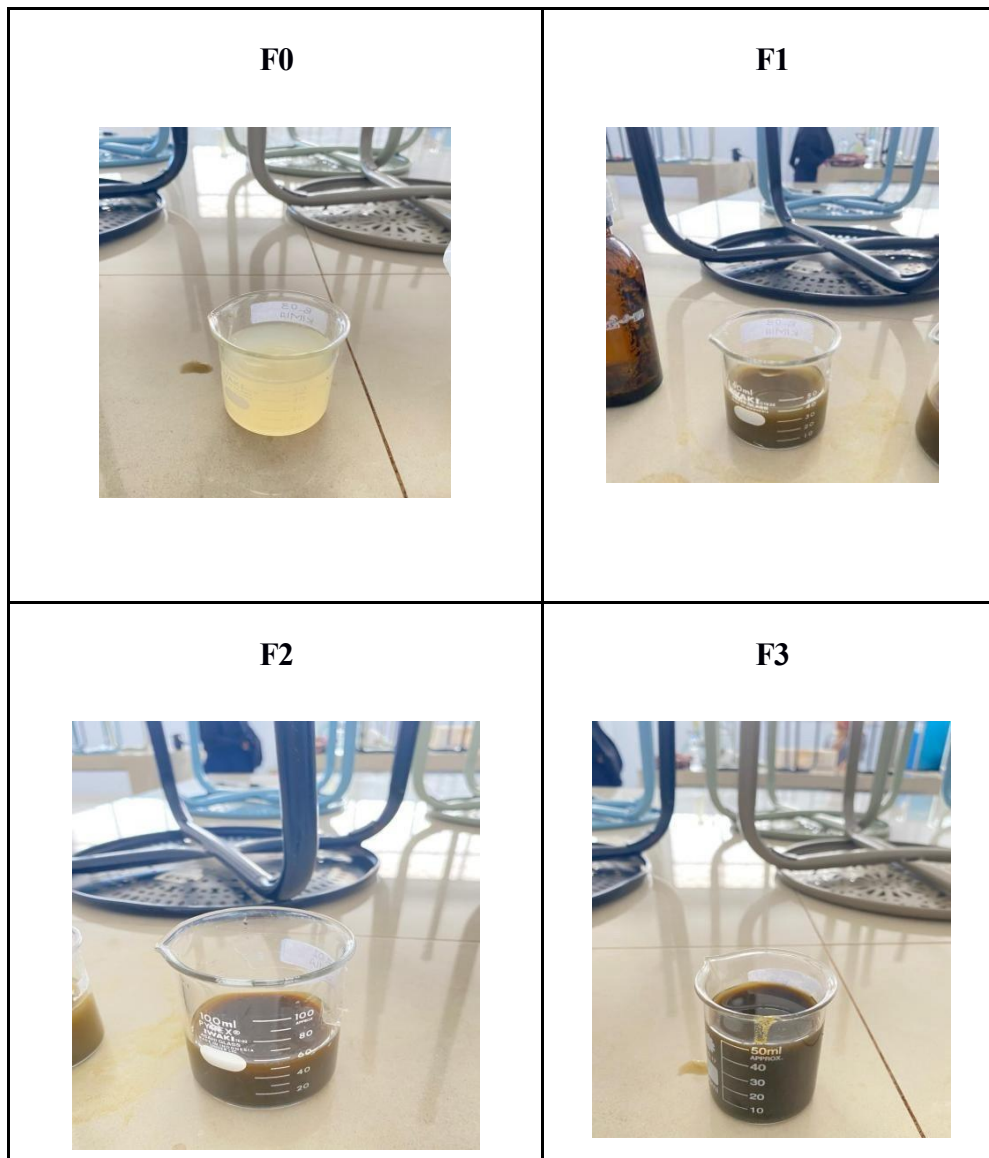
Lampiran 7. Dokumentasi hasil uji bobot jenis

F0 	F1 
F2 	F3 

Lampiran 8. Dokumentasi hasil uji viskositas

F0 	F1 
F2 	F3 

Lampiran 9. Dokumentasi hasil uji redispersi**Lampiran 10.** Dokumentasi hasil uji sedimentasi



Lampiran 11. Dokumentasi hasil *In silico*

Knapsack

input: CC1=CC=CC=C1 → CC1=CC=CC=C1

Number	Chemical Name	Chemical Structure	Chemical Formula	Molecular Weight	Organism or Activity etc.
1	1,2,3,4,5,6-hexachlorocyclohexane	<chem>ClC1(Cl)CC(Cl)(Cl)CC(Cl)(Cl)C1</chem>	C ₆ H ₀ Cl ₆	290.9347	Anticancer agent
2	1,2,3,4,5,6-hexachlorocyclohexane	<chem>ClC1(Cl)CC(Cl)(Cl)CC(Cl)(Cl)C1</chem>	C ₆ H ₀ Cl ₆	290.9347	Anticancer agent
3	1,2,3,4,5,6-hexachlorocyclohexane	<chem>ClC1(Cl)CC(Cl)(Cl)CC(Cl)(Cl)C1</chem>	C ₆ H ₀ Cl ₆	290.9347	Anticancer agent
4	1,2,3,4,5,6-hexachlorocyclohexane	<chem>ClC1(Cl)CC(Cl)(Cl)CC(Cl)(Cl)C1</chem>	C ₆ H ₀ Cl ₆	290.9347	Anticancer agent
5	1,2,3,4,5,6-hexachlorocyclohexane	<chem>ClC1(Cl)CC(Cl)(Cl)CC(Cl)(Cl)C1</chem>	C ₆ H ₀ Cl ₆	290.9347	Anticancer agent
6	1,2,3,4,5,6-hexachlorocyclohexane	<chem>ClC1(Cl)CC(Cl)(Cl)CC(Cl)(Cl)C1</chem>	C ₆ H ₀ Cl ₆	290.9347	Anticancer agent
7	1,2,3,4,5,6-hexachlorocyclohexane	<chem>ClC1(Cl)CC(Cl)(Cl)CC(Cl)(Cl)C1</chem>	C ₆ H ₀ Cl ₆	290.9347	Anticancer agent
8	1,2,3,4,5,6-hexachlorocyclohexane	<chem>ClC1(Cl)CC(Cl)(Cl)CC(Cl)(Cl)C1</chem>	C ₆ H ₀ Cl ₆	290.9347	Anticancer agent
9	1,2,3,4,5,6-hexachlorocyclohexane	<chem>ClC1(Cl)CC(Cl)(Cl)CC(Cl)(Cl)C1</chem>	C ₆ H ₀ Cl ₆	290.9347	Anticancer agent
10	1,2,3,4,5,6-hexachlorocyclohexane	<chem>ClC1(Cl)CC(Cl)(Cl)CC(Cl)(Cl)C1</chem>	C ₆ H ₀ Cl ₆	290.9347	Anticancer agent

Way2drug

Chemical structure: CC1=CC=CC=C1

Get prediction

Score	Drug Name
0.798	1,2,3,4,5,6-hexachlorocyclohexane
0.695	0.028 Cyclopropanol
0.584	0.037 Prostaglandin-H2 synthase inhibitor
0.572	0.017 Antipyrone (Leishmaniasis)
0.562	0.027 Antifungal
0.550	0.012 Anticancer
0.547	0.019 Anticancer (colorectal cancer)
0.538	0.010 Anticancer (colorectal cancer)
0.569	0.005 Mucopolysaccharide 2-sulpho-N-acetylglucosaminyl transferase inhibitor

SwissADME

Chemical structure: CC1=CC=CC=C1

Parameter	Value
Molecular Weight	106.0948
Topological Polar Surface Area	17.07
Number of Hydrogen Bond Donors	0
Number of Hydrogen Bond Acceptors	0
Number of Rotatable Bonds	0
Number of Rings	1
Number of Aromatic Rings	1
Number of Aliphatic Rings	0
Number of H-bond Donors	0
Number of H-bond Acceptors	0
Number of Rotatable Bonds	0
Number of Rings	1
Number of Aromatic Rings	1
Number of Aliphatic Rings	0

Protox-3.0

Chemical structure: CC1=CC=CC=C1

Oral toxicity prediction results for input compound

Predicted LD50: 1180mg/kg

Predicted Toxicity Class: 4

Average similarity: 100%

Prediction accuracy: 100%

Comparison of input compound with dataset compounds

Parameter	Value
Number of Hydrogen Bond Donors	0
Number of Hydrogen Bond Acceptors	0
Number of Rotatable Bonds	0
Number of Rings	1
Number of Aromatic Rings	1
Number of Aliphatic Rings	0



MAJELIS PENDIDIKAN TINGGI, PENELITIAN DAN PENGEMBANGAN
UNIVERSITAS MUHAMMADIYAH PALOPO
LEMBAGA PENELITIAN DAN PENGABDIAN KEPADA
MASYARAKAT (LPPM)

Lt. 2 Gedung MCC Universitas Muhammadiyah Palopo
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Nomor : 565/III.3.AU/LPPM/F/2025
Lampiran : -
Perihal : Permohonan Izin Penelitian

Palopo, 15 Oktober 2025

Kepada Yth
Kepala Laboratorium Farmasi UMPalopo
Di
Tempat

Assalamu 'alaikum warahmatullahi wabarakatuh

Dengan hormat, disampaikan bahwa dalam rangka pelaksanaan penelitian Mahasiswa Universitas Muhammadiyah Palopo, mohon kiranya diberikan izin kepada:

Nama : Sartika
NIM : 221320009
Jurusan : S1 Farmasi
Alamat : Citra Graha, Kota Palopo
Jenis Kelamin : Perempuan
No. Telp/WA : 085946838276

Untuk melakukan penelitian dengan judul **“PENGEMBANGAN SUSPensi EKSTRAK SAMBILOTO (*Andrographis paniculata* N) DENGAN AKTIVITAS ANTIMALARIA: PENDEKATAN STUDI IN SILICO DAN UJI STABILITAS FISIK**” penelitian akan dilaksanakan pada bulan **Oktober** hingga **Desember 2025**.

Demikian permohonan dari kami, atas kerjasama yang baik diucapkan terima kasih.

Wassalamu 'alaikum warahmatullahi wabarakatuh

Ka.LPPM,



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