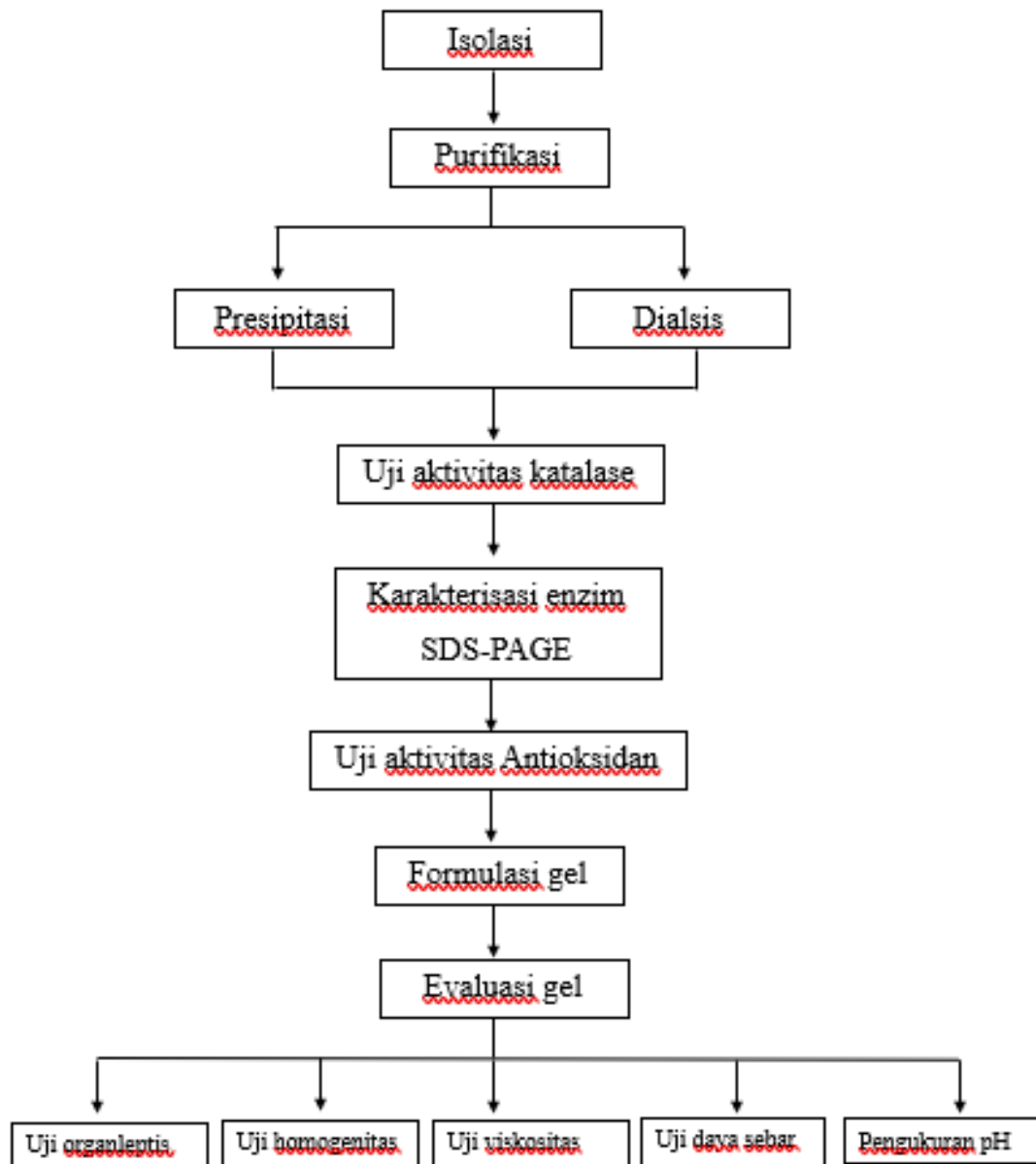


LAMPIRAN

Lampiran 1 Alur penelitian



Lampiran 2 Determinasi daun pegagan (*Centella asiatica* L.)



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SEKOLAH ILMU DAN TEKNOLOGI HAYATI

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e-mail: sith@itb.ac.id http://www.sith.itb.ac.id

Nomor : 6543/IT1.C11.2/TA.00/2021
Hal : Determinasi tumbuhan

13 Desember 2021

Kepada Yth.
Dekan
Fakultas Farmasi
Universitas Bhakti Kencana
Jalan Soekarno Hatta No. 754
Bandung

Memperhatikan surat permintaan Saudara dalam surat No. 1288/03.FF/UBK/XI/2021 tanggal 29 November 2021 mengenai determinasi tumbuhan, dengan ini kami sampaikan bahwa setelah dilakukan determinasi oleh staf kami, sampel tumbuhan yang dikirim oleh Sdr. Desti Astriyani (NPM: 11181198), adalah :

No	Nama sampel	Hasil determinasi	Famili
1	Pegagan	<i>Centella asiatica</i> (L.) Urb.	Apiaceae

Referensi:

1. Backer, C.A., & Bakhuizen van den Brink, R.C. (1965). *Flora of Java*. Vol. II. Groningen, The Netherlands: NVP Noordhoff. pp. 173.

Demikian yang kami sampaikan. Atas perhatian dan kerjasama yang diberikan, kami ucapkan terima kasih.



Wakil Dekan Bidang Sumber Daya,

Dr. Angga Dwiartama
NIP. 198302052012121002

Tembusan:
Dekan SITH ITB, sebagai laporan.

Terakreditasi oleh :

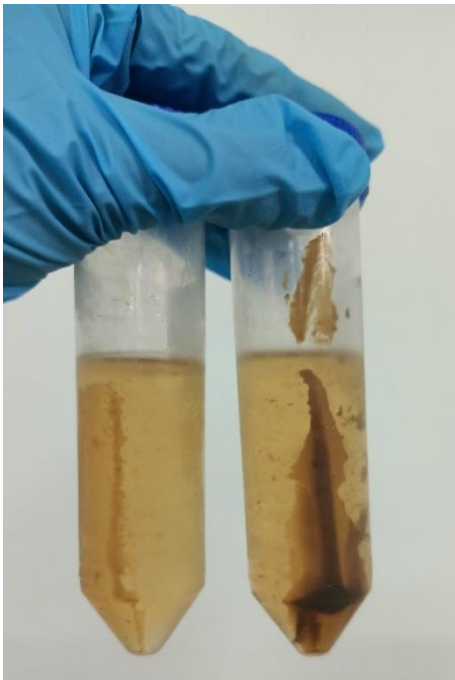


Lampiran 3 Konsentrasi penambahan ammonium sulfat

Initial concentration of ammonium sulfate (percentage saturation at 0 °C)	Percentage saturation at 0 °C																	
	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100	
	Solid ammonium sulfate (g) to be added to 1 l of solution																	
0	106	134	164	194	226	258	291	326	361	398	436	476	516	559	603	650	697	
5	79	108	137	166	197	229	262	296	331	368	405	444	484	526	570	615	662	
10	53	81	109	139	169	200	233	266	301	337	374	412	452	493	536	581	627	
15	26	54	82	111	141	172	204	237	271	306	343	381	420	460	503	547	592	
20	0	27	55	83	113	143	175	207	241	276	312	349	387	427	469	512	557	
25		0	27	56	84	115	146	179	211	245	280	317	355	395	436	478	522	
30			0	28	56	86	117	148	181	214	249	285	323	362	402	445	488	
35				0	28	57	87	118	151	184	218	254	291	329	369	410	453	
40					0	29	58	89	120	153	187	222	258	296	335	376	418	
45						0	29	59	90	123	156	190	226	263	302	342	383	
50							0	30	60	92	125	159	194	230	268	308	348	
55								0	30	61	93	127	161	197	235	273	313	
60									0	31	62	95	129	164	201	239	279	
65										0	31	63	97	132	168	205	244	
70											0	32	65	99	134	171	209	
75												0	32	66	101	137	174	
80													0	33	67	103	139	
85														0	34	68	105	
90															0	34	70	
95																0	35	
100																	0	

Lampiran 4 Penyiapan sari pegagan (*Centella asiatica* L.)

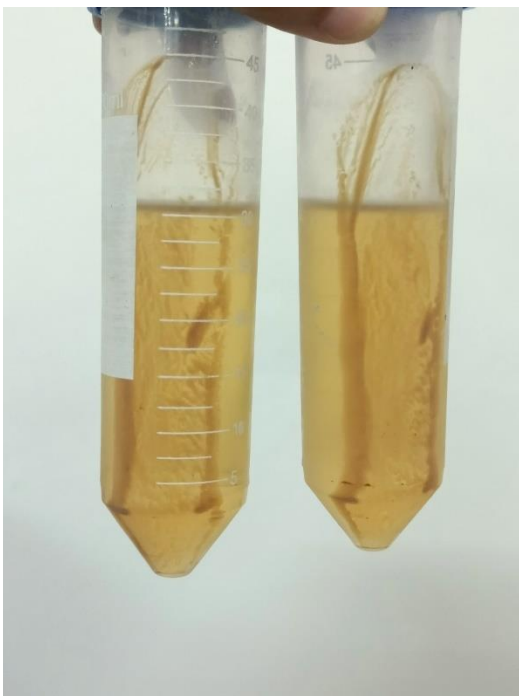


Lampiran 5 presipitasi amonium sulfat

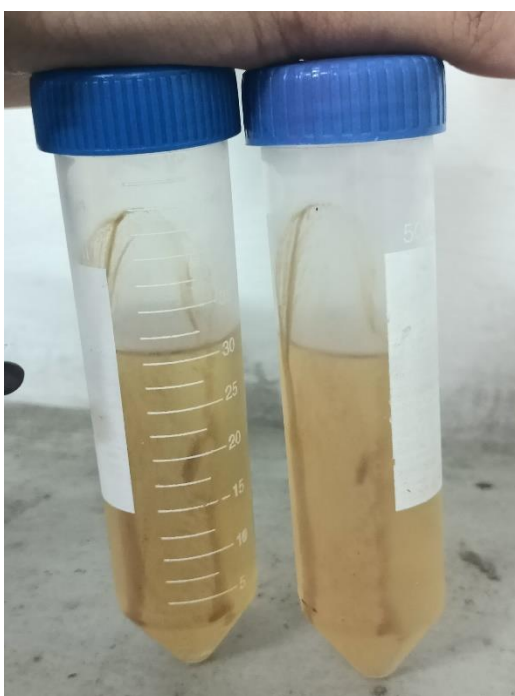
Presipitasi amonium sulfat 0-20%



presipitasi amonium sulfat 20-40%



Preipitasi amonium sulfat 40-60%

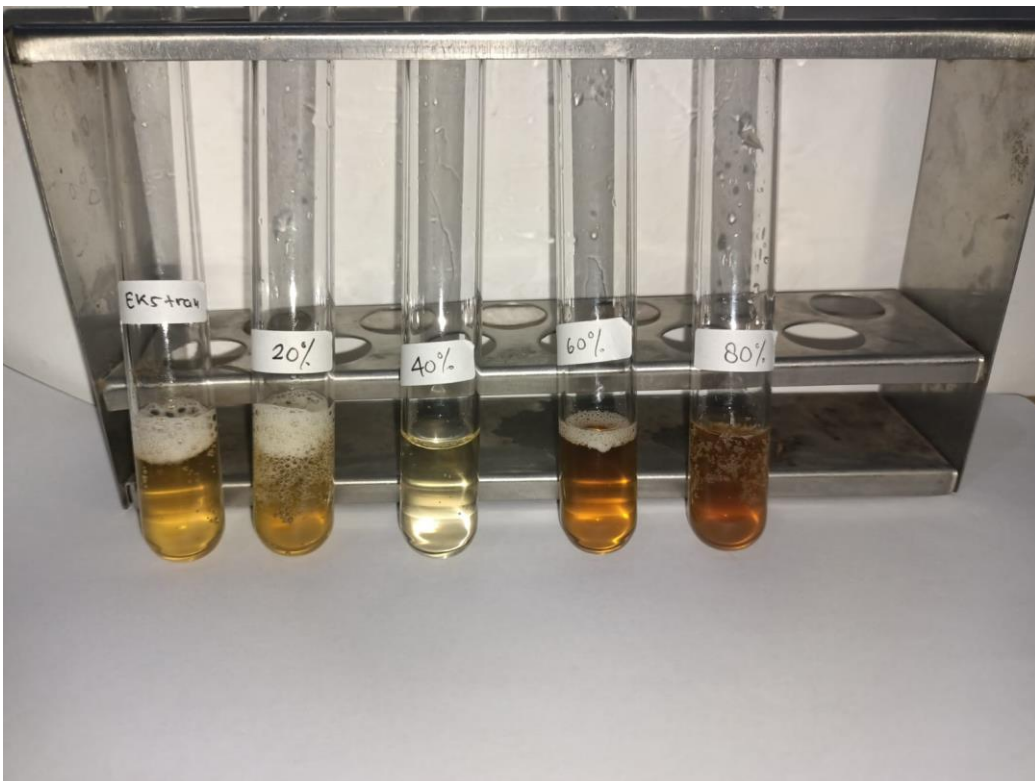


presipitasi amonium sulfat 60-80%

Lampiran 6 Dialisis



Lampiran 7 Uji penetesan H_2O_2



Lampiran 8 Uji aktivitas enzim

Sampel	absorbansi 1	absorbansi 2	rata-rata	U/mg
Ekstrak	0,626	0,712	0,669	2,958
pelet 20%	0,154	0,155	0,155	40,267
pelet 40%	0,155	0,157	0,156	40,667
pelet 60%	0,626	0,618	0,622	164,933
pelet 80%	0,39	0,373	0,382	100,800

Lampiran 9 Uji aktivitas antioksidan

sampel	konsentrasi DPPH	absorbansi	% inhibisi	rata-rata	SD
DPPH	0,744 0,745			0,7445	
20	0,7445 0,7445	0,478 0,478	35,7958 35,7958	35,7958	0,00000
40	0,7445 0,7445	0,461 0,46	38,0792 38,2136	38,1464	0,06716
60	0,7445 0,7445	0,45 0,449	39,5567 39,6911	39,6239	0,06716
80	0,7445 0,7445	0,436 0,435	41,4372 41,5715	41,5044	0,06716

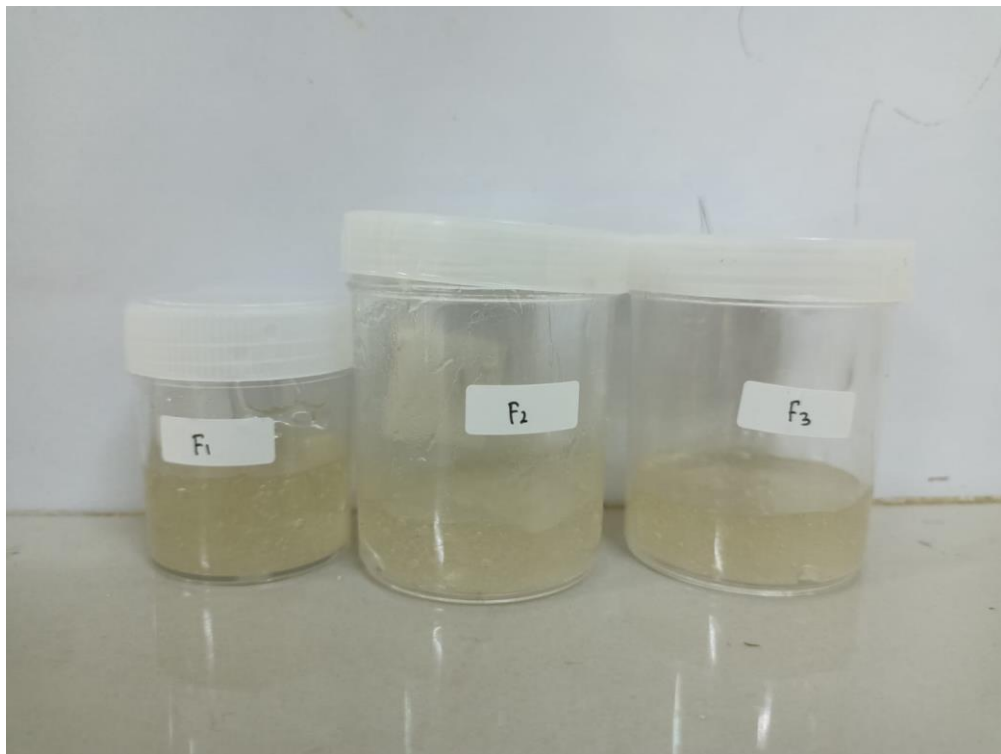
Lampiran 10 komposisi gel elektroforesis SDS-PAGE

Komposisi *separating* gel 12,5%

Nama bahan	Jumlah
akrilamid	0,67 mL
Resolving buffer	4,0 mL
dH ₂ O	5,05 mL
SDS 10%	0,16 mL
APS	0,12 mL
TEMED	0,008 mL

Komposisi *stacking* gel 4%

Nama bahan	Jumlah
akrilamid	0,67 mL
stacking buffer	1,25 mL
dH ₂ O	3,0 mL
SDS 10%	0,05 mL
APS	0,025 mL
TEMED	0,005 mL

Lampiran 11 Formulasi sediaan gel

Lampiran 12 Uji aktivitas antioksidan gel

sampel	konsentrasi ($\mu\text{g/ml}$)	absorbansi kontrol	absorbansi	rata-rata	% inhibisi	deviasi
DPPH	60	0,7440				
		0,7450		0,7445		
F I		0,7450	0,51679		30,6322	
		0,7450	0,51681		30,6295	
		0,7450	0,51687	0,5212	30,6215	0,0046
F II		0,7450	0,51877		30,3664	
		0,7450	0,51881		30,3611	
		0,7450	0,51885	0,5188	30,3557	0,0044
F III		0,7450	0,52115		30,0470	
		0,7450	0,52119		30,0416	
		0,7450	0,52122	0,5168	30,0376	0,0038

Lampiran 13 Certificate Of Analysis Buffer pH 7.0



Certificate of Analysis – Certified Reference Material

Certipur® Buffer solution pH 7.00 (20°C)

Certified Reference Material for pH measurement



Product no.: 1.09439.1000
Lot no.: HC16190739
Description of CRM: Certipur® Buffer solution pH 7.00 (20°C)
 Certified Reference Material for pH measurement
Expiry date: 2024/05/31
Storage: +15°C to +25°C tightly closed in the original container
Composition: di-sodium hydrogen phosphate / potassium dihydrogen phosphate

Certified value	Associated uncertainty, $U = k \cdot u$ ($k=2$)
pH value 7.00	± 0.02 (20°C)

Metrological traceability: The pH value of this certified buffer solution is directly traceable to primary certified reference materials characterised by PTB and verified by SRMs from NIST.
 NIST 189c, 188, 185i, 186 Ig, 186 IIg, 187f
 PTB OX-405/18, TA-442/19, PHT-467/20, PHO-490/20, BO-468/20
 PTB: Physikalisch Technische Bundesanstalt, Braunschweig, Germany
 NIST: National Institute of Standards and Technology, Gaithersburg, USA.

Measurement method: pH value is measured with a combined glass electrode after 5-point calibration according to DIN 19268 with reference buffer solutions according to DIN 19266, IUPAC, NIST, Ph.Eur. and USP.

Accreditation: Merck KGaA, Darmstadt, Germany is accredited by the German accreditation authority DAkkS as registered reference material producer D-RM-15185-01-00 in accordance with ISO 17034.

Certificate issue date: 2021/05/10



ISO 17034

CRM released by Approving Officer
or delegate LS-OII-QS3

A. Yildirim

Dipl.-Ing. Ayfer Yildirim
Responsible Manager of LS-OII-QS3
(Accredited Calibration Laboratory)

Merck KGaA, 64271 Darmstadt, Germany, Tel.: +49 (0)6151 72-2440
 EMD Millipore Corporation, 400 Summit Drive Burlington MA 01803, USA, Tel. +1-978-715-4321
 Sigma-Aldrich Canada Co. or Millipore (Canada) Ltd., 2149 Winston Park, Dr. Oakville,
 Ontario, L6H 6J8, Phone: +1 800-565-1400



Lampiran 14 Certificate Of Analysis Ammonium Sulfate



Certificate of Analysis

1.01217.1000 Ammonium sulfate for analysis EMSURE® ACS,ISO,Reag. Ph Eur
Batch AM1256517

	Spec. Values		Batch Values	
Assay (alkalimetric)	≥ 99.5	%	100.1	%
Insoluble matter	≤ 0.001	%	≤ 0.001	%
pH-value (5 %; water, 25 °C)	5.0 - 6.0		5.2	
Chloride (Cl)	≤ 0.0003	%	≤ 0.0003	%
Nitrate (NO ₃)	≤ 0.001	%	≤ 0.001	%
Phosphate (PO ₄)	≤ 0.0005	%	≤ 0.0005	%
Heavy metals (ACS)	≤ 0.0005	%	≤ 0.0005	%
Heavy metals (as Pb)	≤ 0.0005	%	≤ 0.0005	%
Al (Aluminium)	≤ 0.000075	%	≤ 0.000075	%
As (Arsenic)	≤ 0.00002	%	≤ 0.00002	%
Ca (Calcium)	≤ 0.001	%	≤ 0.001	%
Cd (Cadmium)	≤ 0.0001	%	≤ 0.0001	%
Cr (Chromium)	≤ 0.000075	%	≤ 0.000075	%
Cu (Copper)	≤ 0.0002	%	≤ 0.0002	%
Fe (Iron)	≤ 0.0002	%	≤ 0.0002	%
Mg (Magnesium)	≤ 0.0005	%	≤ 0.0005	%
Pb (Lead)	≤ 0.0002	%	≤ 0.0002	%
Zn (Zinc)	≤ 0.0001	%	≤ 0.0001	%
Residue on ignition (as sulfate)	≤ 0.005	%	≤ 0.005	%
Loss on Drying (105°C)	≤ 0.1	%	≤ 0.1	%

Corresponds to ACS,ISO,Reag. Ph Eur

Date of release (DD.MM.YYYY) 25.01.2018

Minimum shelf life (DD.MM.YYYY) 31.01.2023

Claudia Wiegand

Responsible laboratory manager quality control

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Lampiran 15 Certificate Of Analysis Hidrogen peroksida



Specification

1.07210.9025 Hydrogen peroxide 30% (Perhydrol®) (stabilized for higher storage temp.)
for analysis EMSURE® ISO

	Specification	
Assay (manganometric)	≥ 30.0	%
Color	≤ 10	Hazen
Free acid (as sulfuric acid)	≤ 30	ppm
Chloride (Cl)	≤ 0.5	ppm
Nitrate (NO ₃)	≤ 2	ppm
Phosphate (PO ₄)	≤ 2	ppm
Sulfate (SO ₄)	≤ 2	ppm
Heavy metals (as Pb)	≤ 1	ppm
Total nitrogen (N)	≤ 4	ppm
Cd (Cadmium)	≤ 0.02	ppm
Co (Cobalt)	≤ 0.02	ppm
Cu (Copper)	≤ 0.02	ppm
Fe (Iron)	≤ 0.1	ppm
Ni (Nickel)	≤ 0.02	ppm
Pb (Lead)	≤ 0.02	ppm
Zn (Zinc)	≤ 0.05	ppm
Non volatile matter	≤ 50	ppm
ISO-Reagent		

Dr. Nina Hegmann
Responsible laboratory manager quality control

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