

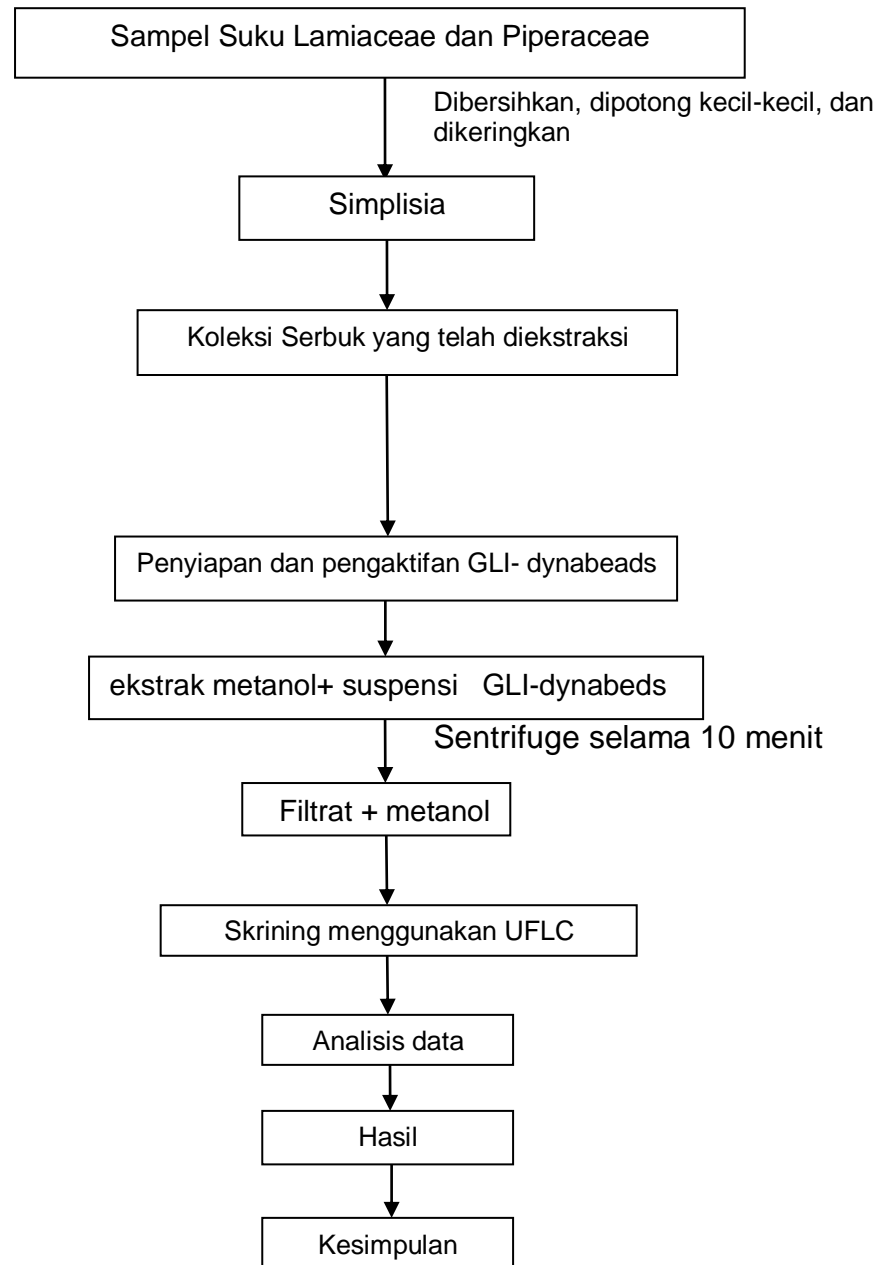
DAFTAR PUSTAKA

1. Harvey Wickes Felter, M.D., dan John Uri Lloyd, Phr.M., Ph.D. King's American Dispensatory, 1898.
2. Manoharan S, Balakrishnan S, Menon VP. Alias LM, Reena AR. Chemopreventive efficacy of curcumin and piperin. Singapore Med J. 2009.
3. Kintzios S., Barberaki M., Drossopoulos JB, Turgelis P, Konstas J, Makri O (2003) Effect of medium composition and explant type on the distribution profiles of selected micronutrients in mistletoe tissue cultures. J. Plant Nutrition 26 hal 369-397.
4. Karousou R., Kokkini S. 2003. The genus *Origanum* L. (Labiatae) in Crete : distribution and essential oils-Bocconeia 16:717-721
5. Cantino, P.D, Harley, R.M dan Wagstaff, S.S. 1992. Genera of Lamiaceae : status and classification. In R.M Harley & T.Reynolds, *Advances in Labiate Science* : 511-522. Royal Botanic Gardens, Kew.
6. Bustan, M.N. "Epidemiologi Penyakit Tidak Menular". *Rikena Cipta*. Jakarta. 1999. hal 234
7. Ingham, Philip W, Nakano, Yoshiro, Seger, Claudia. "Mekanisme dan fungsi signaling Hedgehog di metazoa" *alam Ulasan Genetika*. 2011. hal 393-406.
8. McMahon, A.P, Ingham, P.W, Tabin, C. "Developmental Roles and Clinical Significance of Hedgehog Signaling". *J. Curr. Top. Dev. Biol.* 2003; vol.53 hal 1.

9. Rubin L.L, de Sauvage, F. "Novel Hedgehog Pathway Targets Against Basal Cell Carcinoma". *J. Nat. Rev. Drug Disc.* 2006;Vol.5: hal 1026.
10. Arai, M.A, E. Kobatake, T. Koyano, T. Kowithayakorn, S. Kato, M. Ishibashi. *Development of Novel Magnetic nano-carriers for High Performance Affinity Purification.* Chemistry an Asian Journal. Vol 4. 2009..hal 1802-1808.
11. Rifai Y, Midori A. Arai, Samir K. Sadhu, Firoj A, Masami I. "New hedgehog/GLI signaling inhibitor from *Excoecaria agallocha*". *Bioorganic & Medical Chemistry Letters.*2010; hal 718-722.
12. Rifai Y., Midori A, Takashi K, Thaworn K, Masami I. "Acoschimperoside P,2'-acetate: a hedgehog signaling inhibitory constituent from *Vallaris glabra*". *J.Nat med* 2011;vol.65 hal 629-632.
13. Rifai Y., Midori A, Takashi K, Thaworn K, Masami I. "Terpenoid and a Flavanoid Glycoside from *Acacia pennata* Leaves as Hedgehog/GLI-Mediated transcriptional Inhibitors". *J. Nat.Prod* 2010; hal 995-997.
14. Anonim. *Determinasi Tanaman.* Kota batu. UPT Materia Medica Dinas Kesehatan Propinsi Jawa Timur. 2012
15. Direktorat Jenderal Pengawasan Obat dan Makanan., *Farmakope Indonesia.* Edisi III. Departemen Kesehatan Republik Indonesia. Jakarta. 1979, 9.

16. Direktorat Jenderal Pengawasan Obat dan Makanan. *Sediaan Galenik*. Departemen Kesehatan Republik Indonesia. Jakarta. 1986, 2,7, 10, 32.
17. Gritter RJ *et al.* *Pengantar kromatografi*. Terjemahan oleh Kosasih PK. Penerbit ITB. Bandung. 1991. hal 64.
18. Rooth H & Blaskchke G. *Analisis Farmasi*. Terjemahan oleh Kisman S & Ibrahim S. Airlangga University Press. Yogyakarta. 1988. hal. 431.
19. Adnan M. *Teknik Kromatografi untuk Analisis Bahan Makanan*. Penerbit ANDI. Yogyakarta 1997. hal. 36, 38.
20. Settle F. *Handbook of instrumental Techniques for Analytical Chemistry*. Prentice Hall PTR. New Jersey. 1997. Available as PDF file.
21. Jhonson L & Stevenson R. *Dasar Kromatografi Cair*. Terjemahan oleh Padmawinata S 1991. Institut Teknologi Bandung. Bandung. 1978. hal.8, 9, 213.
22. Gandjar IB & Rohman A. *Kimia Analisis Farmasi*. Pustaka Pelajar. Yogyakarta. 2008. hal.378-394.
23. Kimia Laboratorium Pusat MIPA UNS. Majalah info Lab. Modul Instrumen Sub Lab. [accessed januari 2007]. Available from: [http://www.iptek.net.id/majalah Info Lab/index](http://www.iptek.net.id/majalah%20Info%20Lab/index).
24. Mulja M & Suharman. *Analisis Instrumental*. Airlangga University Press. Surabaya. 1995. hal. 236-241.

25. Wahyuni T. *HPLC Prinsip Dasar dan Peralatan*. Puslitkimia. LIPI. 2003.
26. Kufe, Donald W.; Pollock, Raphael E.; Weichselbaum, Ralph R.; Bast, Robert C., Jr.; Gansler, Ted S.; Holland, James F.; Frei III, Emil. (2003). *Holland-Frei Cancer medicine - What Makes a Cancer Cell a Cancer Cell* (edisi ke-6). Hamilton on BC Decker Inc.,. ISBN 1-55009-213-8. Diakses pada 20 desember 2012
27. Kardono, L.B.S. 2004. Developing Drugs and Pharmaceutical Small and Medium Scale Enterprises. An Indonesian Case Study, 2nd International Symposium on Current Trend on Drug Discovery Research, Lucknow, India, 17-20 February.

LAMPIRAN I**Skema Kerja Skrining Suku Lamiaceae dan Piperaceae**

LAMPIRAN II

1. PBS (0,1 m PBS, PH 7,4)

Na ₂ HPO ₄	10,9 gram
NaH ₂ PO ₄	3,2 gram
NaCl	90 gram
Aquadest	1000 ml

Diukur PH sampai 7,4 dan disimpan pada suhu -20°C

2. MES (2- (N-morpholino) ethanesulfonic asam)

Dibuat dalam 1 L dari 100 ml, PH 6 :

195,2 MES dilarutkan dalam 500 ml air, diukur PH sampai 4 dan ditambahkan 10 N NaOH pada PH 6

3. Net N (Nonidet P40)

100 mM NaCl

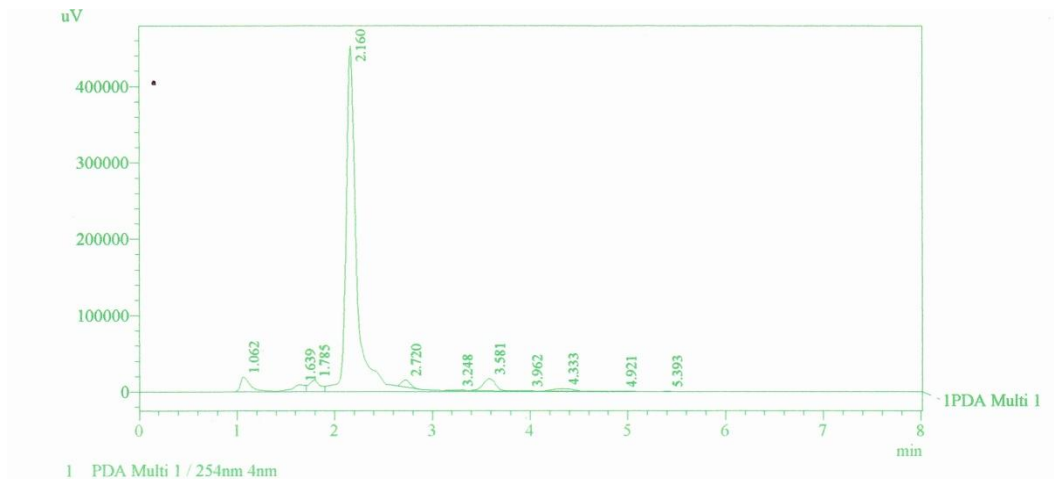
20 mM Tris.Cl Ph 80

0,5 EDTA

0,5 % (v/v) nonidet P-40 (NP-40)

LAMPIRAN III

KROMATOGRAM HASIL UFLC



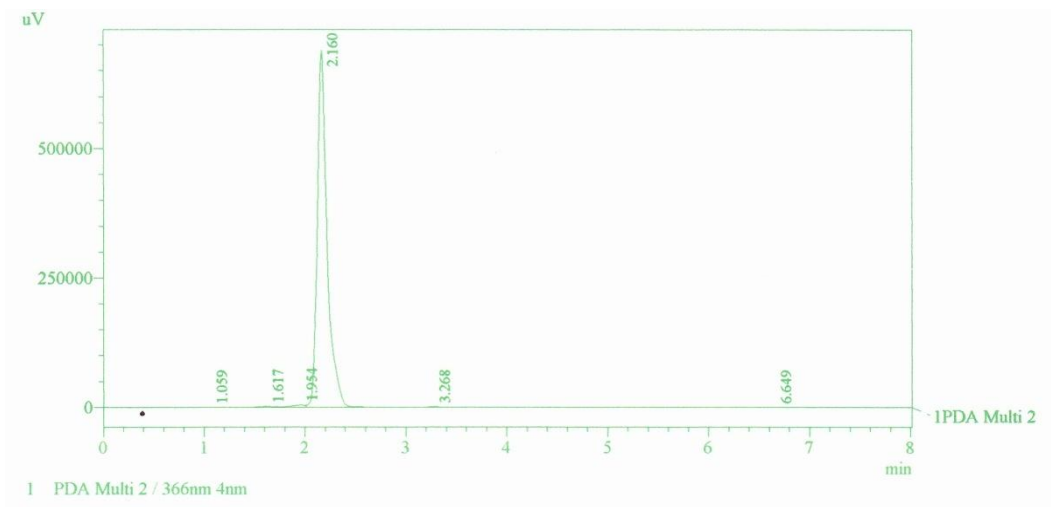
Gambar 2 : Kromatogram UFLC Lada Hitam (*Piper nigrum* L) pada UV 254

1 PDA Multi 1 / 254nm 4nm

Quantitative Results

PDA					
ID#	Name	Ret. Time	Area	Height	
1	RT1.062	1.062	146789	19617	
2	RT1.639	1.639	87398	9297	
3	RT1.785	1.785	119911	15198	
4	RT2.160	2.160	3562673	453836	
5	RT2.720	2.720	54506	9258	
6	RT3.248	3.248	5456	545	
7	RT3.581	3.581	137311	15842	
8	RT3.962	3.962	2058	273	
9	RT4.333	4.333	46953	3260	
10	RT4.921	4.921	4679	395	
11	RT5.393	5.393	1979	165	

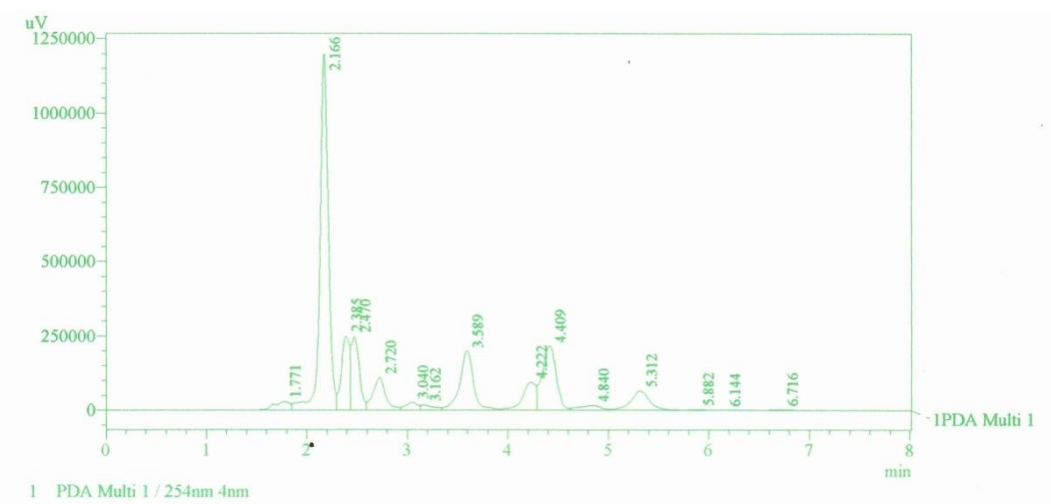
Tabel 3. Data kromatogram UFLC Lada Hitam (*Piper nigrum* L) pada UV-254

Gambar 3 : Kromatogram UFLC Lada Hitam (*Piper nigrum* L) pada UV 366

1 PDA Multi 2 / 366nm 4nm

Quantitative Results

PDA	ID#	Name	Ret. Time	Area	Height
	1	RT1.059	1.059	2101	249
	2	RT1.617	1.617	14651	1725
	3	RT1.954	1.954	46821	4530
	4	RT2.160	2.160	4667945	690910
	5	RT3.268	3.268	6265	816
	6	RT6.649	6.649	10138	333

Tabel 4. Data kromatogram UFLC Lada Hitam (*Piper nigrum* L) pada UV-366Gambar 4 : Kromatogram UFLC Cabe Jawa (*Piper retrofractum* Vahl) pada UV-254

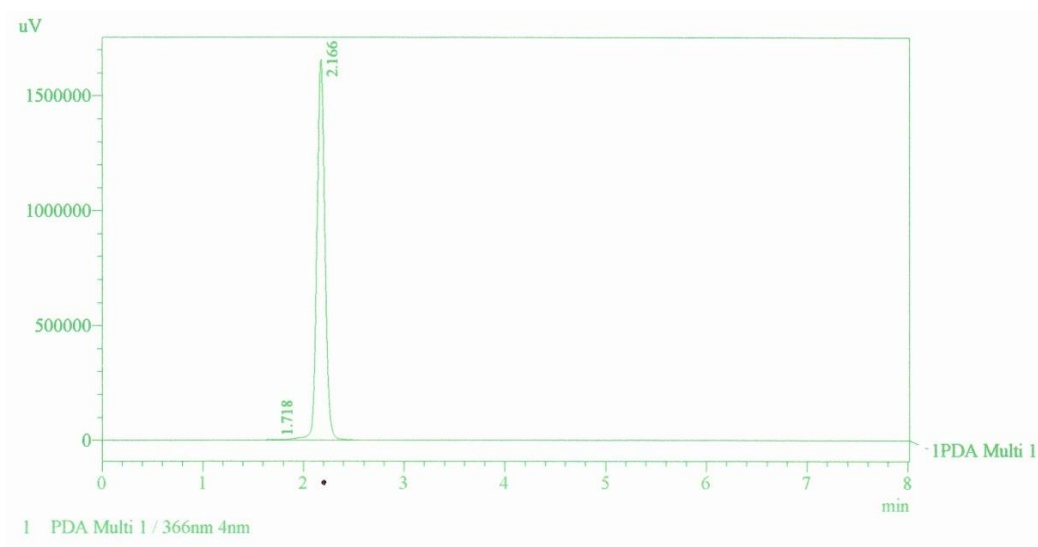
I PDA Multi 1 / 254nm 4nm

Quantitative Results

PDA

ID#	Name	Ret. Time	Area	Height
1	RT1.771	1.771	314540	28387
2	RT2.166	2.166	6995926	1200024
3	RT2.385	2.385	1460968	251014
4	RT2.470	2.470	1373112	247868
5	RT2.720	2.720	958348	108429
6	RT3.040	3.040	215717	26213
7	RT3.162	3.162	156151	17156
8	RT3.589	3.589	1895497	200487
9	RT4.222	4.222	893147	93768
10	RT4.409	4.409	2091322	217249
11	RT4.840	4.840	249812	16392
12	RT5.312	5.312	856628	64874
13	RT5.882	5.882	22795	1636
14	RT6.144	6.144	9509	786
15	RT6.716	6.716	42603	2190

Tabel 5. Data kromatogram UFLC Cabe Jawa (*Piper retrofractum* Vahl) pada UV-254

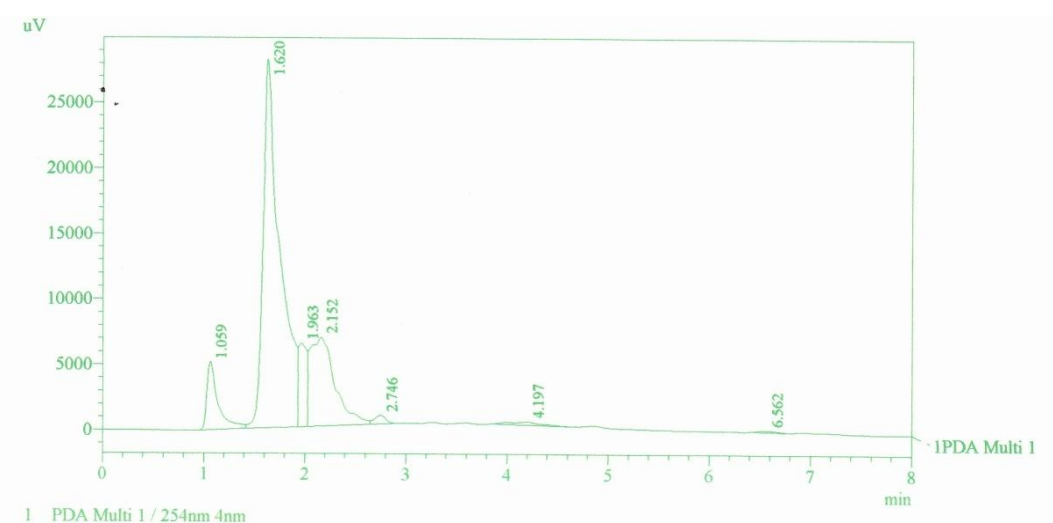


Gambar 5 : Kromatogram UFLC Cabe Jawa (*Piper retrofractum* Vahl) pada UV-366

1 PDA Multi 1 / 366nm 4nm

PDA				
Quantitative Results				
ID#	Name	Ret. Time	Area	Height
1	RT1.718	1.718	33917	3486
2	RT2.166	2.166	9077627	1660770

Tabel 6. Data kromatogram UFLC Cabe Jawa (*Piper retrofractum* Vahl) pada UV-366

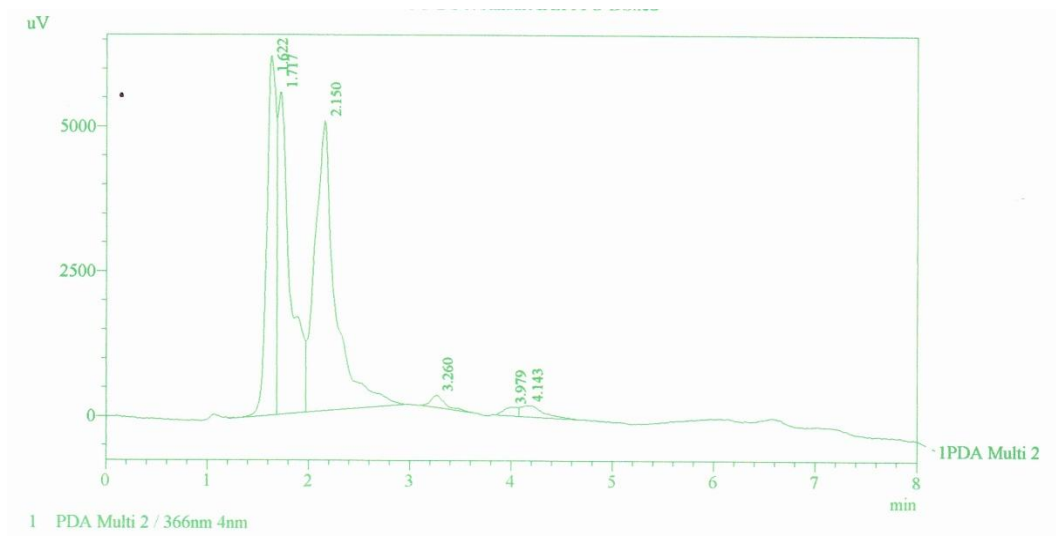


Gambar 6 : Kromatogram UFLC Selasih (*Ocimum basilicum* L) pada UV-254

1 PDA Multi 1 / 254nm 4nm

PDA				
Quantitative Results				
ID#	Name	Ret. Time	Area	Height
1	RT1.059	1.059	40189	5259
2	RT1.620	1.620	329077	28216
3	RT1.963	1.963	35337	6366
4	RT2.152	2.152	116178	6777
5	RT2.746	2.746	5416	682
6	RT4.197	4.197	5594	246
7	RT6.562	6.562	1518	126

Tabel 7. Data kromatogram UFLC Selasih (*Ocimum basilicum* L) pada UV-254



Gambar 7 : Kromatogram UFLC Selasih (*Ocimum basilicum* L) pada UV-366

1 PDA Multi 2 / 366nm 4nm

Quantitative Results

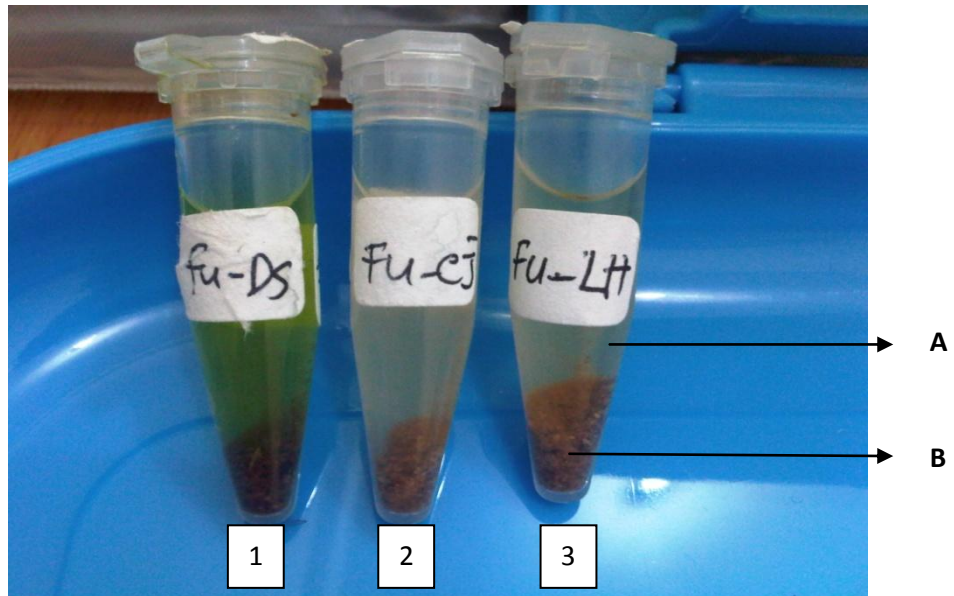
PDA

ID#	Name	Ret. Time	Area	Height
1	RT1.622	1.622	40725	6205
2	RT1.717	1.717	47514	5570
3	RT2.150	2.150	70738	5026
4	RT3.260	3.260	1976	207
5	RT3.979	3.979	1449	138
6	RT4.143	4.143	3017	188

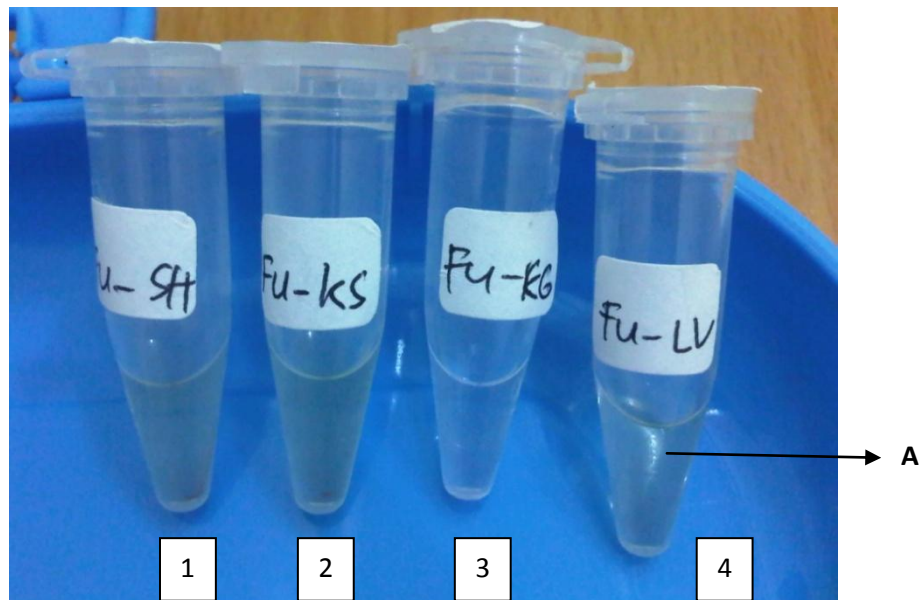
Tabel 8. Data kromatogram UFLC Selasih (*Ocimum basilicum* L) pada UV-366

LAMPIRAN IV

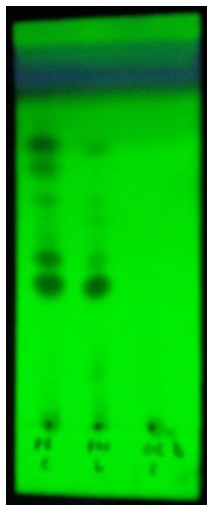
FOTO PELAKSANAAN PENELITIAN



Gambar 8. Sampel yang terjerap pada GLI-dynabeads
 Keterangan : 1. FU-DS = Daun Selasih 3. FU-LH = Lada Hitam
 2. FU-CJ = Cabe Jawa
 FU = Farmasi Unhas
 A. Supernatan B. Endapan



Gambar 9. Sampel yang tidak terjerap pada GLI-dynabeads
 Keterangan : 1. FU-SH = Sirih, 3. FU-KG = Kemangi
 2. FU-KS = Kemukus, 4. FU-LV = Lavender
 A. Supernatan

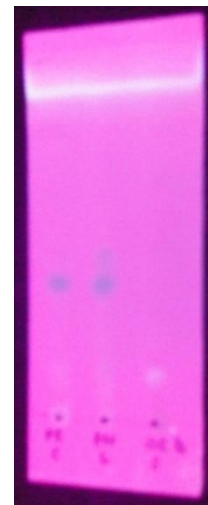


1 2 3

Gambar 10. KLT UV 254 nm

Keterangan :

1. PR : *Piper retrofractum Vahl*
2. PN : *Piper nigrum*
3. OCB : *Ocinum basillicum*



1 2 3

Gambar 11. KLT UV 366nm

Keterangan :

1. PR : *Piper retrofractum Vahl*
2. PN : *Piper nigrum*
3. OCB : *Ocinum basillicum*



1 2 3

Gambar 12. Penyemprotan H₂SO₄

Keterangan :

1. PR : *Piper retrofractum Vahl*
2. PN : *Piper nigrum*
3. OCB : *Ocinum basillicum*



Gambar 13. Alat UFLC



Gambar 14. Metanol Pro-UFLC dan Syringe



Gambar 15. Gambar tanaman Lada Hitam
(Sumber : Koleksi Pribadi Kebun Lada Hitam di Sulawesi Tenggara)



Gambar 16. Cabe jawa (*Piper retrofractum* Vahl.)
(Sumber Uryakorn, Chansang. *Journal of Vector Ecology*. Thailand)



Gambar 17. Gambar tanaman Sirih
(Sumber : koleksi tanaman Herbal di Panaikang)



Gambar 18. Gambar tanaman Kemukus
(Sumber : www.Plantamor.com)



Gambar 19. Gambar tanaman Selasih
(Sumber : www.Plantamor.com)





Gambar 20. Gambar tanaman Kemangi
(Sumber : Koleksi tanaman Herbal di Panaikang)



Gambar 21. Gambar tanaman Lavender
(Sumber : www.Plantamor.com)