
LAMPIRAN

Lampiran 1. Foto Buah Rambutan (*Nephelium lappaceum* L.)

Lampiran 2. Foto Ekstrak Etanol 50% Biji dan Kulit Buah Rambutan

Lampiran 3. Surat Determinasi Tanaman Rambutan (*Nephelium lappaceum* L.)

UNIVERSITAS MUHAMMADIYAH SURAKARTA
FAKULTAS FARMASI
Terakreditasi "A" SK. BAN. PT. No. : 029/BAN-PT/Ak-XI/S1/XI/2008
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SURAT KETERANGAN DETERMINASI

Sehubungan dengan keperluan determinasi sampel tanaman, maka kami menerangkan bahwa mahasiswa berikut:

Nama : Atina Nur Khasanah

NIM : K100.070.089

Fakultas : Farmasi UMS

Keperluan : Skripsi

Telah melakukan determinasi terhadap *Nephelium lappaceum* L. (Rambutan) di Laboratorium Biologi Farmasi, Fakultas Farmasi UMS pada Senin 20 Desember 2010.

Surakarta, 22 Desember 2010

Mengetahui,
Kepala Laboratorium Biologi Farmasi

Ratna Yuliani, M.Biotech.St

Penanggung jawab Determinasi
Laboratorium Biologi Farmasi UMS

Hamida Febra Maya Sari S.Si

Lanjutan Lampiran 3.

SPECIES: *Nephelium lappaceum* L.

KLASIFIKASI[1]

Divisi	: Magnoliophyta
Kelas	: Magnoliopsida
Anak kelas	: Rosidae
Bangsa	: Sapindales
Suku	: Sapindaceae
Marga	: Nephelium
Jenis	: *Nephelium lappaceum* L.

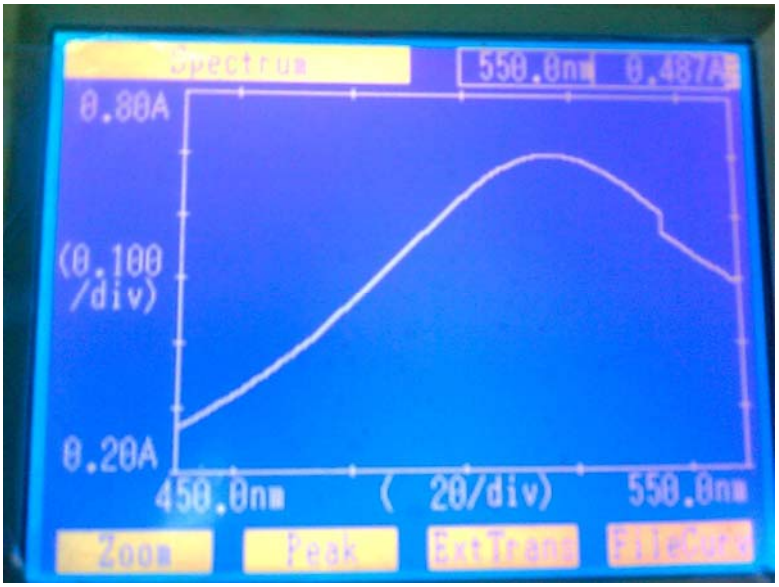
KUNCI IDENTIFIKASI[2]

1b-2b-3b-4b-12b-13b-14b-17b-18b-19b-20b-21b-22b-23b-24b-25b-26b-27a-28b-29b-30b-31a-32a-33b-35a-36d-37b-38b-39b-41b-42a-43c-**137.Sapindaceae**-1b-2b-4a-5b-7b-8b-9a-10a-11a-12b-19b-20a-**15.Nephelium**-1a-2b-*Nephelium lappaceum* L.

SUMBER:

1. Cronquist, A., 1981, *An Integrated System of Classification of Flowering Plants*, Columbia University Press, New York, 477.
2. Backer, C.A. and van den Brink, R.C.B., 1965, *Flora of Java: Spermatothytes only Volume 2,* N.V.P. Noordhoff-Groningen-The Netherlands, 138 .

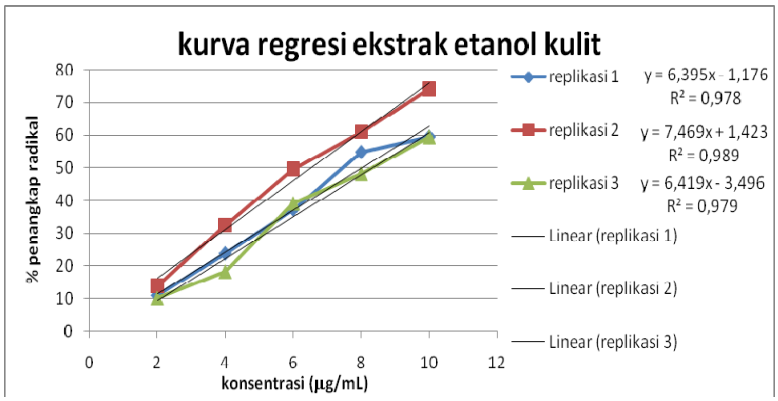
Lampiran 4. Penentuan Panjang Gelombang Maksimum DPPH



Lampiran 5. Hasil Penentuan IC_{50} Ekstrak Etanol, Fraksi-Fraksi Kulit Buah dan Biji Rambutan serta Vitamin E

Ekstrak etanol kulit buah rambutan
Larutan stok = 0,1%

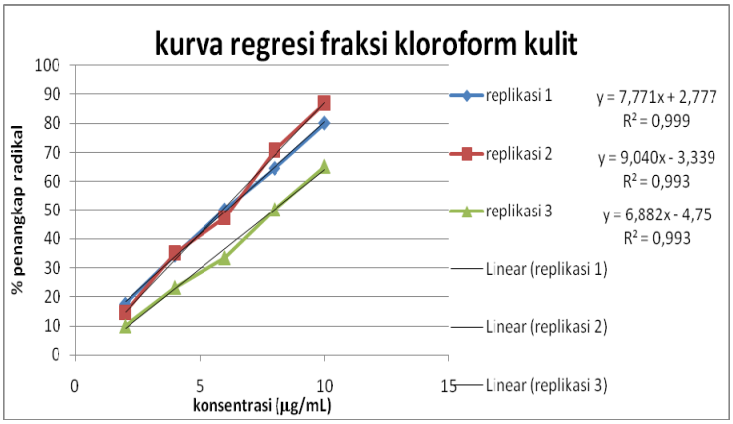
Keterangan	Replikasi I			Replikasi II			Replikasi III		
Berat botol (gram)	11,45311			25,51202			12,06936		
Botol+sampel (gram)	11,46312			25,52201			12,07937		
Berat sampel (gram)	0,01001			0,00999			0,01001		
Kadar Sampel (µg/mL)	**Absorbansi**		**% AR**	**Absorbansi**		**% AR**	**Absorbansi**		**%AR**
	Sampel	**Kontrol**		**Sampel**	**Kontrol**		**Sampel**	**Kontrol**	
2	0,656	0,737	10,99	0,719	0,821	12,42	0,768	0,867	11,42
	0,657		10,85	0,696		15,23	0,790		8,88
4	0,563		23,61	0,581		29,23	0,724		16,49
	0,561		23,88	0,528		35,69	0,693		20,07
6	0,476		35,41	0,414		49,57	0,545		37,14
	0,450		38,94	0,413		49,70	0,511		41,06
8	0,347		52,92	0,330		59,81	0,464		46,48
	0,320		56,58	0,310		62,24	0,435		49,83
10	0,310		57,94	0,218		73,45	0,354		59,17
	0,289		60,79	0,205		75,03	0,350		59,63
Persamaan regresi linier: Y = 6,395X – 1,176 R^2 = 0,9789 IC_{50} = 8,0025 µg/mL				Persamaan regresi linier: Y = 7,4695X -1,423 R^2 = 0,9899 IC_{50} = 6,8844 µg/mL			Persamaan regresi linier: Y = 6,419X – 3,496 R^2 = 0,9796 IC_{50} = 8,3340 µg/mL		
Rerata IC_{50} = 7,74 µg/mL ± 0,76									



Lanjutan Lampiran 5.

Fraksi kloroform kulit buah rambutan
Larutan stok = 0,1 %

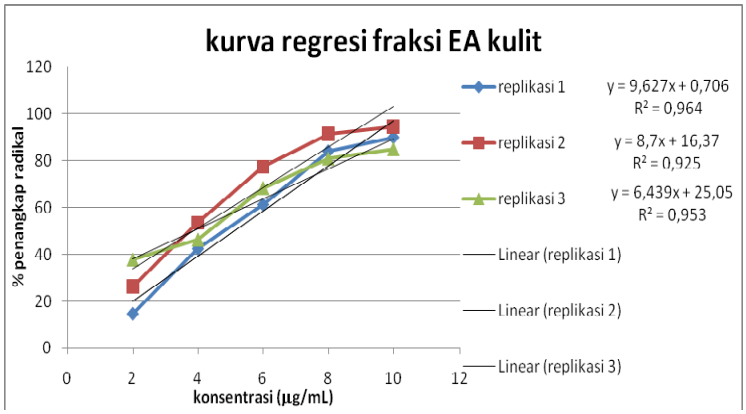
Keterangan	Replikasi I			Replikasi II			Replikasi III		
Berat botol (gram)	10,50822			22,50307			12,07843		
Botol+sampel (gram)	10,51823			22,51307			12,08843		
Berat sampel (gram)	0,01001			0,01000			0,01000		
Kadar Sampel (µg/mL)	**Absorbansi**		**% AR**	**Absorbansi**		**% AR**	**Absorbansi**		**%AR**
	Sampel	**Kontrol**		**Sampel**	**Kontrol**		**Sampel**	**Kontrol**	
2	0,610	0,737	17,23	0,711	0,821	13,40	0,787	0,867	9,23
	0,605		17,91	0,694		15,47	0,773		10,84
4	0,474		35,69	0,537		34,59	0,668		22,95
	0,493		33,11	0,529		35,57	0,661		23,76
6	0,370		49,80	0,411		49,94	0,579		33,22
	0,363		50,75	0,455		44,58	0,573		33,91
8	0,278		62,28	0,235		71,38	0,430		50,40
	0,244		66,89	0,246		70,04	0,430		50,40
10	0,173		76,53	0,105		87,21	0,306		64,71
	0,119		83,85	0,108		86,85	0,295		65,97
Persamaan regresi linier: Y = 7,7715X + 2,777 R^2 = 0,9992 IC_{50} = 6,0764 µg/mL				Persamaan regresi linier: Y = 9,0405X – 3,339 R^2 = 0,9935 IC_{50} = 5,9 µg/mL			Persamaan regresi linier: Y = 6,882X – 4,75 R^2 = 0,9938 IC_{50} = 7,9555 µg/mL		
Rerata IC_{50} = 6,64 µg/mL ±1,14									



Lanjutan Lampiran 5.

Fraksi etil asetat kulit buah rambutan
Larutan stok = 0,1 %

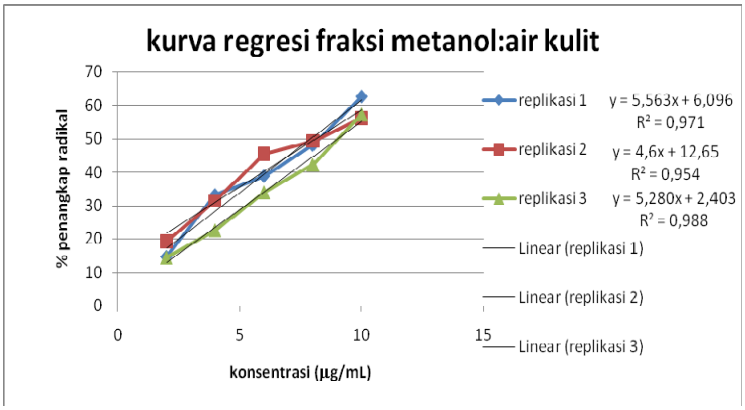
Keterangan	Replikasi I			Replikasi II			Replikasi III		
Berat botol (gram)	12,78882			21,95367			11,86640		
Botol+sampel (gram)	12,79882			21,96367			11,87640		
Berat sampel (gram)	0,01000			0,01000			0,01000		
Kadar Sampel (µg/mL)	**Absorbansi**		**% AR**	**Absorbansi**		**% AR**	**Absorbansi**		**%AR**
	Sampel	**Kontrol**		**Sampel**	**Kontrol**		**Sampel**	**Kontrol**	
2	0,631	0,737	14,38	0,600	0,821	26,92	0,539	0,867	37,83
	0,628		14,79	0,610		25,70	0,539		37,83
4	0,396		46,27	0,405		50,67	0,465		46,37
	0,453		38,53	0,358		56,39	0,465		46,37
6	0,288		60,92	0,191		76,74	0,298		65,63
	0,283		61,60	0,181		77,95	0,250		71,16
8	0,117		84,12	0,077		90,62	0,186		78,55
	0,118		83,99	0,067		91,84	0,145		83,28
10	0,079		89,28	0,049		94,03	0,153		82,35
	0,068		90,77	0,042		94,88	0,108		87,54
Persamaan regresi linier: Y = 9,627X + 0,706 R^2 = 0,9648 IC_{50} = 5,1204 µg/mL				Persamaan regresi linier: Y = 8,7X + 16,376 R^2 = 0,9250 IC_{50} = 3,8648 µg/mL			Persamaan regresi linier: Y = 6,4395X + 25,057 R^2 = 0,9534 IC_{50} = 3,8734 µg/mL		
Rerata IC_{50} = 4,29 µg/mL ±0,72									



Lanjutan Lampiran 5.

Fraksi metanol:air kulit buah rambutan
Larutan stok = 0,1 %

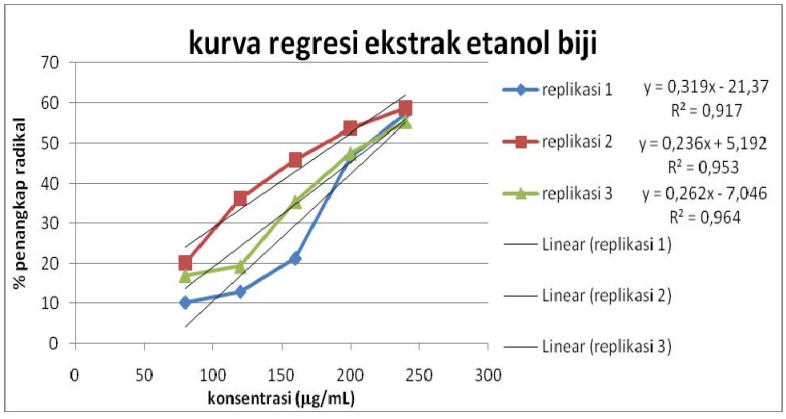
Keterangan	Replikasi I			Replikasi II			Replikasi III		
Berat botol (gram)	14,57540			9,86915			17,38545		
Botol+sampel (gram)	14,58541			9,87915			17,39545		
Berat sampel (gram)	0,01001			0,01000			0,01000		
Kadar Sampel (µg/mL)	**Absorbansi**		**%AR**	**Absorbansi**		**% AR**	**Absorbansi**		**%AR**
	Sampel	**Kontrol**		**Sampel**	**Kontrol**		**Sampel**	**Kontrol**	
2	0,631	0,737	14,38	0,683	0,821	16,81	0,742	0,867	14,42
	0,628		14,79	0,645		21,44	0,743		14,30
4	0,483		34,46	0,589		28,26	0,664		23,41
	0,503		31,75	0,539		34,35	0,679		21,68
6	0,437		40,71	0,458		44,21	0,577		33,45
	0,465		36,91	0,438		46,65	0,568		34,49
8	0,368		50,07	0,414		49,57	0,509		41,29
	0,396		46,27	0,419		48,96	0,493		43,14
10	0,292		60,38	0,370		54,93	0,344		60,32
	0,258		64,99	0,350		57,37	0,396		54,33
Persamaan regresi linier: Y = 5,563X + 6,096 R^2 = 0,9711 IC_{50} = 7,8921 µg/mL				Persamaan regresi linier: Y = 4,6X + 12,658 R^2 = 0,9542 IC_{50} = 8,1178 µg/mL			Persamaan regresi linier: Y = 5,2805X + 2,403 R^2 = 0,9882 IC_{50} = 9,0137 µg/mL		
Rerata IC_{50} = 8,34 µg/mL ± 0,59									



Lanjutan Lampiran 5.

Ekstrak etanol biji buah rambutan
Larutan stok = 0,1 %

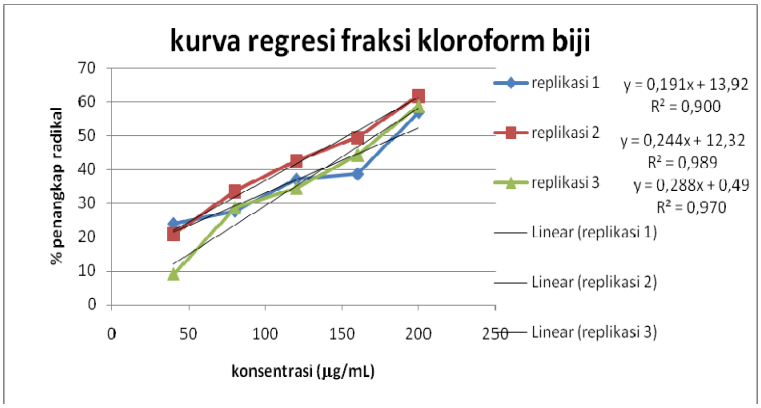
Keterangan	Replikasi I			Replikasi II			Replikasi III		
Berat botol (gram)	10,05560			9,67855			17,76203		
Botol+sampel (gram)	10,06561			9,68854			17,77202		
Berat sampel (gram)	0,01001			0,00999			0,00999		
Kadar Sampel (µg/mL)	**Absorbansi**		**% AR**	**Absorbansi**		**% AR**	**Absorbansi**		**%AR**
	Sampel	**Kontrol**		**Sampel**	**Kontrol**		**Sampel**	**Kontrol**	
80	0,676	0,737	8,28	0,651	0,821	20,71	0,721	0,867	16,84
	0,647		12,21	0,659		19,73	0,719		17,07
120	0,639		13,30	0,529		35,57	0,702		19,03
	0,644		12,62	0,517		37,03	0,698		19,49
160	0,582		21,03	0,441		46,29	0,578		33,33
	0,579		21,44	0,445		45,80	0,542		37,49
200	0,398		46,00	0,391		52,38	0,472		45,56
	0,388		47,35	0,368		55,18	0,439		49,37
240	0,314		57,39	0,362		55,91	0,391		54,90
	0,317		56,99	0,315		61,63	0,385		55,59
Persamaan regresi linier: Y = 0,319X – 21,376 R^2 = 0,9177 IC_{50} = 223,7492 µg/mL				Persamaan regresi linier: Y = 0,2365X + 5,192 R^2 = 0,9536 IC_{50} = 189,4630 µg/mL			Persamaan regresi linier: Y = 0,2620X – 7,046 R^2 = 0,9642 IC_{50} = 217,7328 µg/mL		
Rerata IC_{50} = 210,31 µg/mL ±18,31									



Lanjutan Lampiran 5.

Fraksi kloroform biji buah rambutan
Larutan stok = 0,1 %

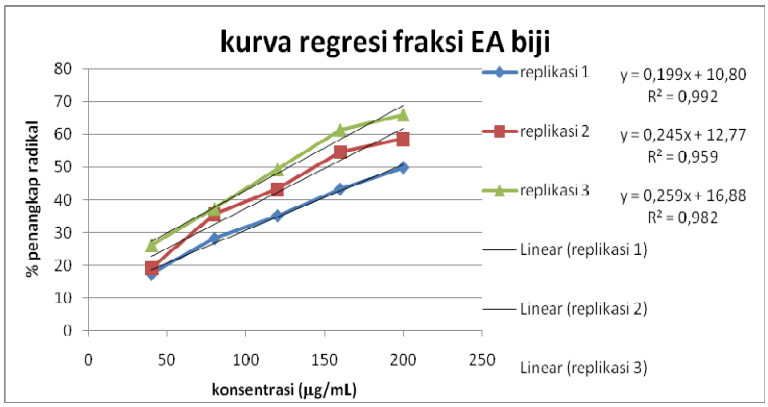
Keterangan	Replikasi I			Replikasi II			Replikasi III		
Berat botol (gram)	17,14250			17,45955			10,47552		
Botol+sampel (gram)	17,15250			17,46956			10,48552		
Berat sampel (gram)	0,01000			0,01001			0,01000		
Kadar Sampel (µg/mL)	**Absorbansi**		**% AR**	**Absorbansi**		**% AR**	**Absorbansi**		**%AR**
	Sampel	**Kontrol**		**Sampel**	**Kontrol**		**Sampel**	**Kontrol**	
40	0,580	0,737	21,30	0,650	0,821	20,83	0,790	0,867	8,88
	0,540		26,73	0,650		20,83	0,787		9,23
80	0,548		25,64	0,547		33,37	0,626		27,80
	0,517		29,85	0,544		33,74	0,612		29,41
120	0,469		36,36	0,465		43,36	0,544		37,25
	0,459		37,72	0,478		41,79	0,592		31,72
160	0,449		39,08	0,408		50,30	0,475		45,21
	0,456		38,13	0,424		48,36	0,491		43,37
200	0,317		56,99	0,304		62,97	0,347		59,98
	0,320		56,58	0,324		60,54	0,367		57,67
Persamaan regresi linier: Y = 0,191X + 13,922 R^2 = 0,9005 IC_{50} = 188,8901 µg/mL				Persamaan regresi linier: Y = 0,2441X +12,323 R^2 = 0,9896 IC_{50} = 154,3507 µg/mL			Persamaan regresi linier: Y = 0,28805X + 0,49 R^2 = 0,9703 IC_{50} = 171,8799 µg/mL		
Rearata IC_{50} = 171,71 µg/mL ±17,27									



Lanjutan Lampiran 5.

Fraksi etil asetat biji buah rambutan
Larutan stok = 0,1 %

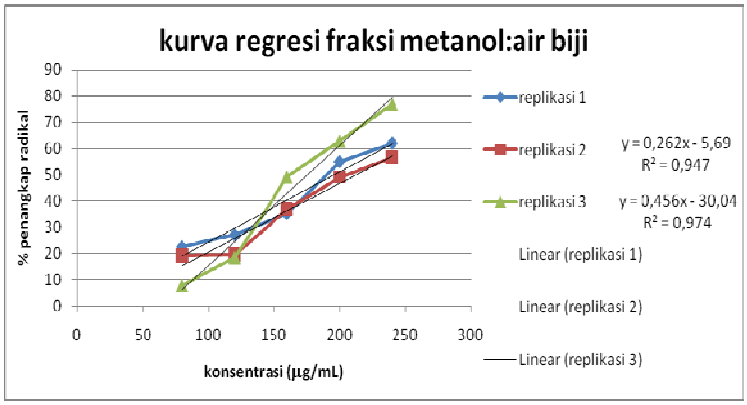
Keterangan	Replikasi I			Replikasi II			Replikasi III		
Berat botol (gram)	11,66220			12,15459			8,77923		
Botol+sampel (gram)	11,67222			12,16460			8,78923		
Berat sampel (gram)	0,01002			0,01001			0,01000		
Kadar Sampel (µg/mL)	**Absorbansi**		**% AR**	**Absorbansi**		**% AR**	**Absorbansi**		**%AR**
	Sampel	**Kontrol**		**Sampel**	**Kontrol**		**Sampel**	**Kontrol**	
40	0,592	0,737	19,67	0,661	0,821	19,49	0,640	0,867	26,18
	0,625		15,20	0,668		18,64	0,641		26,07
80	0,518		29,72	0,525		36,05	0,544		37,25
	0,541		26,59	0,533		35,08	0,543		37,37
120	0,483		34,46	0,475		42,14	0,445		48,67
	0,474		35,69	0,458		44,21	0,435		49,83
160	0,414		43,83	0,385		53,11	0,335		61,36
	0,423		42,61	0,360		56,15	0,336		61,25
200	0,387		47,49	0,330		59,81	0,296		65,86
	0,353		52,10	0,350		57,37	0,294		66,09
Persamaan regresi linier: Y = 0,19945X + 10,806 R^2 = 0,9923 IC_{50} = 196,5104 µg/mL				Persamaan regresi linier: Y = 0,24525X + 12,778 R^2 = 0,9594 IC_{50} = 151,7717 µg/mL			Persamaan regresi linier: Y = 0,25925X + 16,886 R^2 = 0,9912 IC_{50} = 127,7300 µg/mL		
Rerata IC_{50} = 158,67 µg/mL ±34,91									



Lanjutan Lampiran 5.

Fraksi metanol:air biji buah rambutan
Larutan stok = 0,1 %

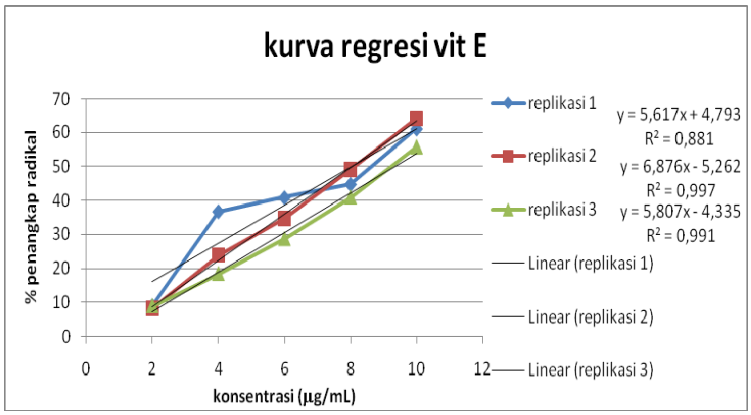
Keterangan	Replikasi I			Replikasi II			Replikasi III		
Berat botol (gram)	11,73071			8,80545			12,11171		
Botol+sampel (gram)	11,74071			8,81545			12,12170		
Berat sampel (gram)	0,01000			0,01000			0,00999		
Kadar Sampel (µg/mL)	**Absorbansi**		**% AR**	**Absorbansi**		**% AR**	**Absorbansi**		**%AR**
	Sampel	**Kontrol**		**Sampel**	**Kontrol**		**Sampel**	**Kontrol**	
80	0,570	0,737	22,66	0,642	0,821	21,80	0,799	0,867	7,84
	0,570		22,66	0,686		16,44	0,800		7,73
120	0,545		26,05	0,676		17,66	0,708		18,34
	0,528		28,36	0,646		21,32	0,707		18,45
160	0,480		34,87	0,531		35,32	0,451		47,98
	0,473		35,82	0,505		38,49	0,431		50,29
200	0,337		54,27	0,423		48,48	0,318		63,32
	0,326		55,77	0,412		49,82	0,326		62,40
240	0,266		63,91	0,368		55,18	0,196		77,39
	0,293		60,24	0,342		58,34	0,205		76,36
Persamaan regresi linier: Y = 0,266625X – 2,196 R^2 = 0,9495 IC_{50} = 195,7656 µg/mL				Persamaan regresi linier: Y = 0,26235X – 5,69 R^2 = 0,9478 IC_{50} = 212,2737 µg/mL			Persamaan regresi linier: Y = 0,4566X – 30,042 R^2 = 0,9740 IC_{50} = 175,3000 µg/mL		
Rerata IC_{50} = 194,45 µg/mL ±18,52									



Lanjutan Lampiran 5.

Vitamin E
Larutan stok = 0,1%

Keterangan	Replikasi I			Replikasi II			Replikasi III		
Berat botol (gram)	10,36520			9,74787			19,80897		
Botol+sampel (gram)	10,37522			9,75787			19,81897		
Berat sampel (gram)	0,01002			0,01000			0,01000		
Kadar Sampel (µg/ml)	**Absorbansi**		**% AR**	**Absorbansi**		**% AR**	**Absorbansi**		%AR
	Sampel	**Kontrol**		**Sampel**	**Kontrol**		**Sampel**	**Kontrol**	
2	0,666	0,737	9,63	0,756	0,821	7,92	0,780	0,867	10,03
	0,676		8,28	0,753		8,28	0,800		7,73
4	0,476		35,41	0,620		24,48	0,718		17,19
	0,456		38,13	0,630		23,26	0,697		19,61
6	0,451		38,81	0,544		33,74	0,617		28,84
	0,421		42,88	0,529		35,57	0,620		28,49
8	0,415		43,69	0,422		48,60	0,510		41,18
	0,399		45,86	0,414		49,57	0,515		40,60
10	0,305		58,62	0,306		62,73	0,390		55,02
	0,268		63,64	0,281		65,77	0,378		56,40
Persamaan regresi linier: Y = 5,6175X + 4,793 R^2 = 0,8810 IC_{50} = 8,0475 µg/mL				Persamaan regresi linier: Y = 6,876X – 5,262 R^2 = 0,9971 IC_{50} = 8,0369 µg/mL			Persamaan regresi linier: Y = 5,8075X – 4,335 R^2 = 0,9915 IC_{50} = 9,3560 µg/mL		
Rerata IC_{50} = 8,48 µg/mL ±0,77									



Lampiran 6. Contoh Perhitungan EC_{50} dan ARP

Sampel ekstrak etanol 50% kulit rambutan
Larutan stok 0,1 %

Kadar sampel (µg/mL)	Rerata % antiradikal ±SD	LR (X dalam µg/mL)	IC_{50} (µg/mL)	Konsentrasi DPPH (µg/mL)	EC_{50} (µg/µg DPPH)	ARP (µg DPPH/µg sampel)
2	10,92±0,10	Y= 6,39X – 1,176	8,0025	157,7	0,049	2037,39
4	23,75±0,19					
6	37,18±2,50					
8	54,75±2,59	R^2 = 0,9789				
10	59,37±2,01					

Konsentrasi DPPH = 15,77 mg/100mL
= 0,1577 mg/mL
= 157,7 µg/mL

IC_{50} = 8,0025 µg/mL

$$EC_{50} = \frac{IC_{50}\ (\mu g/mL)}{\text{Konsentrasi DPPH } (\mu g/mL)}$$

$$= \frac{8,0025\ \mu g/mL}{157,7\ \mu g/mL}$$

= 0,049 µg/µg DPPH

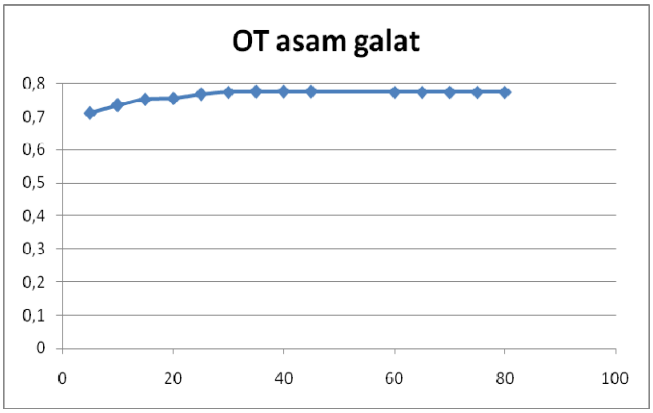
$$ARP = \frac{100}{EC_{50}}$$

$$= \frac{100}{0,049} = 2037,39\ \mu g\ DPPH/\mu g\ sampel$$

Lampiran 7. Hasil Penentuan Waktu Inkubasi Asam Galat

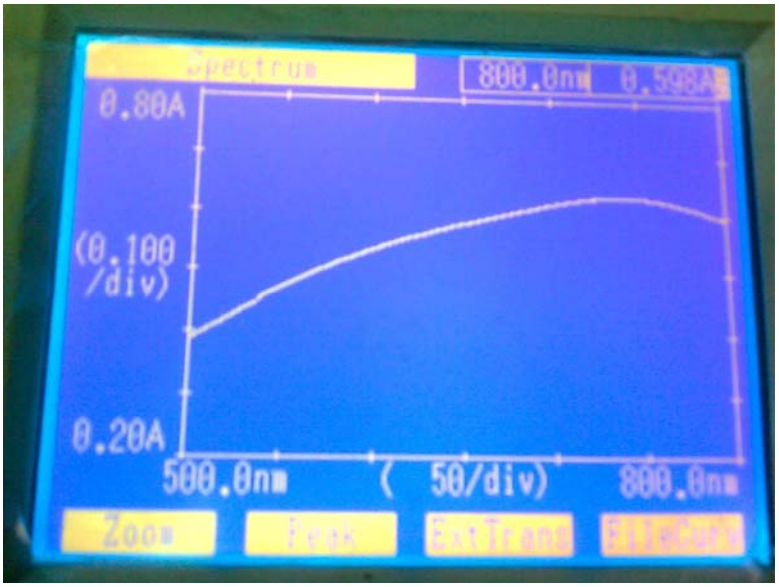
t (menit)	Absorbansi
5	0,711
10	0,734
15	0,752
20	0,755
25	0,767
30	**0,774**
35	**0,775**
40	**0,775**
45	**0,775**
50	**0,774**
55	**0,774**
60	**0,774**
65	**0,774**
70	**0,774**
75	**0,774**
80	**0,774**

absorbansi



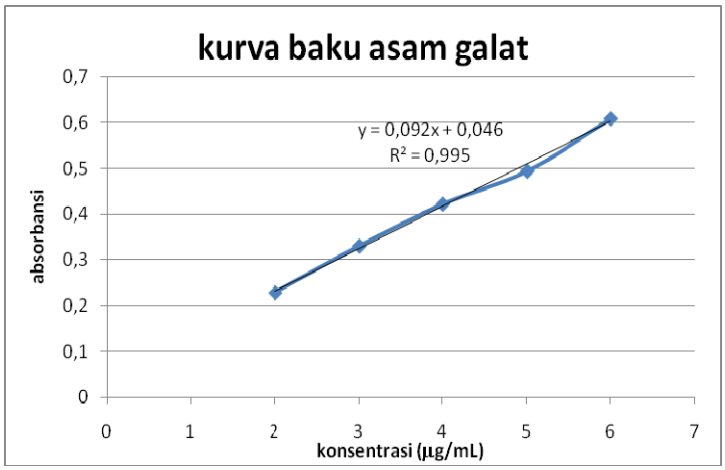
waktu (menit)

Lampiran 8. Penentuan Panjang Gelombang Maksimum Asam galat



Lampiran 9. Kurva Baku Asam Galat

Kadar Asam Galat (µg/mL)	Absorbansi	Rerata Absorbansi ± SD
2	0,221	0,228 ± 0,0065
	0,234	
	0,228	
3	0,388	0,330 ± 0,05
	0,312	
	0,290	
4	0,400	0,422 ± 0,03
	0,456	
	0,409	
5	0,516	0,494 ± 0,02
	0,467	
	0,498	
6	0,630	0,609 ± 0,04
	0,630	
	0,566	



Lampiran 10. Data Kadar Fenolik Total Sampel Rambutan

	Sampel	Kadar sampel (µg/mL)	Absorbansi			GAE (mg/g sampel)		
			R1	R2	R3	R1	R2	R3
Kulit	Ekstrak etanol (stok 0,1%, 100µL)	1000	0,354	0,341	0,333	166,2	159,18	154,86
			0,346	0,338	0,335	161,88	157,56	155,94
			0,342	0,335	0,340	159,72	155,94	158,64
	Rerata GAE (mg/g sampel) ±SD					**162,6±3,30**	**157,56±1,62**	**156,48±1,95**
	Fraksi kloroform (stok 0,1%, 100µL)	1000	0,364	0,426	0,427	171,60	205,08	205,62
			0,447	0,487	0,493	216,41	238,01	241,25
			0,439	0,493	0,496	212,10	241,25	242,87
	Rerata GAE (mg/g sampel) ±SD					**200,04±24,72**	**228,11±20,01**	**229,91±21,05**
	Fraksi etil asetat (stok 0,1%, 50µL)	1000	0,496	0,480	0,457	485,75	468,47	443,63
			0,442	0,511	0,559	427,43	501,94	553,78
			0,494	0,516	0,568	483,59	507,34	563,50
	Rerata GAE (mg/g sampel) ±SD					**465,59±33,07**	**492,58±21,06**	**520,30±66,58**
	Ekstrak metanol:air (stok 0,1%, 100µL)	1000	0,208	0,285	0,227	87,37	128,94	97,62
			0,215	0,294	0,238	91,14	133,80	103,56
			0,220	0,284	0,297	93,84	128,40	135,42
	Rerata GAE (mg/g sampel) ±SD					**90,78±3,25**	**130,38±2,97**	**112,2±20,33**
Biji	Ekstrak etanol (stok 0,1%, 100µL)	1000	0,201	0,249	0,267	83,59	109,50	119,22
			0,275	0,250	0,255	123,54	110,04	112,74
			0,270	0,258	0,255	120,84	114,36	112,74
	Rerata GAE (mg/g sampel) ±SD					**109,32±22,33**	**111,3±2,66**	**114,9±3,74**
	Fraksi kloroform (stok 0,1%, 100µL)	1000	0,293	0,265	0,250	133,26	118,14	110,04
			0,291	0,241	0,242	132,18	105,18	105,72
			0,288	0,288	0,243	130,56	130,56	106,26
	Rerata GAE (mg/g sampel) ±SD					**132±1,36**	**117,96±12,69**	**107,34±2,35**
	Fraksi etil asetat (stok 0,1%, 100µL)	1000	0,467	0,340	0,340	227,21	158,64	158,64
			0,417	0,397	0,357	200,22	189,42	167,82
			0,495	0,404	0,361	242,33	193,20	169,98
	Rerata GAE (mg/g sampel) ±SD					**223,25±21,33**	**180,42±18,96**	**165,48±6,02**
	Fraksi metanol:air (stok 0,1%, 100µL)	1000	0,268	0,232	0,256	119,76	100,32	113,28
			0,257	0,280	0,256	113,82	126,24	113,28
			0,249	0,283	0,250	109,50	127,86	110,04
	Rerata GAE (mg/g sampel) ±SD					**114,36±5,15**	**118,14±15,45**	**112,2±1,87**

Lampiran 11. Contoh Perhitungan Kadar Fenolik Total Sampel

Sampel ekstrak etanol kulit rambutan 0,1%

Kurva baku : Y = 0,0926X + 0,0462

Kadar fenol ekstrak etanol kulit rambutan :
Absorbansi (Y) = 0,354

Y = 0,0926X + 0,0462
0,354 = 0,0926X + 0,0462
X = 3,3240 µg/mL

Faktor pengenceran (Fp) = $\frac{5\ mL}{0,1\ mL}$ = 50 x

Kadar fenolik dalam 1 mL sampel :
= 3,3240 µg/mL x Fp
= 3,3240 µg/mL x 50
= 166,2 µg/mL

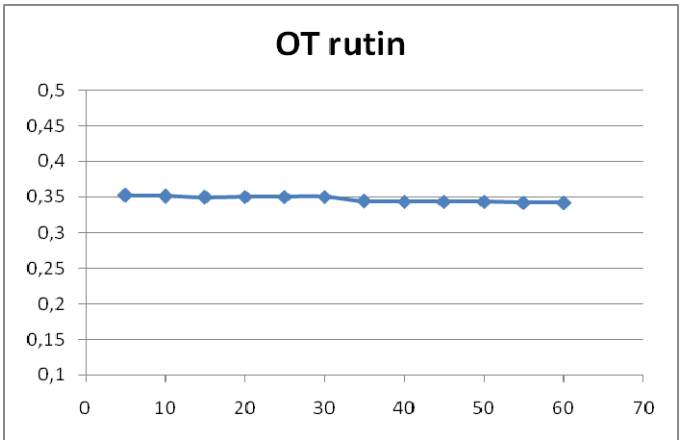
Kadar fenolik dalam stok :
= $\frac{166,2\ µg/mL}{0,1\ g/100\ mL}$
= $\frac{16620\ µg}{0,1\ g}$
= $\frac{16,62\ mg}{0,1\ g}$

Kadar fenolik dalam 1 gram sampel = $\frac{1\ g}{0,1\ g}$ x 16,62 mg
GAE = 166,2 mg/g sampel

Lampiran 12. Hasil Penentuan Waktu Inkubasi Rutin

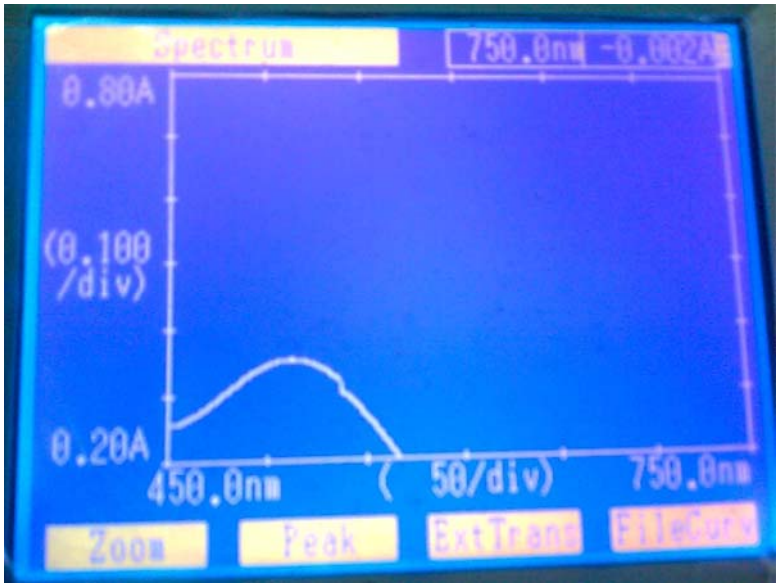
t (menit)	Absorbansi
5	0,352
10	0,351
15	0,349
20	**0,350**
25	**0,350**
30	**0,350**
35	0,344
40	0,343
45	0,343
50	0,343
55	0,342
60	0,342

absorbansi



waktu (menit)

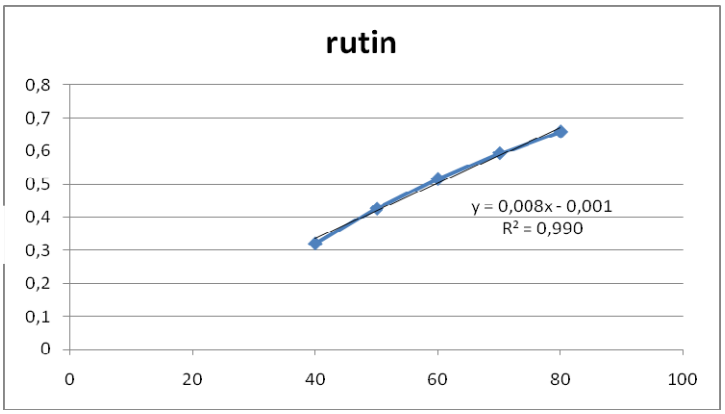
Lampiran 13. Penentuan Panjang Gelombang Maksimum Rutin



Lampiran 14. Kurva Baku Rutin

Kadar Rutin (µg/mL)	Absorbansi	Rerata Absorbansi ± SD
40	0,353	0,321 ± 0,04
	0,327	
	0,283	
50	0,426	0,427 ± 0,03
	0,402	
	0,452	
60	0,501	0,516 ± 0,02
	0,543	
	0,504	
70	0,588	0,594 ± 0,01
	0,584	
	0,611	
80	0,615	0,658 ± 0,04
	0,672	
	0,686	

absorbansi



Konsentrasi rutin (µg/mL)

Lampiran 15. Data Kadar Flavonoid Total Sampel Rambutan

	Sampel	Kadar sampel (µg/mL)	Absorbansi			RE (mg/g sampel)		
			R1	R2	R3	R1	R2	R3
Kulit	Ekstrak etanol (stok 0,1%, 1 mL)	1000	0,277	0,297	0,266	165,52	177,41	158,98
			0,274	0,292	0,271	163,73	174,44	161,95
			0,278	0,290	0,264	166,11	173,25	157,79
	Rerata RE (mg/g sampel) ±SD					**165,12±1,24**	**175,03±2,14**	**159,57±2,14**
	Fraksi kloroform (stok 0,1%, 1 mL)	1000	0,401	0,366	0,321	239,24	218,43	191,68
			0,435	0,353	0,319	259,45	210,70	190,49
			0,433	0,375	0,327	258,26	223,78	195,24
	Rerata RE (mg/g sampel) ±SD					**252,32±11,34**	**217,64±6,58**	**192,47±2,47**
	Fraksi etil asetat (stok 0,1%, 1 mL)	1000	0,421	0,419	0,389	251,13	249,94	232,10
			0,417	0,413	0,377	248,75	246,37	224,97
			0,437	0,405	0,405	260,64	241,62	241,62
	Rerata RE (mg/g sampel) ±SD					**253,51±6,29**	**245,98±4,17**	**232,90±8,35**
	Ekstrak metanol:air (stok 0,1%, 1 mL)	1000	0,276	0,289	0,235	164,92	172,65	140,55
			0,292	0,271	0,230	174,44	161,95	137,57
			0,286	0,262	0,218	170,87	156,60	130,44
	Rerata RE (mg/g sampel) ±SD					**170,08±4,81**	**163,73±8,17**	**136,19±5,20**
Biji	Ekstrak etanol (stok 1%, 1 mL)	10000	0,268	0,242	0,237	16,02	14,47	14,17
			0,279	0,251	0,239	16,67	15,00	14,29
			0,261	0,260	0,251	15,60	15,54	15,01
	Rerata RE (mg/g sampel) ±SD					**16,096±5,40**	**15,00±5,35**	**14,49±0,45**
	Fraksi kloroform (stok 1%, 500µL)	10000	0,387	0,397	0,343	46,18	47,37	40,95
			0,388	0,380	0,358	46,30	45,35	42,73
			0,375	0,366	0,328	44,76	43,69	39,17
	Rerata RE (mg/g sampel) ±SD					**45,75±0,86**	**45,47±1,84**	**40,95±1,78**
	Fraksi etil asetat (stok 1%, 200µL)	10000	0,422	0,445	0,433	125,86	132,70	129,13
			0,433	0,433	0,451	129,13	129,13	134,48
			0,435	0,444	0,436	129,73	132,40	130,02
	Rerata RE (mg/g sampel) ±SD					**128,24±2,08**	**131,41±1,98**	**131,21±2,87**
	Fraksi metanol:air (stok 1%, 1 mL)	10000	0,216	0,216	0,223	12,93	12,93	13,34
			0,221	0,221	0,220	13,22	13,22	13,16
			0,234	0,225	0,254	13,99	13,46	15,18
	Rerata RE (mg/g sampel) ±SD					**13,38±5,52**	**13,20±2,68**	**13,89±1,12**

Lampiran 16. Contoh Perhitungan Kadar Flavonoid Total Sampel

Sampel ekstrak etanol kulit rambutan 0,1%

Kurva baku : Y = 0,00841X - 0,0014

Kadar flavonoid ekstrak etanol kulit rambutan :
Absorbansi (Y) = 0,277

Y = 0,00841X - 0,0014
0,277 = 0,00841X - 0,0014
X = 33,1034 µg/mL

Faktor pengenceran (Fp) = $\frac{5\ mL}{1\ mL} = 5$

Kadar flavonoid dalam 1 ml sampel :
= 33,1034 µg/mL x Fp
= 33,1034 µg/mL x 5
= 165,52 µg/mL

Kadar flavonoid dalam stok :
$= \frac{165,52\ \mu g/mL}{0,1\ g/100\ mL}$
$= \frac{16552,00\ \mu g}{0,1\ g}$
$= \frac{16,552\ mg}{0,1\ g}$

Kadar flavonoid dalam 1 gram sampel = $\frac{1\ g}{0,1\ g} \times 16,552\ mg$

RE = 165,52 mg/g sampel