DAFTAR LAMPIRAN

Lampiran 1. Determinasi Tanaman

LEMBAGA ILMU PENGETAHUAN INDONESIA
(INDONESIAN INSTITUTE OF SCIENCES)
PUSAT PENELITIAN BIOLOGI
(RESEARCH CENTER FOR BIOLOGY)
Cibinong Science Center, Jl. Raya Jakarta - Bogor KM. 46 Cibinong 16911
Telp. (+62 21) 87907636 - 87907604, Fax. 87907612
Website : www.biologi.lipi.go.id

Cibinong, 11 Juni 2021

Nomor : B-629/IV/DI.01/6/2021
Lampiran : -
Perihal : *Hasil identifikasi/determinasi Tumbuhan*

Kepada Yth.
Bpk./Ibu/Sdr(i). **Novita Sari**
NIM : 20170311022
Universitas Esa Unggul
Fakultas Ilmu-Ilmu Kesehatan
Jl. Arjuna Utara 9, Kebon Jeruk
Jakarta 11510

Dengan hormat,

Bersama ini kami sampaikan hasil identifikasi/determinasi tumbuhan yang Saudara kirimkan ke "Herbarium Bogoriense", Bidang Botani Pusat Penelitian Biologi-LIPI Bogor, adalah sebagai berikut :

No.	No. Kol/Nama Daerah	Jenis	Suku
1.	Tanaman bintaro	*Cerbera manghas* L.	Apocynaceae

Demikian, semoga berguna bagi Saudara.

Koordinator Program Penelitian Botani

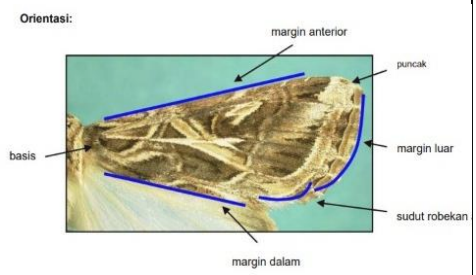
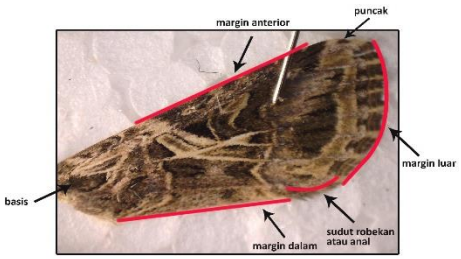
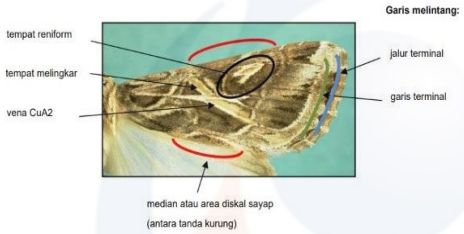
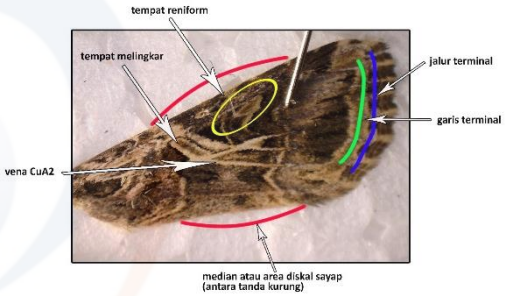
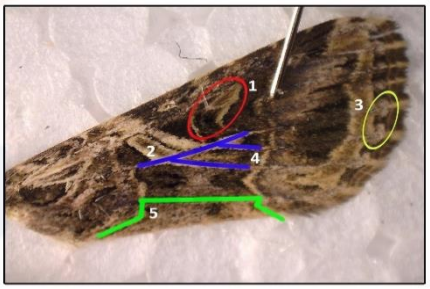
Dr. Himmah Rustiami, S.P., M.Sc.
NIP.197106052000032005

Kepala Pusat Penelitian Biologi LIPI

Dr. Atit Kanti, S.Si, M.Sc
NIP. 196811021994032002

D:\Identifikasi Mahasiswa 2021\Novita Sari.docx\Yayah-Fafa

Lampiran 2. Identifikasi Serangga Uji

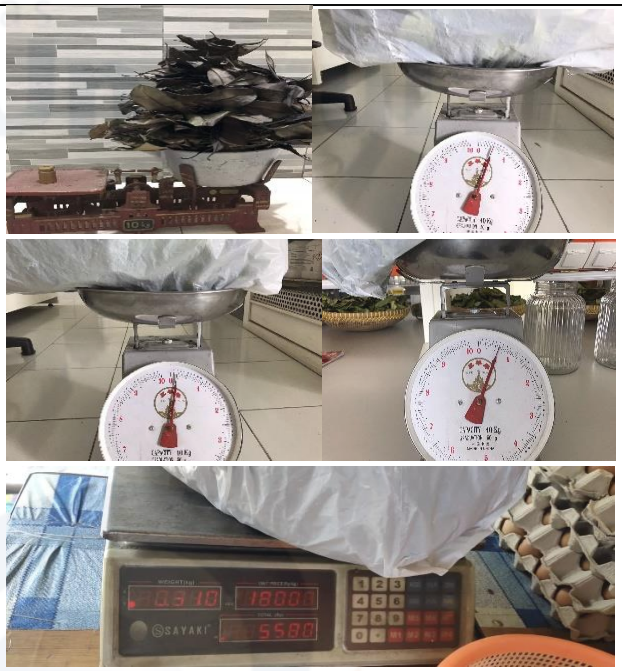
No	Hasil Identifikasi Penelitian (Brambila, 2013)	Hasil Identifikasi Penelitian di Laboratorium Hama, BALITTRO
1.		
2.		
3.		

Lampiran 3. Pembuatan Simplisia

No	Proses Pembuatan Simplisia	Gambar
1.	Tanaman Bintaro (*Cerbera manghas L.*)	
2.	Daun Bintaro yang digunakan adalah daun muda dengan pertumbuhan daun yang berusia 3 bulan.	
3.	Pengumpulan Daun Bintaro (*Cerbera manghas L.*)	

4.	Sortasi Basah	
5.	Timbang Daun Bintaro (*Cerbera manghas L.*) 1 kg + 1,4 kg + 2,8 kg + 3,8 g + 1,25 g + 5,58 gr + 5 kg + 1,15 kg = **21,98 kg**	       

6.	Pencucian Bahan	
7.	Setelah 7 hari jemur tanpa matahari	
8.	Setelah 14 hari jemur tanpa matahari	
9.	Sortasi Kering	

9.	Timbang Setelah Simplisia 5,01 kg	
10.	Sortasi Kering	
11.	Glinder (Proses menghaluskan menjadi serbuk simplisia)	

12.	Timbang Serbuk Daun Bintaro (*Cerbera manghas*) 100,09 g + 100,02 g + 100,27 g + 100,66 g + 100,00 g + 100,14 g + 100,74 g + 63,30 g = **765,27 g** 80,31 g + 80,01 g + 80,07 g + 80,21 g + 80,30 g + 80,82 g + 80,47 g + 80, 11 g + 80,08 g + 80,91 g + 80,41 g + 81,13 g + 80,54 g + 80,57 g + 44,15 g = 1,170,71 g ~ **1,17 kg** 0,60 g + 0,30 g + 0,20 g **= 1,30 kg + 0,76 kg** **= 2,06 kg** **Total** 765,26 g + 1,170,71 g + 2,06 g **= 4,00,74 g ~ 4,74 kg**	

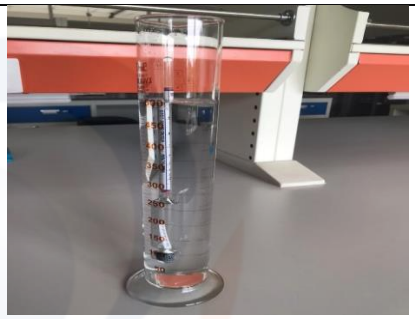
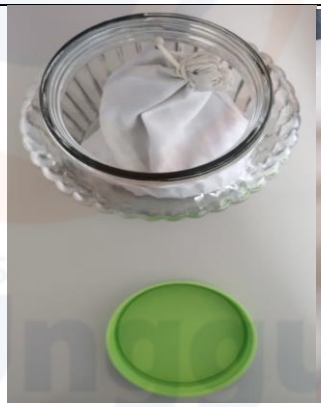
$$\textbf{Susutan Pengeringan} = \frac{(W1 - W2)}{(W1)} \text{ x } 100\%$$

Keterangan
W1 = Bobot Awal (g)
W2 = Bobot Akhir (g)

$$\textbf{Susutan Pengeringan} = \frac{(21{,}98\ \text{kg} - 5{,}31\ \text{kg})}{(21{,}98)} \times 100\% = \mathbf{75{,}83\ \%}$$

Lampiran 4. Pembuatan Ekstrak

No	Pembuatan Ekstraksi	Gambar
1.	Serbuk Bintaro (*Cerbera manghas L.*)	
2.	Timbang Serbuk Simplisia **3,80 kg**	

3.	Persiapan	  
4.	Test Alkohol 96 % menggunakan alkohol meter	
5.	Memasukan Sampel ke dalam kain diikat dan dimasukkan ke dalam toples kaca Kemudian memasukan pelarut ke dalam toples yang berisikan sampel (merendam)	 
6.	Maserasi di rendam selama 3 hari dan diaduk sesekali pada waktu 24 jam, sehingga dihasilkan larutan yang jernih	

		 
7.	Sampel di keringanginkan hingga kering selama 2 jam	   
8.	Selanjutnya di saring menggunakan kertas saring dimasukkan ke dalam botol kaca	 
9.	Toples kaca berisi larutan etanol 96% di	 

	uapkan dengan *rotary evaporator*	
10.	Setelah di *rotary evaporator* di uapkan ke *waterbath* untuk menghasilkan ekstrak kental	
11.	Hasil ekstrak kental setelah maserasi, di *rotary evaporator* dan di *waterbath*	
12.	**Total seluruh hasil ekstrak kental 514,79 g**	

$$\textbf{\% Rendemen Ekstrak} = \frac{(W1)}{(W2)} \text{ x } 100\%$$

Keterangan

W1 = Bobot Ekstrak (g)

W2 = Bobot Simplisia (g)

$$\textbf{\% Rendemen Ekstrak} = \frac{(0{,}51 \text{ g})}{(3{,}80 \text{ kg})} \text{ x } 100\% = 13{,}53\%$$

Lampiran 5 CERTIFCATE OF ANALYSIS ETHANOL 96%

PT. INDO CLASSICA

CERTIFICATE OF ANALYSIS

Product Name	:	Solvent Ethanol Teknik
Reg. Number	:	V. 501
Lot Number	:	5 / 501 / 2208195445
Issued	:	Agustus 2020

No	Test Item	Unit	Test Method	Specification	Result
1	Appearance	-	Visual	Clear	Clear
2	Purity	wt %	Alcoholmeter	Min. 96	96
3	Water Content	wt %	ASTM E1064 - 12	Max 0.1	0.009
4	Specific Gravity at 20°C		ASTM D4052 - 11	0.7910 - 0.7930	0.792
5	Colour	Hazen	ASTM D1209 - 05	Max 15	0
6	Acetone Content	mg / kg	IMPCA 001 - 09	Max 30	LT 30
7	Acidity (As Acetic Acid) / Free Acid	wt %	ASTM D1613 - 06	Max 0.003	LT 0.003
8	Hydrocarbons		ASTM D1722 - 09	-	Pass
9	Carbonisable Substances	Pt - Co	ASTM E346 - 08	Max 30	LT 15
10	Distilation Range at 760 mmHg	°C	ASTM D1078 - 11	Max 1	-
	IBP	°C	ASTM D1078 - 11		64.3
	DP	°C	ASTM D1078 - 11		64.9
11	Non Volatile Matter /	mg / 100 ml	ASTM D1353 - 13	Max 1	LT 0.8
	Residue On Evaporation				
12	Permanganate (15°C)	Minutes	ASTM D1363 - 06	Min. 60	>60
13	Sulfur	mg / kg	ASTM D5453 - 09	Max 0.5	LT 0.5
14	Iron	mg / kg	ASTM E394 - 09	Max 0.1	LT 0.1
15	Chloride	mg / kg	IMPCA 002 - 96	Max 0.5	LT 0.5
16	Odor	-	ASTM E346 - 08	Odor Free	Odor Free

Note : The analysis result are only for internal purposes

Verified By,

Quality Control

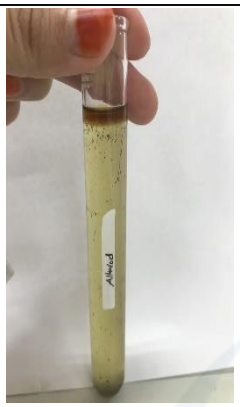
Lampiran 6. Pengujian Parameter Ekstrak

Lampiran 6.1 Parameter Spesifik

Lampiran 6.1.1 Uji Organoleptik

No	Simplisia	Warna	Bau	Bentuk
1.	Daun Bintaro (*Cerbera manghas* L)	Cokelat tua	Aroma khas	 Ekstrak kental (Lengket)

Lampiran 6.1.2 Uji Fitokimia

1.	  	Alat dan Bahan	6.		Uji Tanin (Positif) : Cairan Ekstrak menjadi hijau kehitaman
2.		 Uji Wagner (-)	7.		Uji Steroid (Positif) Cairan ekstrak menjadi hijau

3.	 	Uji Alkaloid (Positif): P Meyer: Adanya endapan putih P Dragendorff : Adanya endapan jingga merah			Uji Saponin (Positif) : Munculnya busa selama 10 menit
5		Uji Flavonoid (Positif): Carian ekstrak bening orange disertai muncul busa dan cairan ekstrak menjadi bening orange			

Lampiran 6.1.3 Uji Total Fenolik dan Total Flavonoid

KEMENTERIAN PERTANIAN
BADAN PENELITIAN DAN PENGEMBANGAN PERTANIAN

F.05

BALAI BESAR PENELITIAN DAN PENGEMBANGAN PASCAPANEN PERTANIAN
LABORATORIUM PENGUJIAN

Jalan Tentara Pelajar 12
Bogor 16114
Jalan Surotokuntho No. 56
Rawagabus Karawang 41313

Telp.0251-8321762, 0251-8346367
Fax. 0251-8346367
Telp.0267-401294
Fax. 0267-402357

LAPORAN PENGUJIAN LABORATORIUM

No. Administrasi /*Number*	:	34/LBBPSC/VI/22
Nama/Instansi Pengirim/*Name*	:	Novita Sari
No. Surat Permohonan *Number of letter*	:	-
Alamat Pengirim/*Address*	:	Jl. Bentengan 2 RT.02/06 No. 68 Jakarta Utara
Tanggal Penerimaan Sampel/*Date of receive*	:	29 Juni 2022
Jenis Produk/*Type of product*	:	Ekstrak Etanol 96% Daun Bintaro
Unit Kemasan/*Packaging unit*	:	Botol Kaca
Berat bersih/*Netto*	:	20 gram

No.	Nama Sampel *Sample name*	Jenis Analisis *Type of Analysis*	Metode *Method*	Hasil *Result*	Satuan *Unit*
1.	**Ekstrak Etanol 96% Daun Bintaro (Cerbera Manghas)**	Total Flavonoid	Spektro	581,14	mg/100g
		Total Phenol		2330,45	mg GAE/100g

Bogor, 19 Juli 2022
Manager Teknis,

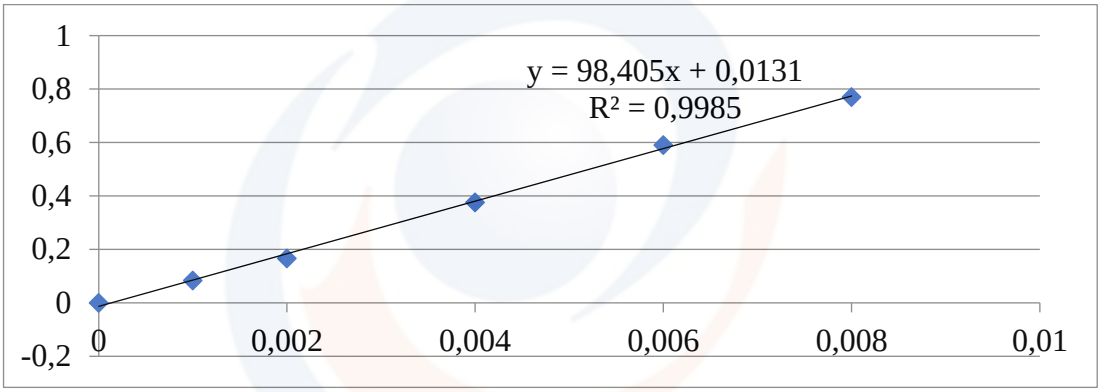
Dr. Heny Herawati, MT.

Laporan ini dilarang diperbanyak tanpa persetujuan tertulis dari Laboratorium Pengujian BBPP Pascapanen Pertanian
Laporan ini hanya berlaku pada contoh yang diuji
Laporan ini merupakan hasil pengujian bukan penelitian
Sisa contoh akan kami simpan selama satu bulan dari tanggal terbit laporan

Rev.01

Lampiran 6.1.4 Cara Perhitungan Kadar Total Fenol
Data kurva kalibrasi pada Panjang gelombang 750 nm

Kurva Kalibrasi	
mg/mL	Absorbansi
0	0
0,001	0,083
0,002	0,167
0,004	0,376
0,006	0,591
0,008	0,770

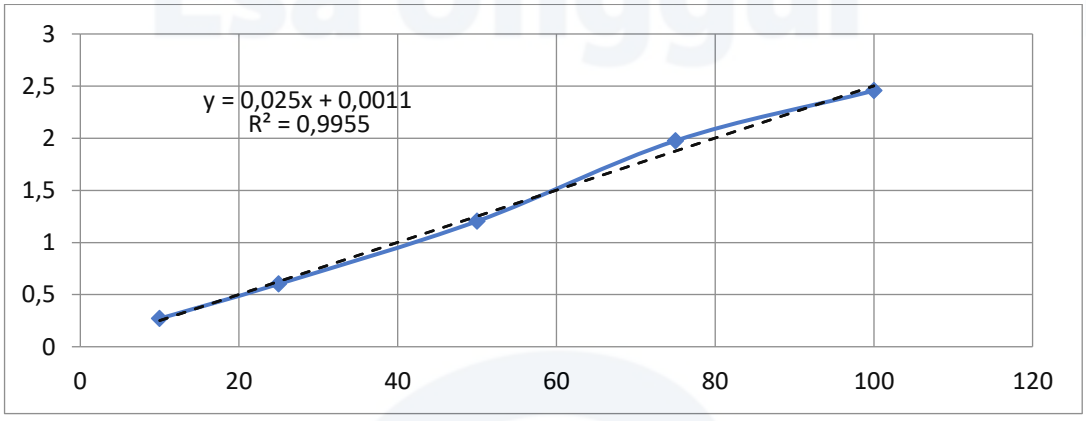


No	Cara Perhitungan	
	Kode161 Absorbansi ekstrak = 0,6276 m (berat ekstrak) = 0,1161 **Kesetaraan Asam Galat** y = 98,405x + 0,0131 0,6276 = 98,405x + 0,0131 $x = \left(\frac{0,6276 - 0,0131}{98,405}\right) = 0,0065$ **Faktor pengenceran** $FP = \left(\frac{\text{V. Ekstrak yang diambil}}{\text{V. Ekstrak}}\right)$ $FP = \left(\frac{5}{0,15}\right) = 33,33$	Kode161 Absorbansi ekstrak = 0,6242 m (berat ekstrak) =0,1161 **Kesetaraan Asam Galat** y = 98,405x + 0,0131 0,6276 = 98,405x + 0,0131 $x = \left(\frac{0,6242 - 0,0131}{98,405}\right) = 0,0064$ **Faktor pengenceran** $FP = \left(\frac{\text{V. Ekstrak yang diambil}}{\text{V. Ekstrak}}\right)$ $FP = \left(\frac{5}{0,15}\right) = 33,33$

	Kadar Total Fenol $F = \left(\frac{C\ x\ V\ x\ FP}{m}\right) X\ 100\%$ $F = \left(\frac{0{,}0065\ x\ 12{,}5\ x\ 33{,}33}{0{,}1161}\right) X\ 100\%$ $F = \left(\frac{0{,}0065\ x\ 12{,}5\ x\ 33{,}33}{0{,}1161}\right) X\ 100\%$ $F = \mathbf{2336{,}65\ mg\ GAE/100\ g}$	**Kadar Total Fenol** $F = \left(\frac{C\ x\ V\ x\ FP}{m}\right) X\ 100\%$ $F = \left(\frac{0{,}0064\ x\ 12{,}5\ x\ 33{,}33}{0{,}1161}\right) X\ 100\%$ $F = \left(\frac{0{,}0064\ x\ 12{,}5\ x\ 33{,}33}{0{,}1161}\right) X\ 100\%$ $F = \mathbf{2324{,}25\ mg\ GAE/100\ g}$
$\mathbf{Kadar\ Total\ Fenol} = \left(\frac{2336{,}65\ +2324{,}25}{2}\right) = \mathbf{2330{,}45\ mg\ GAE/100\ g}$		

Lampiran 6.1.5 Cara Perhitungan Kadar Total Flavonoid
Data kurva kalibrasi pada Panjang gelombang 434,2 nm

Kurva Kalibrasi	
mg/mL	Absorbansi
10	0,270
25	0,602
50	1,204
75	1,976
100	2,455
10	0,270



No	Cara Perhitungan	
	Kode161 Absorbansi ekstrak = 0,95 m (berat ekstrak) = 0,5225 Interserp = 0,0011 Slope = 0,025 Fp = 4 **Kesetaraan kuersertin** y = 0,025x + 0,0011 0,95 = 0,025 x + 0,0011 $x = \left(\frac{0,95 - 0,0011}{0,025}\right) = 37,956$	**Kadar Total Flavonoid** $F = \left(\frac{C\ x\ V\ x\ Fp\ x10 - 6}{m}\right) X\ 100\%$ F $= \left(\frac{37,956\ x\ 20\ x\ 4\ x\ 0,00001}{0,5225}\right) X\ 100\%$ $F = \left(\frac{0,0030}{0,1161}\right) X\ 100\%$ $\mathbf{F = 581,145\ mg\ /100\ g}$

Lampiran 6.1.6 Uji GC-MS

PEMERINTAH PROVINSI DAERAH KHUSUS IBUKOTA JAKARTA
DINAS KESEHATAN
LABORATORIUM KESEHATAN DAERAH
Jl. Rawasari Selatan No. 2, Jakarta 10510, E-mail : dkklabs@gmail.com
Telp. : (021) 4247408, 4247432, 4247404, 42889512, Fax. (021) 4247364, 42873697

HASIL PEMERIKSAAN LABORATORIUM

PENGAMBILAN SAMPEL
Tanggal : -
Oleh : Novita Sari
Jenis Sampel : Ekstrak Etanol 96% Daun Bintaro

PENERIMAAN DI LABORATORIUM
Tanggal : 28 Juni 2022
No. Lab : 2.3 / 1175

DIKIRIM OLEH
Nama / Instansi : Novita Sari
Alamat : Universitas Esa Unggul

Pengambilan sampel di luar / ~~atas~~ *) tanggung jawab **LABKESDA**

HASIL LABORATORIUM

NO	JENIS/KODE SAMPEL	RT	QUALITY	SENYAWA	KANDUNGAN (%)
1	Ekstrak Etanol 96% Daun Bintaro	4.335	36	1,2-Nonadiene	1,71
		4.542	96	2-FURANMETHANOL	2,96
		15.009	87	2-FURANCARBOXALDEHYDE, 5-(HYDROXYMETHYL) -	21,39
		25.545	90	2,5-CYCLOHEXADIENE, 1,4-DIONE, 2-(METHOXYMETHYL)-3,5-DIMETHYL-	1,24
		29.248	96	NEOPHYTADIENE	1,50
		29.606	42	DODECANAL	2,25
		29.793	47	l-Galactose, 6-deoxy-	2,57
		30.351	99	HEXADECANOIC ACID	2,60
		31.427	97	Linolenic acid	3,58
		31.668	52	MOME INOSITOL	2,01
		32.889	35	ETHYL (DIMETHYLAMINO) (THIOXO) ACETATE	45,98
		33.468	87	2,3-DIHYDROXYPROPYL PALMITATE	1,17
		41.080	99	Vitamin E	1,22
		45.900	99	.gamma. - Sitosterol	1,15
		47.017	97	Cycloartenol	1,72

Keterangan:
1. Metode GCMSD (Gas Chromatography Spectrometri Mass)
2. Data yang diperoleh dibandingkan terhadap database library pada alat

Jakarta, 05 Juli 2022
Laboratorium Kimia & Doping

Dr. Dra. ERNAWATI, MSi
NIP. 196810302014012002

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Halaman 1 dari 2

Lampiran 6.1.7. Seluruh Kandungan Senyawa Kimia Ekstrak Etanol 96% Daun Bintaro (*Cerbera manghas* L) Berdasarkan Analisis GC-MS

No	Nama Senyawa	Nama lain	Waktu Retensi (menit ke)	Kandungan (%)
1.	Propanoic acid, 2-oxo-	Pyruvic acid methyl ester Methyl glyoxylic acid methyl ester	4,011	0,10
2.	Glycinamide	2 Amino acetamide Glycine amide	4,273	0,51
3.	1,2-Nonadiene	Cylobutanone	4,335	1,71
4.	2-Furylmethanol	alpha Furfuryl alcohol	4,542	2,96
5.	2-Cyclopentene-1,4-dione	4-Cyclopentene-1,3-dione	4,859	0,32
6.	n-Heptylaldehyde	Heptanal	5,342	0,53
7.	3,5-dihydroxy-6-methyl-2,3-dihydropyran-4-one	4H-Pyran-4-one, 2,3-dihydro-3,5-dihydroxy-6-methyl-	6,100	0,33
8.	4H-Pyran-4-one,2,3-dihydro-3,5-dihydroxy-6-methyl-	2,3-Dihydro-3,5-dihydroxy-6-methyl-4h-pyran-4-one	11,030	0,78
9.	2-Furylcarboxaldehyde	2-Furaldehyde Furan-2-carbaldehyde	15,009	21,39
10.	2,5-Cyclohexadiene-1,4-Dione	P-Benzoquinone 1,4 -Dihydrophenanthrene	25,545	1,24
11.	Cyclopenta[C]Pyran-4-Carboxylic	Monotropeine 6-Methoxy-3-methyl-2-benzofurancarbal dehyde	25,973	0,41
12.	Neophytadiene	2,6,10-Trimethyl,14-Ethylene-14-Pentadecne	29,248	1,50
13.	Dodecanal	Lauraldehyde Myristic Acid Tetradecanoic Acid	29,606	2,25
14.	L-Galactose	6-Deoxy-D-Galactose	29,793	2,57

		D-Glucose		
15.	Hexadecanoic Acid	Methyl Hexadecanoate Palmitic Acid	29,937	0,66
16.	Hexadecanoic Acid	Methyl Hexadecanoate Acid Palmitic	30,351	2,60
17.	2,2,3,3-Tetrafluoro-1-Methylpropyl	Carbamic Acid, 2,2,3,3-Tetrafluoro-1-Methylpropyl Ester	31,061	0,98
18.	Phytol	3,7,11,15-Tetramethylhexadec	31,144	0,98
19.	Linolenic Acid	9,12,15-Octadecatrienoic Acid 9,12,15-Octadecatrienoate	31,427	3,58
20.	Mome Inositol		31,668	2,01
21.	Ethyl (Dimethylamino) (Thioxo)Acetate	Acetic Acid, (Dimethylamino)Thioxo, Ethyl Ester 1-Isothiocyanatoethane Ethane	32,889	45,98
22.	2,3-Dihydroxypropyl Palmitate	Hexadecanoic Acid, 2,3-Dihydroxypropyl Ester Glycerol 1-Monopalmitate	33,468	1,17
23.	2,2,6-Trimethyl-1-(2-Methyl-Cyclobut-2-Enyl)-Hepta-4,6-Dien-3-One	2,2,6-Trimethyl-1-(3-Methyl-2-Cyclobuten-1-Yl)-4,6-Heptadien-3-One	34,867	0,75
24.	Cyclooctene, 3-Ethenyl-	3-Vinylcyclooctene 3-Vinyl-1-Cyclooctene	34,957	0,59
25.	Vitamin E	2H-1-Benzopyran-6-Ol, 3,4-Dihydro-2,5,7,8-Tetramethyl-2-[(4R,8R)-4,8,12-Trimethyltridecyl]-, (2R)	41,080	1,22
26.	Gamma – Sitosterol	Stigmast -5-En-3 Beta-Ol, (24s)	45,900	1,15
27	Cycloartenol	9,19-Cyclo-9. Beta -Lanost-24-En-3.Beta.-ol	47,017	1,72

Lampiran 6.1.8 Library Search Report

Library Search Report

Data Path : C:\msdchem\1\data\220630-A\
Data File : 11.D
Acq On : 1 Jul 2022 15:07
Operator : Eva
Sample : 2.3/1175 Ekstrak Etanol 96% daun Bintaro
Misc :
ALS Vial : 4 Sample Multiplier: 1

Search Libraries: C:\Database\W8N08.L Minimum Quality: 100

Unknown Spectrum: Apex
Integration Events: ChemStation Integrator - autoint1.e

Pk#	RT	Area%	Library/ID	Ref#	CAS#	Qual
1	4.011	0.10	C:\Database\W8N08.L			
			Propanoic acid, 2-oxo-, methyl est er $$ Pyruvic acid, methyl ester $ $ Methyl pyruvate $$ Methylglyoxyl ic acid methyl ester	19114	000600-22-6	38
			METHYL 2-OXOPROPANOATE $$ PROPANOI C ACID, 2-OXO-, METHYL ESTER $$ BE NZTRAUBENSAEURE, METHYLESTER $$ ME THYL 2-OXO-1-PROPENOATE	19146	000600-22-6	9
			1-PROPOXYPROPANE $$ PROPANE, 1,1'- OXYBIS- $$ (N-C3H7)2O $$ 1,1'-OXYB ISPROPANE	19250	000111-43-3	9
2	4.273	0.51	C:\Database\W8N08.L			
			Ethyl aminomethylformimidate	43175	999043-17-7	32
			Acetamide, 2-amino- $$ Glycinamide $$ 2-Aminoacetamide #	42839	000598-41-4	25
			2-FURANCARBOXALDEHYDE $$ .ALPHA.-F UROLE $$ 2-FORMYLFURAN $$ 2-FURALD EHYDE	6429	000098-01-1	14
3	4.335	1.71	C:\Database\W8N08.L			
			1,2-Nonadiene	53063	022433-33-6	36
			CYCLOBUTANONE, 2-ETHENYL- $$ 2-VIN YLCYCLOBUTANONE	52859	071546-39-9	36
			1,2-NONADIENE	53079	022433-33-6	36
4	4.542	2.96	C:\Database\W8N08.L			
			2-FURANMETHANOL $$ 2-FURYLMETHANOL $$ (2-FURYL)-METHANOL (FURFURYLAL COHOL) $$ .ALPHA.-FURFURYL ALCOHOL	191939	000098-00-0	96
			2-Furanmethanol $$ Furfuryl alcoho l $$ .alpha.-Furfuryl alcohol $$. alpha.-Furylcarbinol	191873	000098-00-0	95
			2-FURANMETHANOL $$ 2-FURYLMETHANOL $$ (2-FURYL)-METHANOL (FURFURYLAL COHOL) $$ .ALPHA.-FURFURYL ALCOHOL	191932	000098-00-0	94
5	4.859	0.32	C:\Database\W8N08.L			
			2-Cyclopentene-1,4-dione $$ 4-Cycl opentene-1,3-dione #	187848	000930-60-9	55
			4-CYCLOPENTENE-1,3-DIONE $$ 2-CYCL OPENTENE-1,4-DIONE $$ 4-CYCLOPENTE NE-1,3-DION $$ 4-CYCLOPENTENE-1,3- DIONE(2-1.4)	187878	000930-60-9	53
			2-Cyclopentene-1,4-dione $$ 4-Cycl opentene-1,3-dione #	187821	000930-60-9	53
6	5.342	0.53	C:\Database\W8N08.L			
			ISOBUTANE, MONODEUTERATED $$ PROPA NE-1-D, 2-METHYL-	42736	999042-73-8	38
			Heptanal $$ n-Heptaldehyde $$ n-He ptanal $$ n-Heptylaldehyde	43273	000111-71-7	38
			ISOBUTANE, 1-DEUTERO-	42741	050463-25-7	38
7	6.100	0.33	C:\Database\W8N08.L			

				2,3-DIHYDRO-3,5-DIHYDROXY-6-METHYL -4H-PYRAN-4-ONE	22515	028564-83-2	53
				4H-Pyran-4-one, 2,3-dihydro-3,5-di hydroxy-6-methyl- $$ 3,5-Dihydroxy -6-methyl-2,3-dihydro-4H-pyran-4-o ne #	22405	028564-83-2	53
				Propanamide, N,N-dimethyl- $$ Prop ionamide, N,N-dimethyl- $$ N,N-Dim ethylpropanamide $$ N,N-Dimethylpr opionamide	199118	000758-96-3	50
8	11.030	0.78	C:\Database\W8N08.L				
				2,3-DIHYDRO-3,5-DIHYDROXY-6-METHYL -4H-PYRAN-4-ONE	22515	028564-83-2	60
				4H-Pyran-4-one, 2,3-dihydro-3,5-di hydroxy-6-methyl- $$ 3,5-Dihydroxy -6-methyl-2,3-dihydro-4H-pyran-4-o ne #	22405	028564-83-2	60
				4H-Pyran-4-one, 2,3-dihydro-3,5-di hydroxy-6-methyl- $$ 3,5-Dihydroxy -6-methyl-2,3-dihydro-4H-pyran-4-o ne #	22404	028564-83-2	53
9	15.009	21.39	C:\Database\W8N08.L				
				2-FURANCARBOXALDEHYDE, 5-(HYDROXYM ETHYL)- $$ 2-FURALDEHYDE, 5- (HYDR OXYMETHYL)- $$ 2-FURALDEHYDE, 5-(H YDROXYMETHYL)- $$ 2-FURANCARBOXALD EHYDE, 5- (HYDROXYMETHYL)-	189648	000067-47-0	87
				5-(HYDROXYMETHYL)-2-FURALDEHYDE $$ 5-HYDROXYMETHYL-FURAN-2-CARBALDEH YDE	189640	999189-64-3	87
				2-Furancarboxaldehyde, 5-(hydroxym ethyl)- $$ 2-Furaldehyde, 5-(hydro xymethyl)- $$ 5-Hydrxoymethylfurfu ral $$ Hydroxymethylfurfurole	189611	000067-47-0	87
10	25.545	1.24	C:\Database\W8N08.L				
				2,5-CYCLOHEXADIENE-1,4-DIONE, 2-(M ETHOXYMETHYL)-3,5-DIMETHYL- $$ 2,6 -DIMETHYL-3-(METHOXYMETHYL)-P-BENZ OQUINONE	385781	040113-58-4	90
				1,4-DIHYDROPHENANTHRENE	385872	020244-28-4	83
				4,11-DIOXA-3,5-DIMETHYLTETRACYCLOU NDECANE CAGE COMPOUND	385809	000000-00-0	83
11	25.973	0.41	C:\Database\W8N08.L				
				Cyclopenta[c]pyran-4-carboxylic ac id, 7-methyl-, methyl ester $$ Met hyl 7-methylcyclopenta[c]pyran-4-c arboxylate #	402579	063785-74-0	93
				METHYL 7-METHYLCYCLOPENTA[C]PYRAN- 4-CARBOXYLATE $$ CYCLOPENTA[C]PYRA N-4-CARBOXYLIC ACID, 7-METHYL-, ME THYL ESTER	402722	063785-74-0	93
				6-Methoxy-3-methyl-2-benzofurancar baldehyde $$ 6-Methoxy-3-methyl-1-benzofuran-2-carbaldehyde #	402562	010410-28-3	50
12	29.248	1.50	C:\Database\W8N08.L				
				2,6,10-TRIMETHYL,14-ETHYLENE-14-PE NTADECNE $$ NEOPHYTADIENE	94309	000504-96-1	96
				2,6,10-TRIMETHYL,14-ETHYLENE-14-PE NTADECNE $$ NEOPHYTADIENE	94308	000504-96-1	94
				(2E)-3,7,11,15-TETRAMETHYL-2-HEXAD ECEN-1-OL $$ 2-HEXADECEN-1-OL, 3,7 ,11,15-TETRAMETHYL-, [R-[R*,R*-(E)]]- $$ 3,7,11,15-TETRAMETHYLHEXADE C-2-EN-1-OL $$ (2E)(7R,11R)-3,7,11 ,15-TETRAMETHYLHEXADEC-2-EN-1-OL	94349	000150-86-7	91
13	29.606	2.25	C:\Database\W8N08.L				
				DODECANAL $$ LAURALDEHYDE $$ 1-DOD	69164	000112-54-9	42

				ECANAL $$ 1-DODECYL ALDEHYDE				
				1-PROPOXYOCTANE $$ OCTANE, 1-PROPO XY- $$ ETHER, OCTYL PROPYL $$ N-OC TYL PROPYL ETHER	25519	029379-41-7	30
				TETRADECANOIC ACID $$ METHYL TRIDE CANOATE $$ MYRISTIC ACID $$ TETRAD ECANOATE	86049	000544-63-8	30
14	29.793	2.57	C:\Database\W8N08.L				
				L-Galactose, 6-deoxy- $$ 6-Deoxyhe xose #	85783	002438-80-4	47
				6-DEOXYHEXOSE $$ 6-DEOXY-D-GALACTO SE $$ 6-DEOXYGALACTOSE $$ D-(+)-FU COSE	85788	003615-37-0	46
				D-Galactose, 6-deoxy- $$ Fucose, D - $$ D-Fucose $$ D-Galactomethylos	85782	003615-37-0	46
15	29.937	0.66	C:\Database\W8N08.L				
				HEXADECANOIC ACID, METHYL ESTER $$ METHYL HEXADECANOATE $$ PALMITIC ACID METHYL ESTER $$ EMERY 2216	121218	000112-39-0	96
				HEXADECANOIC ACID, METHYL ESTER $$ METHYL HEXADECANOATE $$ PALMITIC ACID METHYL ESTER $$ EMERY 2216	121192	000112-39-0	95
				HEXADECANOIC ACID, METHYL ESTER $$ METHYL HEXADECANOATE $$ PALMITIC ACID METHYL ESTER $$ EMERY 2216	121208	000112-39-0	95
16	30.351	2.60	C:\Database\W8N08.L				
				HEXADECANOIC ACID $$ HEXADECANOATE $$ PALMITATE $$ PALMITIC ACID	32267	000057-10-3	99
				HEXADECANOIC ACID $$ HEXADECANOATE $$ PALMITATE $$ PALMITIC ACID	32263	000057-10-3	98
				HEXADECANOIC ACID $$ HEXADECANOATE $$ PALMITATE $$ PALMITIC ACID	32261	000057-10-3	97
17	31.061	0.98	C:\Database\W8N08.L				
				2,2,3,3-TETRAFLUORO-1-METHYLPROPYL CARBAMATE $$ CARBAMIC ACID, 2,2,3 ,3-TETRAFLUORO-1-METHYLPROPYL ESTE R $$ 1-METHYL-2,2,3,3-TETRAFLUOROP ROPYL CARBAMATE $$ 2-BUTANOL, 3,3, 4,4-TETRAFLUORO-, CARBAMATE	26895	000756-48-9	30
				3-(N-Acetyl-N-methylamino)propioni c acid $$ N-Acetyl-N-methyl-beta-a lanine #	43811	058706-66-4	27
				N-ACETYL-N-(SEC-BUTYL)ACETAMIDE $$ ACETAMIDE, N-ACETYL-N-(1-METHYLPR OPYL)- $$ DIACETAMIDE, N-SEC-BUTYL - $$ N-SEC-BUTYLDIACETAMIDE	23787	019264-30-3	25
18	31.144	0.98	C:\Database\W8N08.L				
				Phytol $$ 2-Hexadecen-1-ol, 3,7,11 ,15-tetramethyl-, [R-[R*,R*-(E)]]- $$ trans-Phytol $$ 3,7,11,15-Tetr amethyl-2-hexadecen-1-ol	106166	000150-86-7	76
				(2E)-3,7,11,15-TETRAMETHYL-2-HEXAD ECEN-1-OL $$ 2-HEXADECEN-1-OL, 3,7 ,11,15-TETRAMETHYL-, [R-[R*,R*-(E)]]- $$ 3,7,11,15-TETRAMETHYLHEXADE C-2-EN-1-OL $$ (2E)(7R,11R)-3,7,11 ,15-TETRAMETHYLHEXADEC-2-EN-1-OL	106183	000150-86-7	76
				(2E)-3,7,11,15-TETRAMETHYL-2-HEXAD ECEN-1-OL $$ 2-HEXADECEN-1-OL, 3,7 ,11,15-TETRAMETHYL-, [R-[R*,R*-(E)]]- $$ 3,7,11,15-TETRAMETHYLHEXADE C-2-EN-1-OL $$ (2E)(7R,11R)-3,7,11 ,15-TETRAMETHYLHEXADEC-2-EN-1-OL	106182	000150-86-7	76
19	31.427	3.58	C:\Database\W8N08.L				
				9,12,15-Octadecatrienoic acid, (Z, Z,Z)- $$ Linolenic acid $$ .alpha. -Linolenic acid $$ All-cis-9,12,15	133665	000463-40-1	97

```
                -Octadecatrienoic acid
                9,12,15-Octadecatrienoic acid, (Z,  13549 000463-40-1 94
                Z,Z)- $$ Linolenic acid $$ .alpha.
                -Linolenic acid $$ All-cis-9,12,15
                -Octadecatrienoic acid
                9,12,15-Octadecatrien-1-ol, (Z,Z,Z 133587 000506-44-5 81
                )- $$ (9E,12E,15E)-9,12,15-Octadec
                atrien-1-ol #

20  31.668  2.01 C:\Database\W8N08.L
                MOME INOSITOL                      154558 000000-00-0 52
                Thiophene, tetrahydro-2-methyl- $$ 153856 001795-09-1 46
                 2-Methylthiolane $$ Tetrahydro-2-
                methylthiophene $$ 2-Methyltetrahy
                drothiophene
                4-HEPTANOL, 1,1-DIETHOXY-6-METHYL- 154724 119702-46-4 38
                 $$ 4-HYDROXY-6-METHYLHEPTANAL DIE
                THYL ACETAL

21  32.889 45.98 C:\Database\W8N08.L
                ETHYL (DIMETHYLAMINO)(THIOXO)ACETA 154253 016703-48-3 35
                TE $$ ACETIC ACID, (DIMETHYLAMINO)
                THIOXO-, ETHYL ESTER $$ OXAMIC ACI
                D, N,N-DIMETHYL-2-THIO-, ETHYL EST
                ER
                1-ISOTHIOCYANATOETHANE $$ ETHANE,  153829 000542-85-8 35
                ISOTHIOCYANATO- $$ ISOTHIOCYANATOE
                THANE $$ ETHYL ISOTHIOCYANATE
                3-Hexanol, 2,3-dimethyl- $$ 2,3-Di 153982 004166-46-5 35
                methyl-3-hexanol

22  33.468  1.17 C:\Database\W8N08.L
                2,3-DIHYDROXYPROPYL PALMITATE $$ H  36378 000542-44-9 87
                EXADECANOIC ACID, 2,3-DIHYDROXYPRO
                PYL ESTER $$ (+-)-2,3-DIHYDROXYPRO
                PYL HEXADECANOATE $$ (1)-2,3-DIHYD
                ROXYPROPYL PALMITATE
                2-HYDROXY-1-(HYDROXYMETHYL)ETHYL P  36379 023470-00-0 87
                ALMITATE $$ HEXADECANOIC ACID, 2-H
                YDROXY-1-(HYDROXYMETHYL)ETHYL ESTE
                R $$ 1,2,3-PROPANETRIOL 2-HEXANDEC
                ANOYL ESTER $$ 2-HEXADECANOYL GLYC
                EROL
                Hexadecanoic acid, 2,3-dihydroxypr  36308 000542-44-9 87
                opyl ester $$ Palmitin, 1-mono- $$
                 .alpha.-Monopalmitin $$ Glycerol
                1-monopalmitate

23  34.867  0.75 C:\Database\W8N08.L
                1,3,12-Nonadecatriene               92469 999092-47-2 86
                (4E)-2,2,6-TRIMETHYL-1-(2-METHYL-2 186215 102146-77-0 86
                -CYCLOBUTEN-1-YL)-4,6-HEPTADIEN-3-
                ONE $$ 4,6-HEPTADIEN-3-ONE, 2,2,6-
                TRIMETHYL-1-(3-METHYL-2-CYCLOBUTEN
                -1-YL)-, (E)-(.+-.)- $$ 1-(3'-METH
                YL-2'-CYCLOBUTENYL)-2,2,6-TRIMETHY
                L-4,6-HEPTADIEN-3-ONE
                2-BUTYL-5-HEXYLOCTAHYDRO-1H-INDENE 186837 055044-33-2 83
                 $$ 1H-INDENE, 2-BUTYL-5-HEXYLOCTA
                HYDRO- $$ 2-N-BUTYL-5-N-HEXYL-(HEX
                AHYDROINDAN) $$ 2-N-BUTYL-5-N-HEXY
                L-[HEXAHYDROINDAN]

24  34.957  0.59 C:\Database\W8N08.L
                Cyclooctene, 3-ethenyl- $$ 3-Vinyl  90847 002213-60-7 87
                -1-cyclooctene #
                3-VINYL-1-CYCLOOCTENE $$ CYCLOOCTE  90858 002213-60-7 87
                NE, 3-ETHENYL- $$ CYCLOOCTENE, 3-V
                INYL-
                3-VINYL-1-CYCLOOCTENE $$ CYCLOOCTE  90873 002213-60-7 87
                NE, 3-ETHENYL- $$ CYCLOOCTENE, 3-V
                INYL-
```

25	41.080	1.22	C:\Database\W8N08.L dl-.alpha.-Tocopherol $$ (.+/-.)-. alpha.-Tocopherol $$ Vitamin E $$ 2H-1-Benzopyran-6-ol, 3,4-dihydro- 2,5,7,8-tetramethyl-2-(4,8,12-trim ethyltridecyl)- Vitamin E $$ 2H-1-Benzopyran-6-ol, 3,4-dihydro-2,5,7,8-tetramethyl-2 -(4,8,12-trimethyltridecyl)-, [2R- [2R*(4R*,8R*)]]- $$ .alpha.-Tocoph erol $$ .alpha.-Tokoferol dl-.alpha.-Tocopherol $$ (.+/-.)-. alpha.-Tocopherol $$ Vitamin E $$ 2H-1-Benzopyran-6-ol, 3,4-dihydro- 2,5,7,8-tetramethyl-2-(4,8,12-trim ethyltridecyl)-	360473 360474 360476 	010191-41-0 000059-02-9 010191-41-0 	99 98 98
26	45.900	1.15	C:\Database\W8N08.L CHOLEST-5-EN-3-OL, 23-ETHYL-, (3.B ETA.,23S)- $$ (23S)-ETHYLCHOLEST-5 -EN-3.BETA.-OL STIGMAST-5-EN-3-OL $$ STIGMAST-5-E N-3-OL, (3.BETA.,24S)- $$ (3BETA,2 4S)-STIGMAST-5-EN-3-OL $$ .BETA.-D IHYDROFUCOSTEROL .gamma.-Sitosterol $$ Stigmast-5-e n-3-ol, (3.beta.,24S)- $$ Stigmast -5-en-3.beta.-ol, (24S)- $$ Cliona sterol	550186 39958 39928 	113845-28-6 000083-47-6 000083-47-6 	99 99 99
27	47.017	1.72	C:\Database\W8N08.L 9,19-Cyclolanost-24-en-3-ol, (3.be ta.)- $$ 9,19-Cyclo-9.beta.-lanost -24-en-3.beta.-ol $$ Cycloartenol $$ Handianol 1-(1,5-DIMETHYL-4-HEXENYL)-3A,6,6, 12A-TETRAMETHYLTETRADECAHYDRO-1H-C YCLOPENTA[A]CYCLOPROPA[E]PHENANTHR EN-7-OL $$ 9,19-CYCLOLANOST-24-EN- 3-OL, (3.BETA.)- $$ 9,19-CYCLO-9.B ETA.-LANOST-24-EN-3.BETA.-OL $$ 9, 19-CYCLO-9BETA-LANOST-24-EN-3BETA- OL Lanosterol $$ Lanosta-8,24-dien-3- ol, (3.beta.)- $$ Lanosta-8,24-die n-3.beta.-ol $$ Botalan base 138	100563 100577 100561 	000469-38-5 000469-38-5 000079-63-0 	97 97 72

balitro.M Mon Jul 04 11:05:08 2022

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Operator   : Eva
Acquired   :  1 Jul 2022  15:07     using AcqMethod BALITRO.M
Instrument :   GC MS_F
Sample Name: 2.3/1175 Ekstrak Etanol 96% daun Bintaro
Misc Info  :
Vial Number: 4
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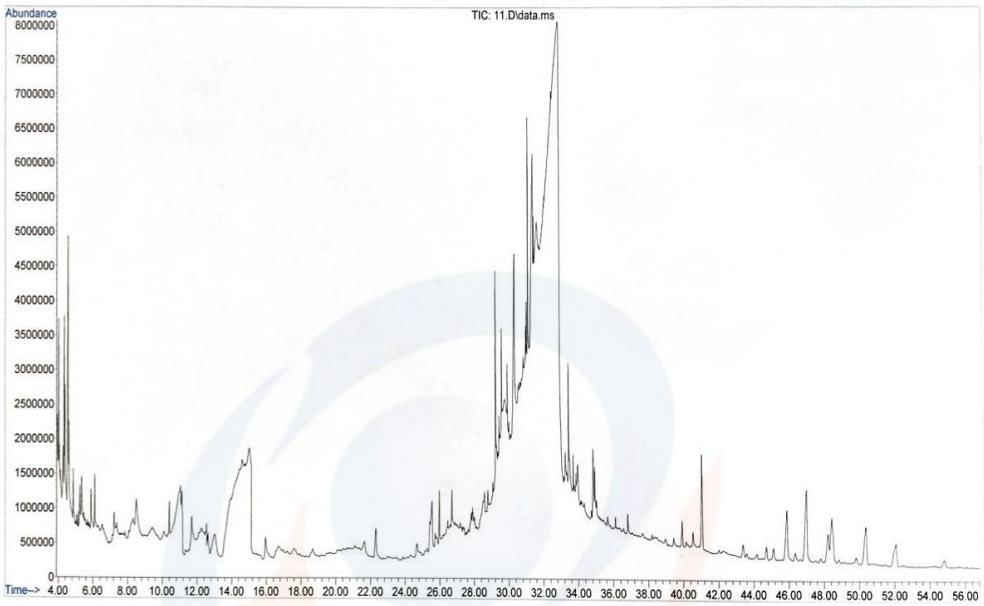


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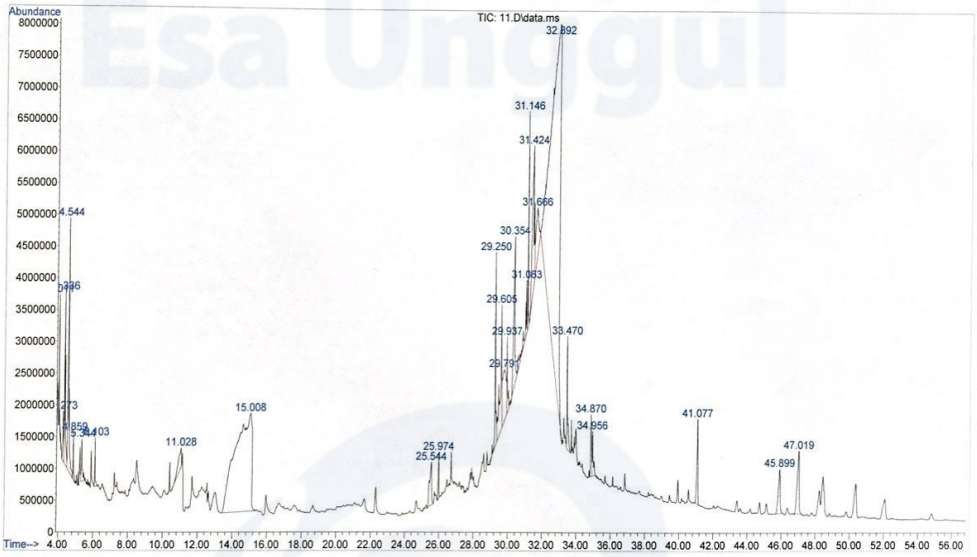
File       :C:\msdchem\1\data\220630-A\11.D
Operator   : Eva
Acquired   :  1 Jul 2022  15:07     using AcqMethod BALITRO.M
Instrument :   GC MS_F
Sample Name: 2.3/1175 Ekstrak Etanol 96% daun Bintaro
Misc Info  :
Vial Number: 4
```

Lampiran 6.2 Parameter Non Spesifik

Lampiran 6.2.1 Uji Kadar Air dan

KEMENTERIAN PERTANIAN
BADAN PENELITIAN DAN PENGEMBANGAN PERTANIAN

F.05

BALAI BESAR PENELITIAN DAN PENGEMBANGAN PASCAPANEN PERTANIAN
LABORATORIUM PENGUJIAN
Jalan Tentara Pelajar 12
Bogor 16114
Jalan Surotokuntho No. 56
Rawagabus Karawang 41313

Telp.0251-8321762, 0251-8346367
Fax. 0251-8346367
Telp.0267-401294
Fax. 0267-402357

LAPORAN PENGUJIAN LABORATORIUM

No. Administrasi /*Number*	:	15/LBBPSC/VII/22
Nama/Instansi Pengirim/*Name*	:	Andika Rahmad Rydzeky
No. Surat Permohonan *Number of letter*	:	-
Alamat Pengirim/*Address*	:	Jl. Guntur No. 827 RT.08/09 Halim Perdana Kusuma
Tanggal Penerimaan Sampel/*Date of receive*	:	13 Juli 2022
Jenis Produk/*Type of product*	:	Simplisia Daun Bintaro
Unit Kemasan/*Packaging unit*	:	Plastik
Berat bersih/*Netto*	:	60 gram

No.	Nama Sampel *Sample name*	Jenis Analisis *Type of Analysis*	Metode *Method*	Hasil *Result*	Satuan *Unit*
1.	**Simplisia Daun Bintaro Cerbera Manghas**	Kadar Air	Gravimetri	8,98	%
		Kadar Abu		9,09	

Bogor, 02 Agustus 2022
Deputi Manajer Teknis,

Wahyu Diyono, S.S.

Laporan ini dilarang diperbanyak tanpa persetujuan tertulis dari Laboratorium Pengujian BBPP Pascapanen Pertanian
Laporan ini hanya berlaku pada contoh yang diuji
Laporan ini merupakan hasil pengujian bukan penelitian
Sisa contoh akan kami simpan selama satu bulan dari tanggal terbit laporan

Uji Kadar air				
Cawan Kosong (g)	Sampel Awal (g)	Setelah Oven (g)	Sampel Akhir (g)	% Air
29,96	2,04	31,82	1,86	8,98%

Lampiran 6.2.2 Uji Kadar Abu

Uji Kadar air				
Cawan Kosong (g)	Sampel Awal (g)	Setelah Oven (g)	Sampel Akhir (g)	% Air
25,01	2,00	25,19	0,18	9,09%

Lampiran 6.2.3 Uji Sisa Pelarut

PEMERINTAH PROVINSI DAERAH KHUSUS IBUKOTA JAKARTA
DINAS KESEHATAN
LABORATORIUM KESEHATAN DAERAH
Jl. Rawasari Selatan No. 2, Jakarta 10510, E-mail : dkklabs@gmail.com
Telp. : (021) 4247408, 4247432, 4247404, 42889512, Fax. (021) 4247364, 42873697

HASIL PEMERIKSAAN LABORATORIUM

PENGAMBILAN SAMPEL

Tanggal : -
Oleh : Novita Sari
Jenis Sampel : Daun Bintaro

PENERIMAAN DI LABORATORIUM

Tanggal : 28 Juni 2022
No. Lab : 2.3 / 1176
No. Batch / Exp Date : - / -

DIKIRIM OLEH

Nama / Instansi : Universitas Esa Unggul
Alamat : Jl. Bentengan II Rt/Rw. 2/6, Sunter Jaya, Tanjung Priok
Pengambilan sampel di luar / ~~oleh~~ *) tanggung jawab **LABKESDA**

HASIL LABORATORIUM

No	Nama Sampel	Jenis Pemeriksaan	Hasil (%)
1	Daun Bintaro	Uji Sisa Pelarut	Terdeteksi Etanol = 0,27 %

Keterangan :
- Metode menggunakan GC-FID

Jakarta , 04 Juli 2022
Laboratorium Kimia & Doping

Dr. Dra. ERNAWATI, MSi
NIP 196810302014012002

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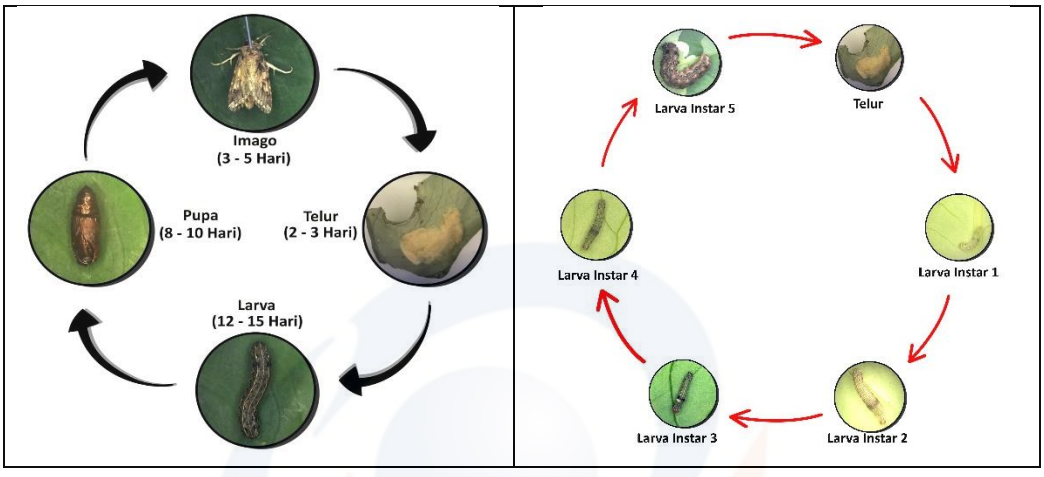
Halaman 1 dari 1

Lampiran 7 Pengujian Aktivitas Insektisida

Lampiran 7.1 Pembiakan Massal *S. litura* F



Lampiran 7.2 Pengujian Efikasi

Lampiran 7.2.1 Uji Pendahuluan Optimasi Waktu Metode Celup Daun

No	Sampel			Mortalitas Larva		
Etanol 96%		Jumlah	Ulangan	24	48	72
1.	1 %	Optimasi Waktu 2 menit dan 15 menit				
		10	1 (2)	2	6	9
		10	2 (2)	1	5	6
		10	3 (2)	1	6	6
		10	4 (2)	0	5	8
		10	5 (2)	2	5	6
		10	1 (15)	0	4	6
		10	2 (15)	0	3	5
		10	3 (15)	0	5	6
		10	4 (15)	0	3	4
		10	5 (15)	0	4	4
		Uji Pendahuluan 2 menit				
		10	1	2	6	9
		10	2	1	5	6
		10	3	1	6	6
		10	4	0	5	8
		10	5	2	5	6
2.	2 %	Optimasi Waktu 2 menit dan 15 menit				
		10	1 (2)	2	5	7
		10	2 (2)	2	7	8
		10	3 (2)	2	5	8
		10	4 (2)	2	8	8
		10	5 (2)	3	7	8
		10	1 (15)	0	5	7
		10	2 (15)	0	6	7
		10	3 (15)	0	4	6
		10	4 (15)	0	3	5
		10	5 (15)	0	6	5
		Uji Pendahuluan 2 menit				
		10	1	2	5	7
		10	2	2	7	8
		10	3	2	5	8
		10	4	2	8	8
		10	5	3	7	8
		Optimasi Waktu 2 menit dan 15 menit				
		10	1 (2)	2	7	10
		10	2 (2)	3	6	9
		10	3 (2)	1	5	9
		10	4 (2)	2	8	9
		10	5 (2)	1	6	9

3.	4 %	**10**	**1 (15)**	2	3	6
		10	**2 (15)**	1	5	8
		10	**3 (15)**	1	5	6
		10	**4 (15)**	1	4	6
		10	**5 (15)**	1	5	7
		Uji Pendahuluan 2 menit				
		10	**1**	2	7	10
		10	**2**	3	6	9
		10	**3**	1	5	9
		10	**4**	2	8	9
		10	**5**	1	6	9
4.	8 %	**Optimasi Waktu 2 menit dan 15 menit**				
		10	**1 (2)**	3	6	10
		10	**2 (2)**	2	5	9
		10	**3 (2)**	2	8	9
		10	**4 (2)**	1	5	9
		10	**5 (2)**	2	8	10
		10	**1 (15)**	3	8	8
		10	**2 (15)**	4	9	9
		10	**3 (15)**	1	6	8
		10	**4 (15)**	0	5	8
		10	**5 (15)**	1	5	8
		Uji Pendahuluan 2 menit				
		10	**1**	3	6	10
		10	**2**	2	5	9
		10	**3**	2	8	9
		10	**4**	1	5	9
		10	**5**	2	8	10
5.	16 %	**Optimasi Waktu 2 menit dan 15 menit**				
		10	**1 (2)**	3	9	9
		10	**2 (2)**	4	8	9
		10	**3 (2)**	4	8	10
		10	**4 (2)**	3	9	10
		10	**5 (2)**	2	7	10
		10	**1 (15)**	5	9	10
		10	**2 (15)**	4	9	9
		10	**3 (15)**	2	7	9
		10	**4 (15)**	2	6	9
		10	**5 (15)**	1	7	9
		Uji Pendahuluan 2 menit				
		10	**1**	3	9	9
		10	**2**	4	8	9
		10	**3**	4	8	10
		10	**4**	3	9	10

		10	**5**	2	7	10
6.	Kontrol (-)	**10**	**1 (2)**	0	0	1
		10	**2 (2)**	0	0	0
		10	**3 (2)**	0	0	0
		10	**4 (2)**	0	1	1
		10	**5 (2)**	0	0	0
		10	**1 (15)**	0	0	1
		10	**2 (15)**	0	0	0
		10	**3 (15)**	0	0	1
		10	**4 (15)**	0	1	1
		10	**5 (15)**	0	0	1
		Uji Pendahuluan 2 menit				
		10	**1**	0	0	1
		10	**2**	0	0	0
		10	**3**	0	0	0
		10	**4**	0	1	1
		10	**5**	0	0	0

Dokumentasi Uji Pendahuluan Metode Celup Daun (*Leaf dipping*)

Uji Pendahuluan Rata-Rata Optimasi Waktu Pengamatan Metode Celup Daun Selama 2 Menit
Pembuatan 19 Juni 2022 Pengamatan 20-22 Juli 2022

No	Sampel	Jumlah	Ulangan	Mortalitas Larva		
Etanol 96%				24	48	72
1.	1 %	**10**	**1 (2)**	2	6	9
		10	**2 (2)**	1	5	6
		10	**3 (2)**	1	6	6
		10	**4 (2)**	0	5	8
		10	**5 (2)**	2	5	6
		Total Rata-rata		9 + 6 + 6 +8 + 6 = 35/5 = **7,00**		
2.	2 %	**10**	**1 (2)**	2	5	7
		10	**2 (2)**	2	7	8
		10	**3 (2)**	2	5	8
		10	**4 (2)**	2	8	8
		10	**5 (2)**	3	7	8
		Total Rata-rata		7 + 8 + 8 + 8 + 8 = 39/5 = **7,80**		
3.	4 %	**10**	**1 (2)**	2	7	10
		10	**2 (2)**	3	6	9
		10	**3 (2)**	1	5	9
		10	**4 (2)**	2	8	9
		10	**5 (2)**	1	6	9
		Total Rata-rata		10 + 9 + 9 + 9 + 9 = 46/5 = **9,20**		
4.	8 %	**10**	**1 (2)**	3	6	10
		10	**2 (2)**	2	5	9
		10	**3 (2)**	2	8	9
		10	**4 (2)**	1	5	9
		10	**5 (2)**	2	8	10
		Total Rata-rata		10 + 9 + 9 + 9 + 10 = 47/5 = **9,40**		
5.	16 %	**10**	**1 (2)**	3	9	9
		10	**2 (2)**	4	8	9
		10	**3 (2)**	4	8	10
		10	**4 (2)**	3	9	10
		10	**5 (2)**	2	7	10
		Total Rata-rata		10 + 9 + 9 + 10 + 10 =48/5= **9,60**		
6.	Kontrol (-)	**10**	**1 (2)**	0	0	1
		10	**2 (2)**	0	0	0
		10	**3 (2)**	0	0	0
		10	**4 (2)**	0	1	1
		10	**5 (2)**	0	0	0
		Total Rata-rata		1 + 0 + 0 + 1 + 0 = 2/5 = **0,40**		

Note: Hasil data ini digunakan untuk uji lanjut, setelah dianalisis probit Polo Plus Version 1.0

PoloPlus Version 1.0
Date: 23 JUL 2022
Uji Lanjut Ekstrak etanol 96% Cerbera manghas
Data file: C:\Novita Sari Universitas Esa Unggul\SEMESTER 8\Tugas Akhir Skripsi\BAB 4\Aktivitas Insektisida Nabati\Uji Pendahuluan \Hasil Uji Pendahuluan (P2) Display Summary\Data CM (P2) untuk Uji Lanjut digunakan untuk PHM.txt
Number of preparations: 1
Number of dose groups: 24
Model: Probit
Natural Response Parameter: no
Convert doses to logarithms: yes
LCs: 10 30 50 70 90
~~~~~~

Uji Pendahuluan Ekstrak etanol 96% Cerbera manghas
Cmeta subjects 240 controls 10
slope=-0,30+0,23 nat.resp.=0,00+-0,00 heterogeneity=0,40
LC_{10}=0,01 95% limits: 0,01 to 0,04
LC_{30}=0,09 95% limits: 0,02 to 0,19
LC_{50}=0,31 95% limits: 0,14 to 0,50
LC_{70}=1,028 95% limits: 0,67 to 1,49
LC_{90}=5,71 95% limits: 3,56 to 12,02
~~~~~~

Uji Pendahuluan Rata-Rata Optimasi Waktu Pengamatan Metode Celup Daun Selama 15 Menit

Pembuatan 24 Juni 2022 Pengamatan 25-27 Juni 2022

No	Sampel	Jumlah	Ulangan	Mortalitas Larva		
Etanol 96%				24	48	72
1.	1 %	10	1 (15)	0	4	6
		10	2 (15)	0	3	5
		10	3 (15)	0	5	6
		10	4 (15)	0	3	4
		10	5 (15)	0	4	4
		Total Rata-rata		6 + 5 + 6 + 4 + 4 = 25/5 = **5,00**		
2.	2 %	10	1 (15)	0	5	7
		10	2 (15)	0	6	7
		10	3 (15)	0	4	6
		10	4 (15)	0	3	5
		10	5 (15)	0	6	5
		Total Rata-rata		7 + 7 + 6 + 5 + 5 = 30/5 = **6,00**		
3.	4 %	10	1 (15)	2	3	6
		10	2 (15)	1	5	8
		10	3 (15)	1	5	6
		10	4 (15)	1	4	6
		10	5 (15)	1	5	7
		Total Rata-rata		6 + 8 + 6 + 6 + 7 = 33/5 = **6,60**		
5.	8 %	10	1 (15)	3	8	8
		10	2 (15)	4	9	9
		10	3 (15)	1	6	8
		10	4 (15)	0	5	8
		10	5 (15)	1	5	8
		Total Rata-rata		8 + 9 + 8 + 8 + 8 = 41/5 = **8,20**		
6.	16 %	10	1 (15)	5	9	10
		10	2 (15)	4	9	9
		10	3 (15)	2	7	9
		10	4 (15)	2	6	9
		10	5 (15)	1	7	9
		Total Rata-rata		9 + 8 + 8 + 10 + 9= 25/3 = **8,33**		
7.	Kontrol (-)	10	1 (15)	0	0	1
		10	2 (15)	0	0	0
		10	3 (15)	0	0	1
		10	4 (15)	0	1	1
		10	5 (15)	0	0	1
		Total Rata-rata		1 + 0 + 1 + 1 + 1 = 4/5 = **0,80**		

PoloPlus Version 1.0
Date: 27 JUL 2022
Uji Pendahuluan Ekstrak Etanol 96% Cerbera manghas
Data file: C:\Novita Sari Universitas Esa Unggul\SEMESTER 8\Tugas Akhir Skripsi\BAB 4\Aktivitas Insektisida Nabati\Uji Pendahuluan\Data Uji Pendahuluan (P15).txt
Number of preparations: 1
Number of dose groups: 25
Model: Probit
Natural Response Parameter: no
Convert doses to logarithms: yes
LCs: 10 30 50 70 90

~~~~~~

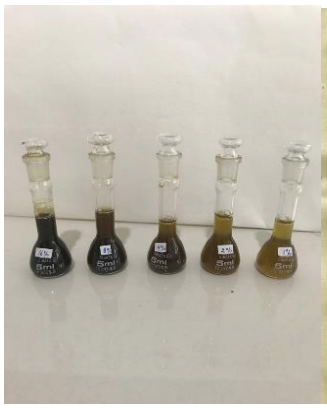
Uji pendahuluan Ekstrak etanol 96% Cerbera manghas
Cmeta subjects 250 controls 10
slope=1,07+-0,21 nat.resp.=0,00+-0,00 heterogeneity=0,36
LC_{10}=0,12 95% limits: 0,01 to 0,32
LC_{30}=0,54 95% limits: 0,14 to 1,00
LC_{50}=1,56 95% limits: 0,77 to 2,33
LC_{70}=4,46 95% limits: 3,08 to 7,03
LC_{90}=20,32 95% limits: 11,31 to 69,40
~~~~~~

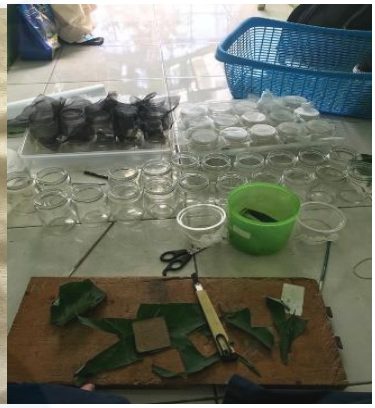
Uji Pendahuluan Rata-Rata Pengamatan Metode Semprot Serangga
Pembuatan 01 Juli 2022









Pengamatan 02-04 Juli 2022

No	Sampel	Jumlah	Ulangan	Mortalitas Larva		
Etanol 96%				24	48	72
1.	1 %	**10**	**1**	0	0	0
		10	**2**	0	0	0
		10	**3**	0	0	0
		10	**4**	0	0	0
		10	**5**	0	0	0
Total Rata-rata				0 + 0 + 0 + 0 + 0 = 0/5= **0**		
2.	2 %	**10**	**1**	0	0	0
		10	**2**	0	1	1
		10	**3**	0	0	0
		10	**4**	0	0	0
		10	**5**	0	0	0
Total Rata-rata				0 + 1 + 0 + 0 + 0 = 1/5 = **0,20**		
3.	4 %	**10**	**1**	0	1	3
		10	**2**	1	2	2
		10	**3**	1	2	3
		10	**4**	1	2	4
		10	**5**	0	3	4
Total Rata-rata				3 + 2 + 3 + 4 + 4 = 16/5 = **3,20**		
4.	8 %	**10**	**1**	2	4	5
		10	**2**	1	2	5
		10	**3**	1	3	6
		10	**4**	1	3	4
		10	**5**	3	5	7
Total Rata-rata				5 + 5 + 6 + 4 + 7 = 27/5 = **5,40**		
5.	16 %	**10**	**1**	5	7	8
		10	**2**	3	5	7
		10	**3**	2	4	5
		10	**4**	4	7	8
		10	**5**	4	6	7
Total Rata-rata				8 + 7 + 5 + 8 + 7 = 35/5 = **7,00**		
8.	Kontrol (-)	**10**	**1**	0	0	0
		10	**2**	0	0	0
		10	**3**	0	0	0
		10	**4**	0	0	0
		10	**5**	0	0	0
Total Rata-rata				0 + 0 + 0 + 0 + 0 = 0/5= **0**		

PoloPlus Version 1.0
Date: 05 JUL 2022
Uji Pendahuluan Ekstrak Etanol 96% Cerbera manghas
Data file: C:\Novita Sari Universitas Esa Unggul\SEMESTER 8\Tugas Akhir Skripsi\BAB 4\Aktivitas Insektisida Nabati\Uji Pendahuluan\Data Uji Pendahuluan (Semprot).txt
Number of preparations: 1
Number of dose groups: 25
Model: Probit
Natural Response Parameter: no
Convert doses to logarithms: yes
LCs: 10 30 50 70 90

~~~~~~

Uji Pendahuluan Ekstrak Etanol 96% Cerbera manghas
Smeta subjects 250 controls 10
slope=2,48+-0,30 nat.resp.=0,00+-0,00 heterogeneity=0,65
LC_{10}=2,47 95% limits: 1,73 to 3,15
LC_{30}=4,99 95% limits: 4,05 to 5,98
LC_{50}=8,12 95% limits: 6,77 to 10,02
LC_{70}=13,20 95% limits: 10,62 to 17,92
LC_{90}=26,65 95% limits: 19,34 to 43,56
~~~~~~

Lampiran 7.2.2 Uji Lanjut

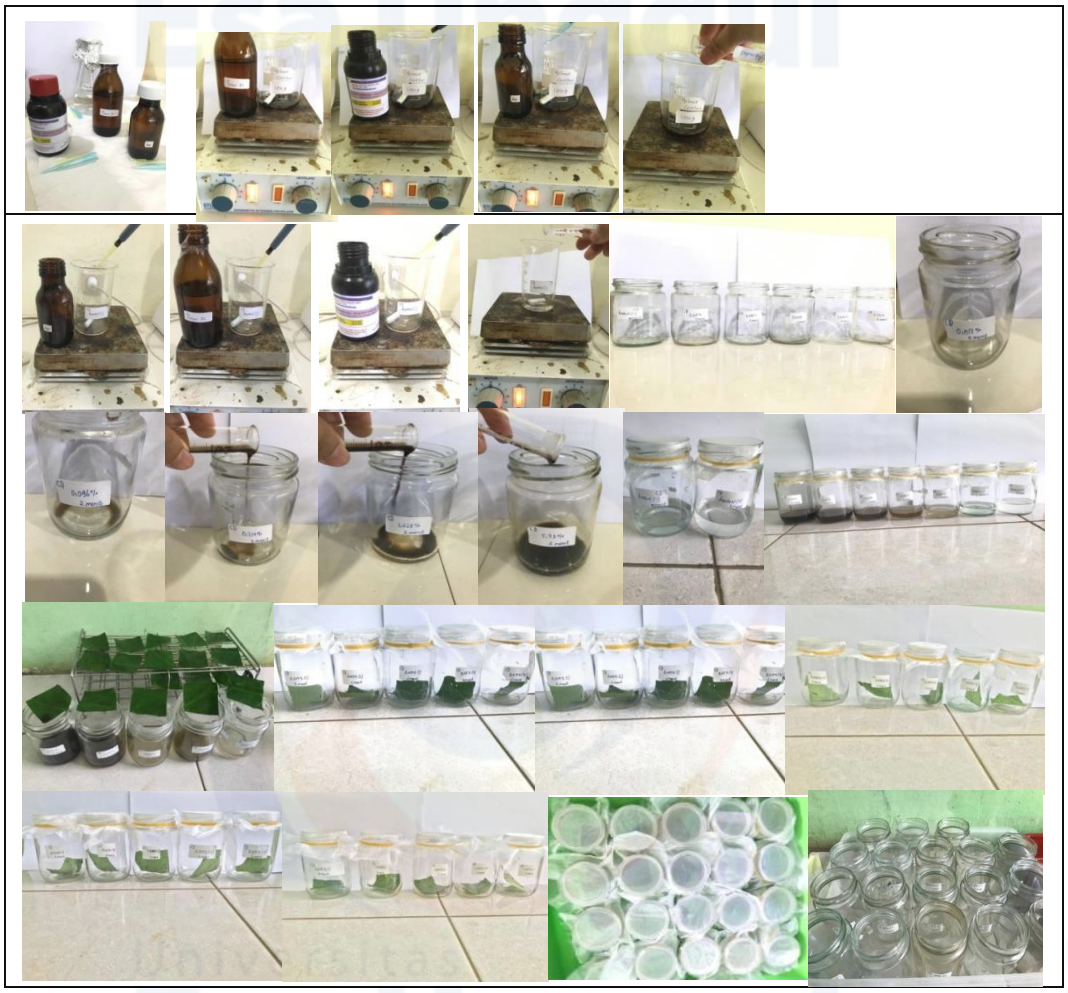
Konsentrasi Ekstrak Etanol 96% Daun Bintaro pada Uji Lanjut

P	Konsentrasi
Kontrol Negatif (P0)	0 %
P1	0,01%
P2	0,09%
P3	0,31 %
P4	1,02 %
P5	5,71 %
Kontrol Positif (P7)	0,05 %
Kontrol Normal (P8)	Daun dan ulat grayak tanpa menggunakan ekstrak uji

Perlakuan untuk uji lanjut

1. Kontrol negatif (P0), menggunakan larutan pengencer
2. Pelakuan 1 (P1), menggunakan ekstrak etanol 96% daun bintaro sebesar 0,01%.
3. Pelakuan 2 (P2), menggunakan ekstrak etanol 96% daun bintaro sebesar 0,09%.
4. Pelakuan 3 (P3), menggunakan ekstrak etanol 96% daun bintaro sebesar 0,31%.
5. Pelakuan 4 (P4), menggunakan ekstrak etanol 96% daun bintaro sebesar 1,02 %.
6. Pelakuan 5 (P5), menggunakan ekstrak etanol 96% daun bintaro sebesar 5,71 %.
7. Kontrol positif (P7), menggunakan sipermetrin sebesar 0,05 %.
8. Kontrol normal (P8), tidak menggunakan konsentrasi ekstrak etanol 96% daun bintaro, tetapi hanya dengan daun dan ulat grayak saja.

Dokumentasi Uji Lanjut Metode Celup Daun (*Leaf dipping*)



Uji Lanjut dengan Pengamatan Metode Celup Daun
Pembuatan 14 Juli 2022 Pengamatan 15-17 Juli 2022

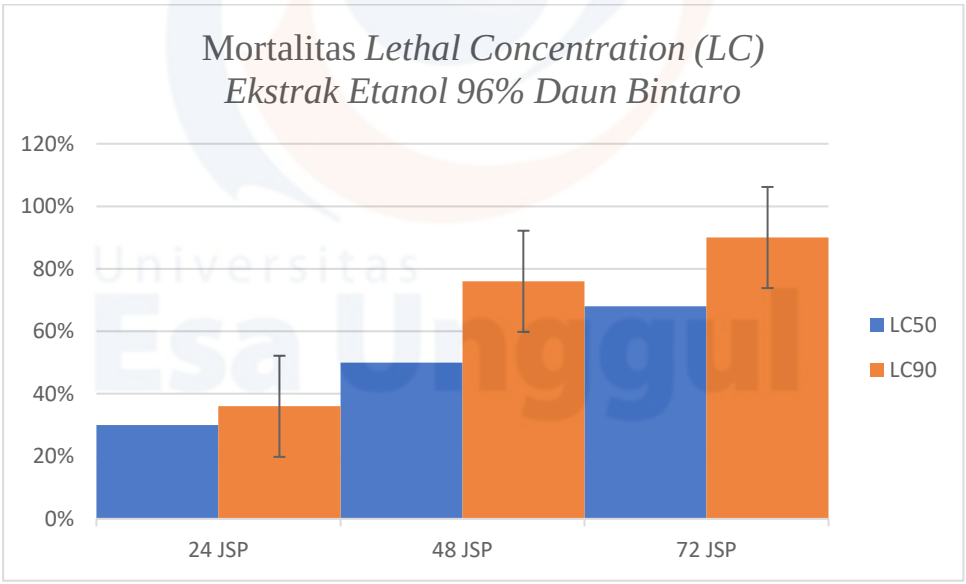
No	Sampel			Mortalitas Larva			Persentase Mortalitas
Etanol 96%		Jumlah	Ulangan	24	48	72	
1.	0,017% (LC_{10})	**10**	**1**	0	0	1	10
		10	**2**	0	1	3	30
		10	**3**	0	0	1	10
		10	**4**	0	1	3	30
		10	**5**	1	2	2	20
		Total Rata-rata		1 + 3 + 1 + 3 + 2 = 10/5 = **2,00**			**20,00**
2.	0,096%	**10**	**1**	2	3	4	40
		10	**2**	1	2	4	40
		10	**3**	2	4	4	40

	(LC_{30})	**10**	**4**	2	2	3	30
		10	**5**	1	3	3	30
		Total Rata-rata		4 + 4 + 4 + 3 + 3 = 18/5 = **3,60**			**36,00**
3.	0,314 % (LC_{50})	**10**	**1**	3	4	6	60
		10	**2**	2	4	5	50
		10	**3**	2	3	4	40
		10	**4**	3	5	5	50
		10	**5**	2	4	5	50
		Total Rata-rata		6 + 5 + 4 + 5 + 5 = 25/5 = **5,00**			**50,00**
4.	1,028 % (LC_{70})	**10**	**1**	3	6	8	80
		10	**2**	2	5	7	70
		10	**3**	2	6	7	70
		10	**4**	4	8	8	80
		10	**5**	4	6	7	70
		Total Rata-rata		8 + 7 + 7 + 8 + 7 = 37/5 = **7,40**			74,00
5.	5,711% (LC_{90})	**10**	**1**	4	8	10	100
		10	**2**	4	8	8	80
		10	**3**	5	9	9	90
		10	**4**	3	7	9	90
		10	**5**	4	8	9	90
		Total Rata-rata		10 + 8 + 9 + 9 + 9 = 45/5 = **9,00**			**90,00**
6.	Kontrol (-)	**10**	**1**	0	0	0	0
		10	**2**	0	0	0	0
		10	**3**	0	0	0	0
		10	**4**	0	0	0	0
		10	**5**	0	0	0	0
		Total Rata-Rata		0 + 0 + 0 + 0 + 0 = 0/5= **0**			0
7.	Kontrol (+) Sipermetherin	**10**	**1**	9	9	10	100
		10	**2**	10	10	10	100
		10	**3**	8	9	10	100
		10	**4**	10	10	10	100
		10	**5**	9	10	10	100
		Total Rata-rata		10+10+10+10+10 =50/5= **10,00**			100

PoloPlus Version 1.0
Date: 18 JUL 2022
Uji Lanjut Ekstrak etanol 96% Cerbera manghas
Data file: C:\Novita Sari Universitas Esa Unggul\SEMESTER 8\Tugas Akhir Skripsi\BAB 4\Aktivitas Insektisida Nabati\Uji Lanjut \Hasil Uji Lanjut\Data CM untuk Uji Lanjut.txt
Number of preparations: 1
Number of dose groups: 24
Model: Probit
Natural Response Parameter: no
Convert doses to logarithms: yes
LCs: 50 90

~~~~~~

Uji Lanjut Ekstrak etanol 96% Cerbera manghas
Cmeta subjects 250 controls 10
slope=0,73+-0,10 nat.resp.=0,00+-0,00 heterogeneity=0,33
LC_{50}=0,09 95% limits: 0,04 to 0,15
LC_{90}=5,00 95% limits: 2,16 to 20,35



Gambar 1 Persentase Mortalitas *Lethal Concentration* (LC_{50} dan $_{90}$) Ekstrak Etanol 96%
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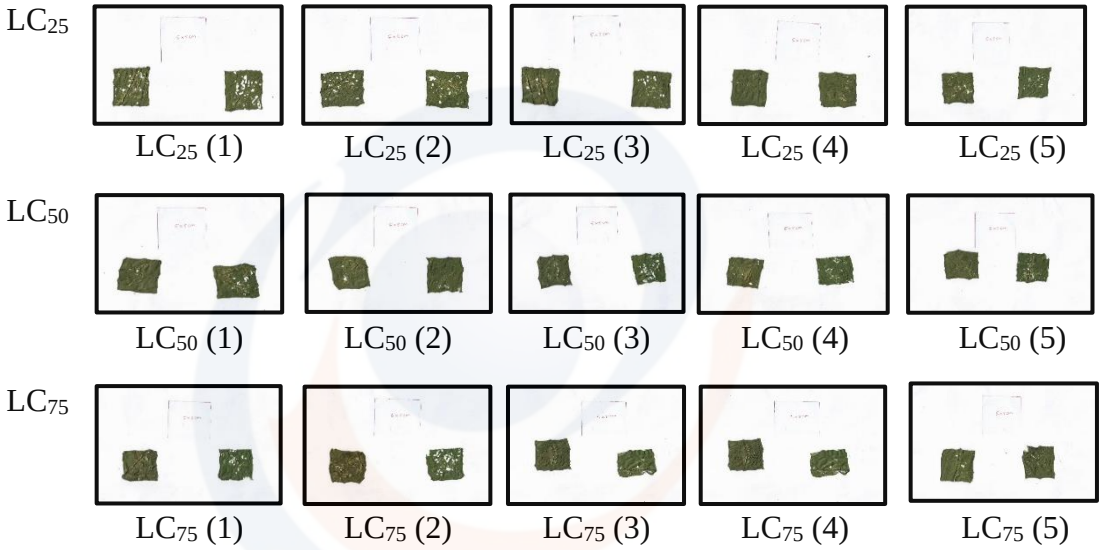
Dokumentasi Uji Penghambatan Makan



Lampiran 7.2.3 Uji Penghambatan Makan Metode Celup Daun

Pembuatan 28 Juli 2022 Pengamatan 29 Juli 2022

No	Sampel Etanol 96%	Jumlah	Ulangan	Kerusakan Daun 24 Jam
1.	Kontrol (-) LC_{25}	**10**	**1**	31,41%
		10	**2**	30,99%
		10	**3**	18,88%
		10	**4**	15,34%
		10	**5**	15,00%
		Total Rata-rata		**22,32%**
2.	Kontrol (-) LC_{50}	**10**	**1**	43,93%
		10	**2**	32,01%
		10	**3**	51,72%
		10	**4**	36,17%
		10	**5**	64,73%
		Total Rata-rata		**45,71%**
3.	Kontrol (-) LC_{75}	**10**	**1**	50,64%
		10	**2**	60,25%
		10	**3**	50,64%
		10	**4**	48,68%
		10	**5**	45,40%
		Total Rata-rata		**51,12%**

Cara Perhitungan Uji Penghambatan Makan

Sampel	**LC_{25}**				
Ekstrak Etanol 96 % Daun Bintaro	1	2	3	4	5
KS (Daun kontrol sisa)	3190951	3450538	3462060	3687875	3419963
KL (Luas daun kontrol)	3612594	4072398	3985391	4008106	3849825
PS (Daun perlakuan sisa)	3488089	3690128	3482653	3830994	3597256
PL (Luas daun perlakuan)	3714339	4012926	3825369	4069646	3920815
LA (Luas area)	25	25	25	25	25
Cara Perhitungan					
PA = KS/KL X 25 cm2	22,082	21,182	21,717	23,002	22,208
PA = PS/PL X 25 cm2	23,477	22,989	22,760	23,534	22,936
LK = 25 cm2 - PA	2,917	3,817	3,282	1,997	2,791
LP = 25 cm2 - PA	1,522	2,010	2,239	1,466	2,063
PM = LK-LP/LK+LP X 100%	**31,41**	**30,99**	**18,88**	**15,34**	**15,00**
Total Rata-Rata Penghambatan Makan	111,64 / 5 = **22,32%**				

Sampel	**LC_{50}**				
Ekstrak Etanol 96 % Daun Bintaro	1	2	3	4	5
KS (Daun kontrol sisa)	2975301	3610300	2880927	3082341	3070469
KL (Luas daun kontrol)	3622143	3925373	3401397	3451876	3482024
PS (Daun perlakuan sisa)	3443119	3595881	3439165	3664655	3515684
PL (Luas daun perlakuan)	3700493	3750928	3615167	3858253	3606957
LA (Luas area)	25	25	25	25	25
Cara Perhitungan					
PA = KS/KL X 25 cm2	20,53	22,99	21,17	22,32	22,04
PA = PS/PL X 25 cm2	23,26	23,96	23,78	23,74	24,36
LK = 25 cm2 - PA	4,46	2,00	3,82	2,67	2,95
LP = 25 cm2 - PA	1,73	1,033	1,21	1,25	0,63
PM = LK-LP/LK+LP X 100%	**43,93**	**32,01**	**51,72**	**36,17**	**64,73**
Total Rata-Rata Penghambatan Makan	228,58 / 5 = **45,71%**				

Lampiran Perhitungan Uji Penghambatan Makan					
Sampel	**LC_{75}**				
Ekstrak Etanol 96 % Daun Bintaro	1	2	3	4	5
KS (Daun kontrol sisa)	3077265	3483938	3077265	3372696	3132719
KL (Luas daun kontrol)	3629981	3911459	3629981	3852005	3558286
PS (Daun perlakuan sisa)	3578980	3703466	3578980	3494777	3731065
PL (Luas daun perlakuan)	3766870	3806671	3766870	3651599	3906499
LA (Luas area)	25	25	25	25	25
Cara Perhitungan					
PA = KS/KL X 25 cm2	21,19	22,26	21,19	21,88	22,01
PA = PS/PL X 25 cm2	23,75	24,32	23,75	23,92	23,87
LK = 25 cm2 - PA	3,80	2,73	3,80	3,11	2,98
LP = 25 cm2 - PA	1,24	0,67	1,24	1,07	1,12
PM = LK-LP/LK+LP X 100%	**50,64**	**60,25**	**50,64**	**48,68**	**45,40**
Total Rata-Rata Penghambatan Makan	255,63 / 5 = **51,12%**				

Lampiran 7.2.4 Proses dan Pixel Perhitungan *Leaf* Bintaro (*Cerbera manghas* L.) Dari Adobe Photoshop CS3