


LAMPIRAN

Lampiran 1. Keterangan Hasil Determinasi Kemukus


BAGIAN BIOLOGI FARMASI
FAKULTAS FARMASI
UNIVERSITAS GADJAH MADA YOGYAKARTA
Alamat: Sekip Utara Jl. Kaliurang Km 4, Yogyakarta 55281
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SURAT KETERANGAN
No.: BF/49/Ident/Det/1/2015


Kepada Yth. :
Sdri/Sdr. Tri Handrianto
NIM. 20120350044
Fakultas Farmasi UMY
Di Yogyakarta

Dengan hormat,

Bersama ini kami sampaikan hasil identifikasi/determinasi sampel yang Saudara kirimkan ke Bagian Biologi Farmasi, Fakultas Farmasi UGM, adalah :

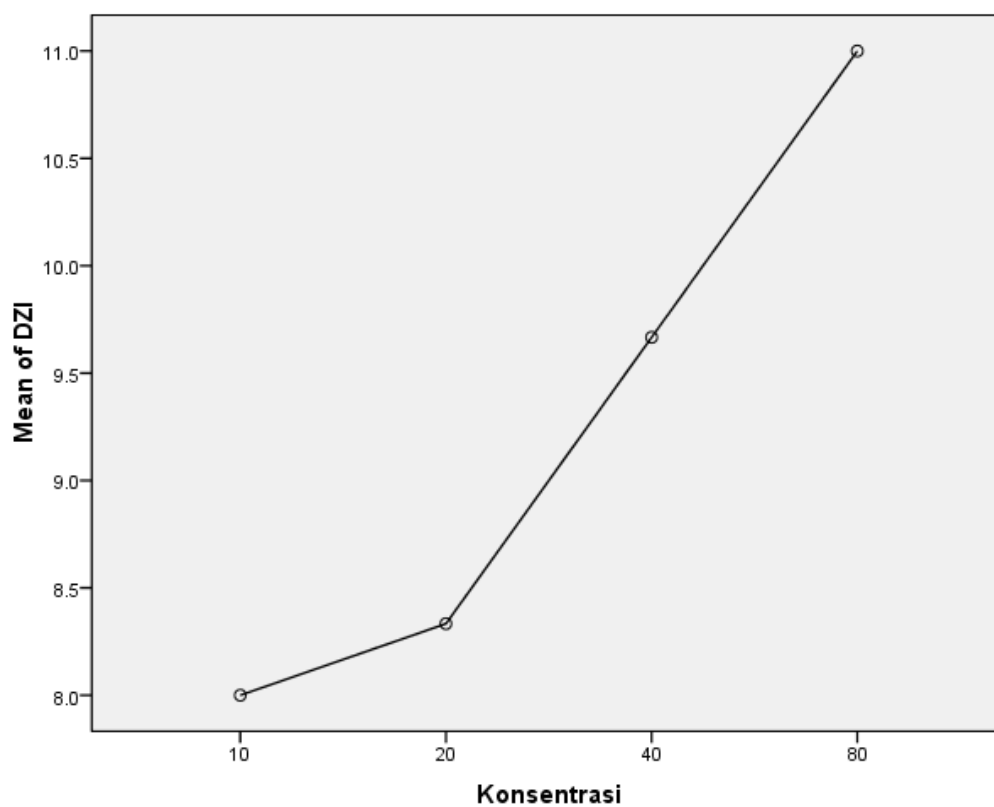
No.Pendaftaran	Jenis	Suku
49	<i>Piper cubeba</i> L.f.	Piperaceae

Demikian, semoga dapat digunakan sebagaimana mestinya.

Yogyakarta, 26 Januari 2015
Ketua

Prof. Dr. Wahyono, SU., Apt.
NIP. 195007011977021001

Lampiran 2. Tabel Hasil Uji Aktivitas dan Grafik Diameter Zona Inhibisi

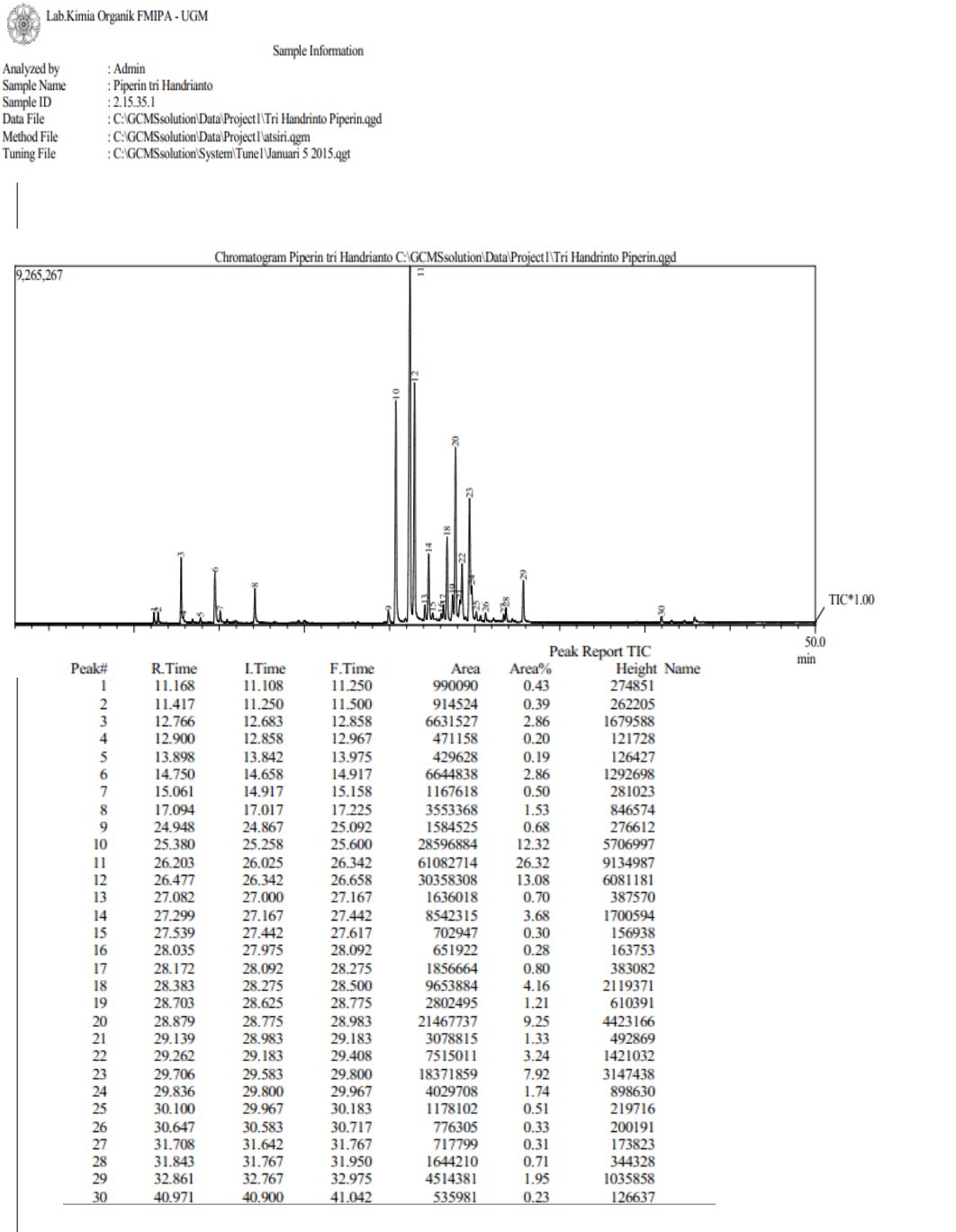
Zat Uji		Diameter Zona Inhibisi (DZI) (mm)			Rata-Rata DZI
Minyak Atsiri	Konsentrasi	Rep. 1	Rep. 2	Rep. 3	11 9,5 8,5 8
	80%	12	10	11	
	40%	10	10	9	
	20%	9	8	8	
	10%	8	8	8	
Kontrol Positif	<i>Ciprofloxacin</i>	42	40	39	40,3
Kontrol Negatif	N-Heksana	0	0	0	0



Lampiran 3. Kondisi GC-MS

Lab Kimia Organik FMIPA - UGM		Method
GCMS-QP2010S SHIMADZU		
Kolom	:AGILENTJ%W DB-1	
Panjang	:30 meter	
ID	:0,25 mm	
Gas pembawa	:Helium	
Pengionan	:EI	
70 Ev		
[Comment]		
----- Analytical Line 1 -----		
[GC-2010]		
Column Oven Temp.	:50.0 °C	
Injection Temp.	:300.00 °C	
Injection Mode	:Split	
Flow Control Mode	:Pressure	
Pressure	:12.0 kPa	
Total Flow	:60.0 mL/min	
Column Flow	:0.54 mL/min	
Linear Velocity	:26.6 cm/sec	
Purge Flow	:3.0 mL/min	
Split Ratio	:104.6	
High Pressure Injection	:OFF	
Carrier Gas Saver	:OFF	
Splitter Hold	:OFF	
Oven Temp. Program		
Rate	Temperature(°C)	Hold Time(min)
-	50.0	5.00
5.00	260.0	13.00
< Ready Check Heat Unit >		
Column Oven	: Yes	
SPL1	: Yes	
MS	: No	
< Ready Check Detector(FTD) >		
< Ready Check Baseline Drift >		
< Ready Check Injection Flow >		
SPL1 Carrier	: Yes	
SPL1 Purge	: Yes	
< Ready Check APC Flow >		
< Ready Check Detector APC Flow >		
External Wait	:No	
Equilibrium Time	:1.0 min	
[GC Program]		
[GCMS-QP2010]		
IonSourceTemp	:250.00 °C	
Interface Temp.	:305.00 °C	
Solvent Cut Time	:1.60 min	
Detector Gain Mode	:Relative	
Detector Gain	:±0.00 kV	
Threshold	:0	
[MS Table]		
--Group 1 - Event 1--		
Start Time	:1.80min	
End Time	:60.00min	
ACQ Mode	:Scan	
Event Time	:0.50sec	
Scan Speed	:1250	
Start m/z	:28.00	
End m/z	:600.00	
Sample Inlet Unit	:GC	
[MS Program]		
Use MS Program	:OFF	

Lampiran 4. Kromatogram

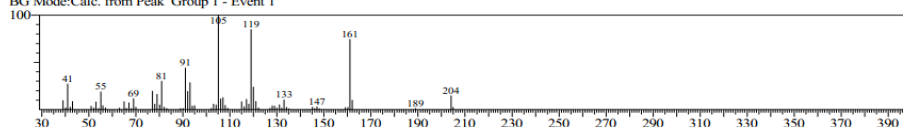


Kromatogram Minyak Atsiri Buah Kemukus

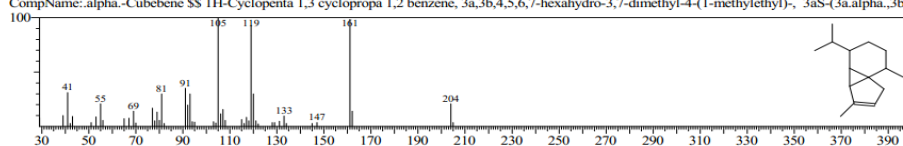
Lampiran 5. Hasil MS Dugaan Senyawa *Alpha Cubebene* Berdasarkan Hasil Kelimpahan Tertinggi

<< Target >>

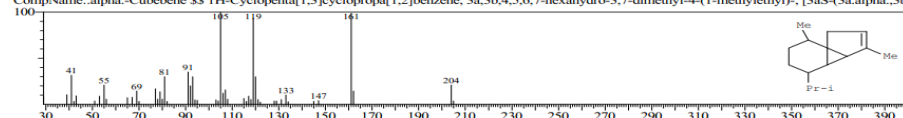
Line#:10 R.Time:25.383(Scan#:2831) MassPeaks:69
RawMode:Averaged 25.375-25.392(2830-2832) BasePeak:105.05(730828)
BG Mode:Calc. from Peak Group 1 - Event 1



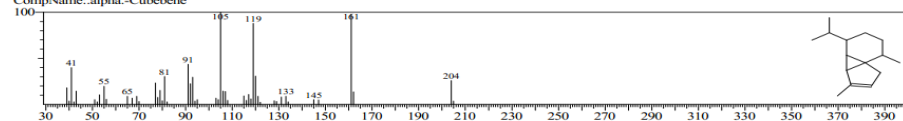
Hit#:1 Entry:23919 Library:NIST62.LIB
SI:96 Formula:C15H24 CAS:17699-14-8 MolWeight:204 RetIndex:0
CompName:alpha.-Cubebene SS 1H-Cyclopenta[1,3]cyclopropa[1,2]benzene, 3a,3b,4,5,6,7-hexahydro-3,7-dimethyl-4-(1-methylethyl)-, 3aS-(3a.alpha.,3b.b



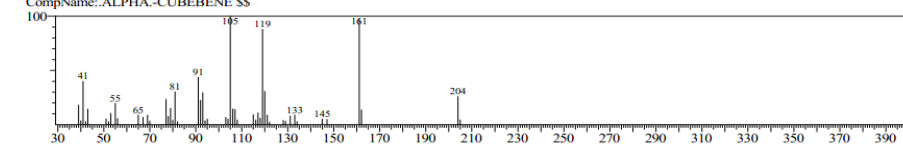
Hit#:2 Entry:71086 Library:WILEY229.LIB
SI:96 Formula:C15H24 CAS:17699-14-8 MolWeight:204 RetIndex:0
CompName:alpha.-Cubebene SS 1H-Cyclopenta[1,3]cyclopropa[1,2]benzene, 3a,3b,4,5,6,7-hexahydro-3,7-dimethyl-4-(1-methylethyl)-, [3aS-(3a.alpha.,3b.b



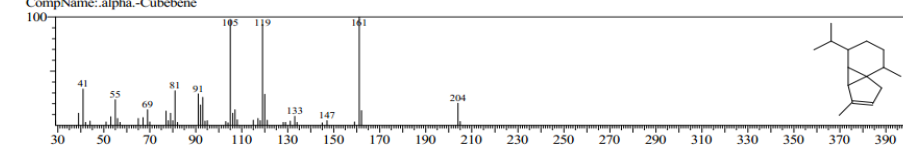
Hit#:3 Entry:7665 Library:NIST12.LIB
SI:95 Formula:C15H24 CAS:17699-14-8 MolWeight:204 RetIndex:0
CompName:alpha.-Cubebene



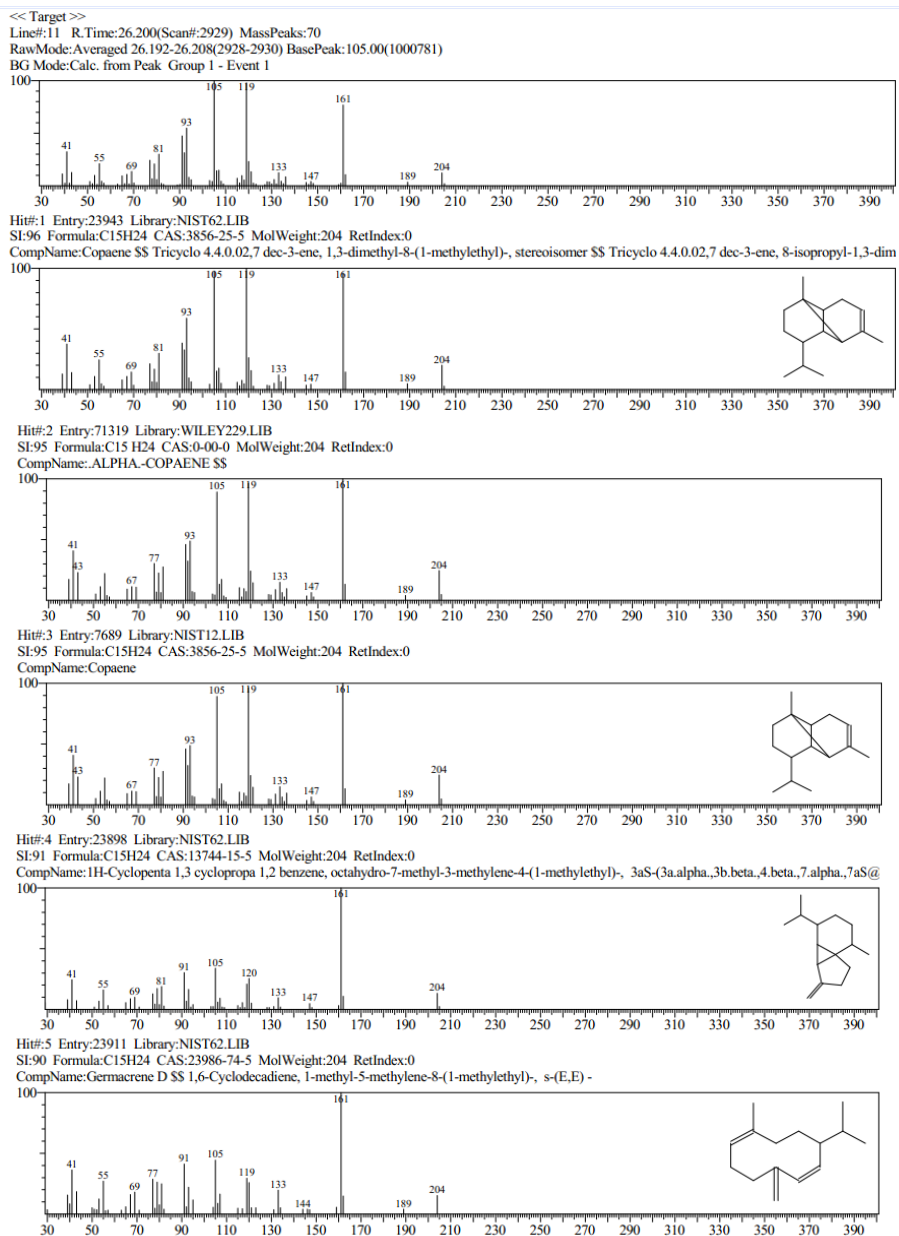
Hit#:4 Entry:71318 Library:WILEY229.LIB
SI:95 Formula:C15H24 CAS:0-00-0 MolWeight:204 RetIndex:0
CompName:ALPHA.-CUBEBENE SS



Hit#:5 Entry:7664 Library:NIST12.LIB
SI:94 Formula:C15H24 CAS:17699-14-8 MolWeight:204 RetIndex:0
CompName:alpha.-Cubebene



Lampiran 6. Hasil MS Dugaan Senyawa Copaene Berdasarkan Hasil Kelimpahan Tertinggi



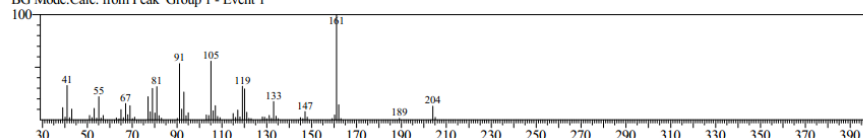
Lampiran 7. Hasil MS Dugaan Senyawa Germacrene D Berdasarkan Hasil Kelimpahan Tertinggi

<< Target >>

Line#:12 R.Time:26.475(Scan#:2962) MassPeaks:70

RawMode:Averaged 26.467-26.483(2961-2963) BasePeak:161.05(776746)

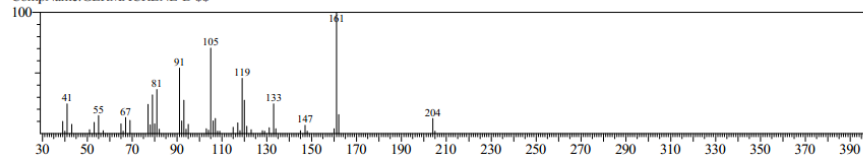
BG Mode:Calc. from Peak Group 1 - Event 1



Hit#:1 Entry:71179 Library:WILEY229.LIB

SI:95 Formula:C15 H24 CAS:23986-74-5 MolWeight:204 RetIndex:0

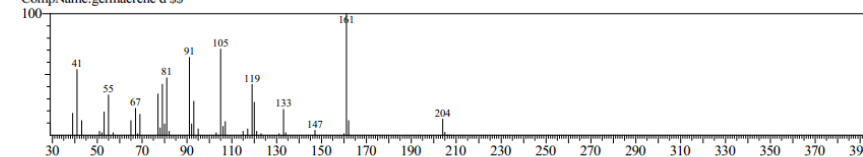
CompName:GERMACRENE-D \$\$



Hit#:2 Entry:71109 Library:WILEY229.LIB

SI:92 Formula:C15 H24 CAS:23986-74-5 MolWeight:204 RetIndex:0

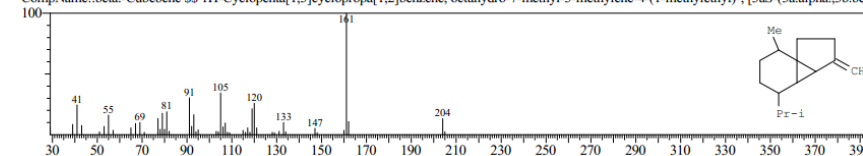
CompName:germacrene d \$\$



Hit#:3 Entry:71091 Library:WILEY229.LIB

SI:91 Formula:C15 H24 CAS:13744-15-5 MolWeight:204 RetIndex:0

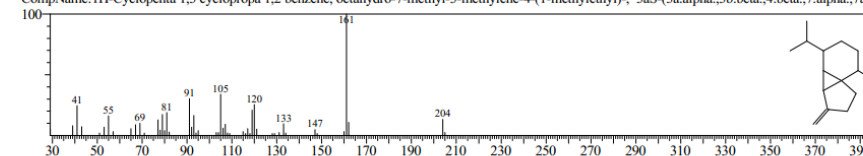
CompName:.beta.-Cubebene SS 1H-Cyclopenta[1,3]cyclopropa[1,2]benzene, octahydro-7-methyl-3-methylene-4-(1-methylethyl)-, [3aS-(3a.alpha.,3b.beta.,4



Hit#:4 Entry:23898 Library:NIST62.LIB

SI:91 Formula:C15H24 CAS:13744-15-5 MolWeight:204 RetIndex:0

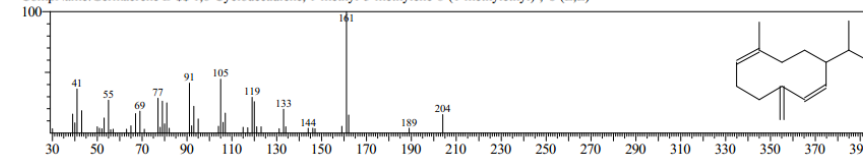
CompName:1H-Cyclopenta 1,3 cycloproa 1,2 benzene, octahydro-7-methyl-3-methylene-4-(1-methylethyl)-, 3aS-(3a.alpha.,3b.beta.,4.beta.,7.alpha.,7aS@



Hit#:5 Entry:23911 Library:NIST62.LIB

SI:90 Formula:C15H24 CAS:23986-74-5 MolWeight:204 RetIndex:0

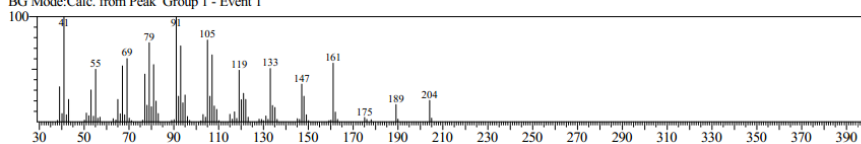
CompName:Germacrene D SS 1,6-Cyclodecadiene, 1-methyl-5-methylene-8-(1-methylethyl)-, s-(E,E) -



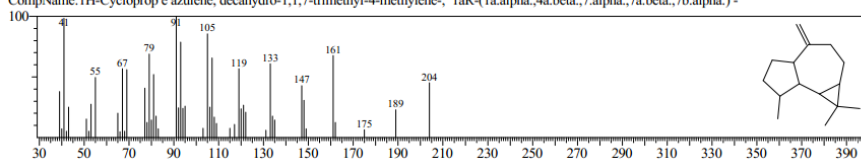
Lampiran 8. Hasil MS Dugaan Senyawa 1H-Cycloprop[e]azulene Berdasarkan Hasil Kelimpahan Tertinggi

<< Target >>

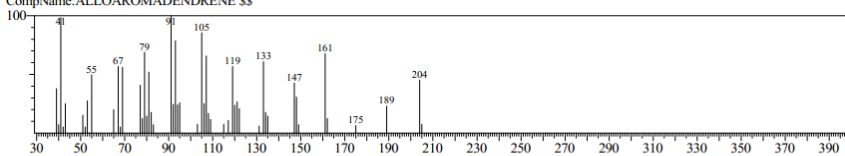
Line#:18 RTime:28.383(Scan#:3191) MassPeaks:85
RawMode:Averaged 28.375-28.392(3190-3192) BasePeak:41.00(128066)
BG Mode:Calc. from Peak Group 1 - Event 1



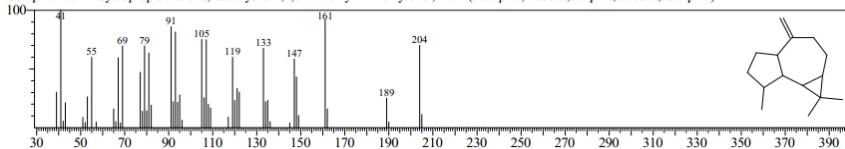
Hit#:1 Entry:7657 Library:NIST12.LIB
SI:97 Formula:C15H24 CAS:25246-27-9 MolWeight:204 RetIndex:0
CompName:1H-Cycloprop e azulene, decahydro-1,1,7-trimethyl-4-methylene-, 1aR-(1a.alpha.,4a.beta.,7a.beta.,7b.alpha.)-



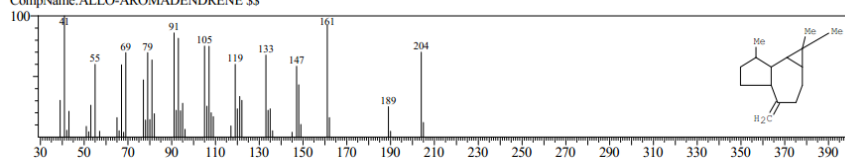
Hit#:2 Entry:71302 Library:WILEY229.LIB
SI:96 Formula:C15H24 CAS:0-00-0 MolWeight:204 RetIndex:0
CompName:ALLOAROMADENDRENE SS



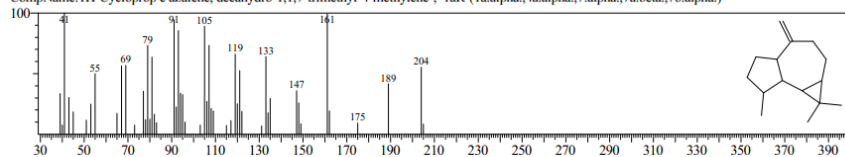
Hit#:3 Entry:7658 Library:NIST12.LIB
SI:92 Formula:C15H24 CAS:25246-27-9 MolWeight:204 RetIndex:0
CompName:1H-Cycloprop e azulene, decahydro-1,1,7-trimethyl-4-methylene-, 1aR-(1a.alpha.,4a.beta.,7a.alpha.,7b.alpha.)-



Hit#:4 Entry:71225 Library:WILEY229.LIB
SI:92 Formula:C15H24 CAS:25246-27-9 MolWeight:204 RetIndex:0
CompName:ALLO-AROMADENDRENE SS



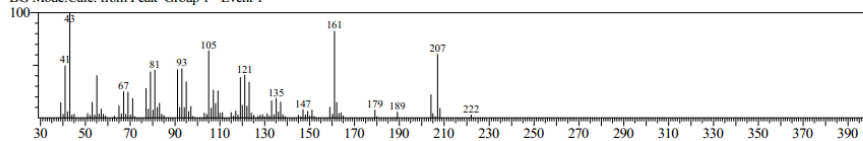
Hit#:5 Entry:7711 Library:NIST12.LIB
SI:92 Formula:C15H24 CAS:489-39-4 MolWeight:204 RetIndex:0
CompName:1H-Cycloprop e azulene, decahydro-1,1,7-trimethyl-4-methylene-, 1aR-(1a.alpha.,4a.alpha.,7a.alpha.,7b.alpha.)-



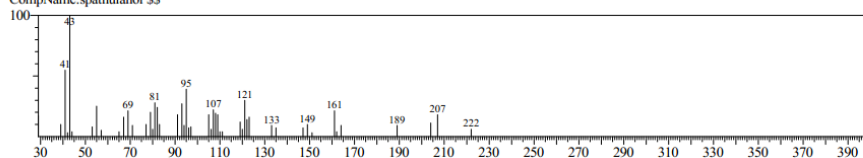
Lampiran 9. Hasil MS Dugaan Senyawa Spathulanol Berdasarkan Hasil Kelimpahan Tertinggi

<< Target >>

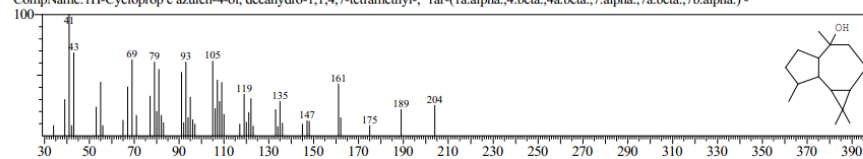
Line#:23 R.Time:29.708(Scan#:3350) MassPeaks:99
RawMode:Averaged 29.700-29.717(3349-3351) BasePeak:43.00(193282)
BG Mode:Calc. from Peak Group 1 - Event 1



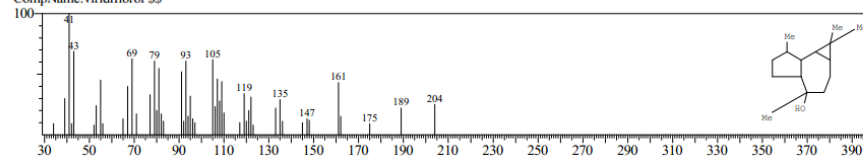
Hit#:1 Entry:86656 Library:WILEY229.LIB
SI:83 Formula:C15 H26 O CAS:0-00-0 MolWeight:222 RetIndex:0
CompName:spathulanol SS



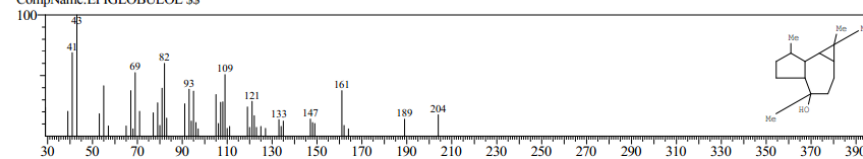
Hit#:2 Entry:28203 Library:NIST62.LIB
SI:83 Formula:C15H26O CAS:552-02-3 MolWeight:222 RetIndex:0
CompName:1H-Cycloprop e azulene-4-ol, decahydro-1,1,4,7-tetramethyl-, 1ar-(1a.alpha.,4.beta.,4a.beta.,7.alpha.,7a.beta.,7b.alpha.) -



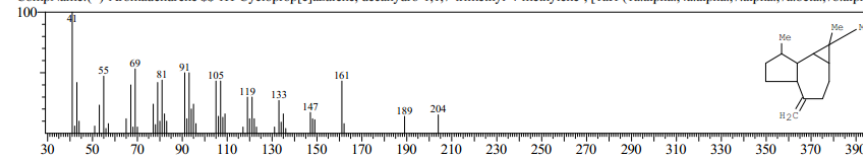
Hit#:3 Entry:86619 Library:WILEY229.LIB
SI:82 Formula:C15 H26 O CAS:552-02-3 MolWeight:222 RetIndex:0
CompName:viridiflorol SS



Hit#:4 Entry:86618 Library:WILEY229.LIB
SI:82 Formula:C15 H26 O CAS:552-02-3 MolWeight:222 RetIndex:0
CompName:EPIGLOBULOL SS



Hit#:5 Entry:71036 Library:WILEY229.LIB
SI:82 Formula:C15 H24 CAS:489-39-4 MolWeight:204 RetIndex:0
CompName:(+)-Aromadendrene SS 1H-Cycloprop[e]azulene, decahydro-1,1,7-trimethyl-4-methylene-, [1aR-(1a.alpha.,4a.alpha.,7.alpha.,7a.beta.,7b.alpha.)



Lampiran 10. Validasi Penambatan Molekul Ligan Asli, Ligan Pembanding, dan Ligan Uji pada Reseptor DNA Gyrase

mode	affinity (kcal/mol)	dist from best mode rmsd l.b.	rmsd u.b.
1	-8.1	0.000	0.000
2	-8.0	4.040	6.480
3	-7.4	3.972	5.864
4	-7.3	2.456	4.033
5	-7.2	2.995	5.890
6	-7.2	3.560	6.321
7	-7.1	1.964	2.722
8	-6.9	3.739	6.921
9	-6.8	3.639	5.927

mode	affinity (kcal/mol)	dist from best mode rmsd l.b.	rmsd u.b.
1	-6.6	0.000	0.000
2	-6.6	19.942	20.723
3	-6.4	2.710	3.875
4	-6.4	7.036	11.889
5	-6.3	4.733	10.016
6	-6.3	4.883	9.916
7	-6.2	1.662	1.828
8	-6.1	4.407	9.699
9	-6.1	19.497	21.352

Ligan Asli

mode	affinity (kcal/mol)	dist from best mode rmsd l.b.	rmsd u.b.
1	-6.7	0.000	0.000
2	-6.7	1.431	4.228
3	-6.2	1.301	2.125
4	-6.2	1.419	4.145
5	-6.0	23.273	24.227
6	-5.8	24.384	27.145
7	-5.8	1.335	4.296
		1.225	4.081
		23.829	26.542

Alpha copaene

mode	affinity (kcal/mol)	dist from best mode rmsd l.b.	rmsd u.b.
1	-6.5	0.000	0.000
2	-6.4	1.566	3.191
3	-6.2	1.128	3.039
4	-6.2	1.400	2.315
5	-6.1	1.740	3.916
6	-6.0	1.857	2.929
7	-6.0	1.551	3.775
8	-5.9	25.128	27.162
9	-5.9	24.287	26.564

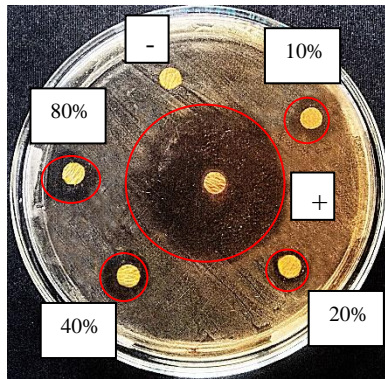
mode	affinity (kcal/mol)	dist from best mode rmsd l.b.	rmsd u.b.
1	-7.0	0.000	0.000
2	-6.7	1.854	4.117
3	-6.4	1.924	3.196
4	-6.3	23.258	24.430
5	-6.3	1.428	4.479
6	-5.9	25.914	27.395
7	-5.8	23.524	26.877
8	-5.8	23.776	26.735

1H-cycloprop[e]azulene

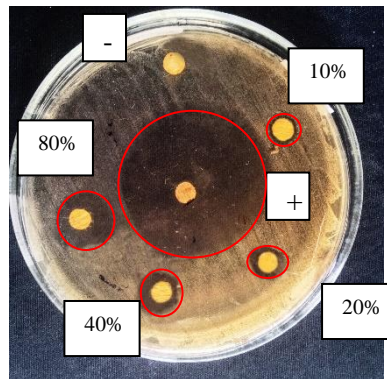
mode	affinity (kcal/mol)	dist from best mode rmsd l.b.	rmsd u.b.
1	-6.9	0.000	0.000
2	-6.6	24.376	26.738
3	-6.6	24.396	26.769
4	-6.6	1.754	4.719
5	-6.2	1.445	3.883
6	-6.0	1.809	4.010
7	-5.9	24.086	26.496

Spathulenol

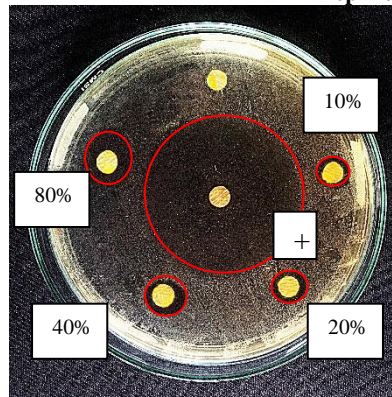
Lampiran 11. Foto :Uji Kirby Bauer



Replikasi 1



Replikasi 2



Replikasi 3

Lampiran 12. Data Analisis SPSS

Descriptives

DZI	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
10	3	8.000	.0000	.0000	8.000	8.000	8.0	8.0
20	3	8.333	.5774	.3333	6.899	9.768	8.0	9.0
40	3	9.667	.5774	.3333	8.232	11.101	9.0	10.0
80	3	11.000	1.0000	.5774	8.516	13.484	10.0	12.0
Total	12	9.250	1.3568	.3917	8.388	10.112	8.0	12.0

Tests of Normality

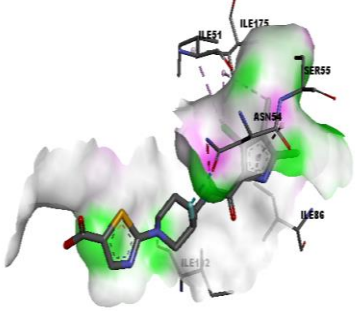
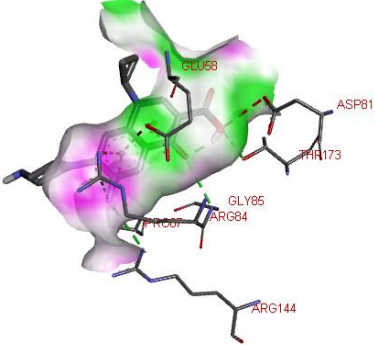
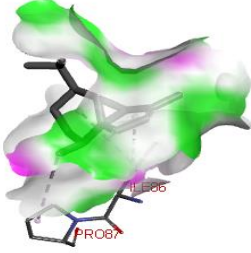
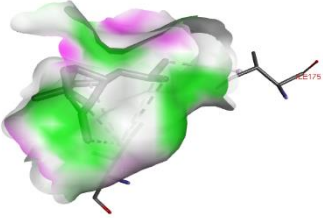
	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Konsentrasi	.218	4	.	.920	4	.538
DZI	.215	4	.	.946	4	.689

a. Lilliefors Significance Correction

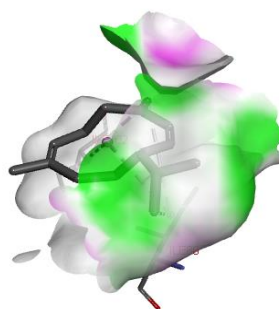
ANOVA

DZI	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	5.250	3	1.750	17.000	.020
Within Groups	.500	4			
Total	5.250	7			

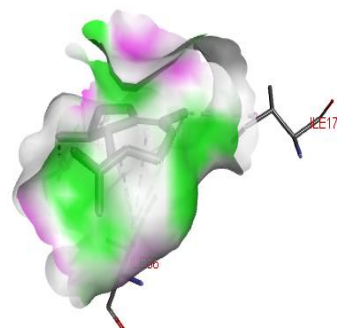
Lampiran 13. Interaksi Ligan dengan Protein target

Ligan	Energi Ikatan (Kkal/mol)	Interaksi
2-[(3S,4R)-4-[[3,4-dichloro-5-methyl-1H-pyrrol-2-yl]carbonyl]amino]-3-fluoropiperidin-1-yl]-1,3-thiazole-5-carboxylic acid	-6,2	
Ciprofloxacin	-7.1	
<i>alpha-cubebene</i>	-6,7	
<i>copaene</i>	-6,4	

germacrene-D -6,7



1H-cycloprop[e]azulene -7,3



spathulanol -6,6

