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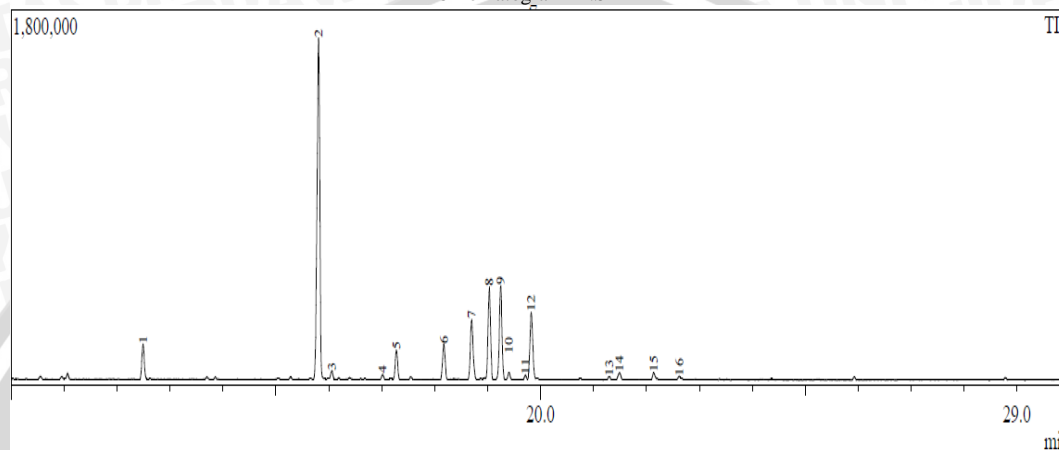
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Lampiran 1. Analisis Senyawa Ekstrak N Heksana Daun Sirih

Lab. KIMIA FMIPA - UB

Admin Analyzed by : Admin
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 Sample ID : 21 05 13
 Data File : C:\GCMSsolution\Data\atsiri\Maulidatur R N 91.QGD
 Method File : C:\GCMSsolution\Data\atsiri\M.Attsiri.qgm
 Tuning File : C:\GCMSsolution\System\Tune1\Tuning 2-7-2013.qgt

Chromatogram M.Sirih



Peak#	R.Time	I.Time	F.Time	Area	Area%	Height	Height%	A/H	Mark	Name
1	12.491	12.425	12.558	514257	3.84	167089	4.34	3.07	MI	
2	15.807	15.708	15.892	5895610	44.04	1639306	42.60	3.59	MI	
3	16.058	16.008	16.100	124321	0.93	43662	1.13	2.84	MI	
4	17.017	16.975	17.058	64331	0.48	23785	0.62	2.70	MI	
5	17.277	17.217	17.350	442404	3.30	140385	3.65	3.15	MI	
6	18.172	18.108	18.250	573532	4.28	171178	4.45	3.35	MI	
7	18.698	18.625	18.800	1036169	7.74	286587	7.45	3.61	MI	
8	19.032	18.958	19.108	1500500	11.21	445778	11.58	3.36	MI	
9	19.247	19.158	19.333	1557279	11.63	450879	11.72	3.45	MI	
10	19.402	19.342	19.458	99153	0.74	35051	0.91	2.82	MI	
11	19.715	19.675	19.750	55368	0.41	23216	0.60	2.38	MI	
12	19.825	19.750	19.908	1179852	8.81	320096	8.32	3.68	MI	
13	21.294	21.250	21.342	44444	0.33	16389	0.43	2.71	MI	
14	21.490	21.417	21.558	121093	0.90	33162	0.86	3.65	MI	
15	22.138	22.058	22.192	109519	0.82	33998	0.88	3.22	MI	
16	22.619	22.550	22.717	68533	0.51	17806	0.46	3.84	MI	
				386365	100.00	3848367	100.00			

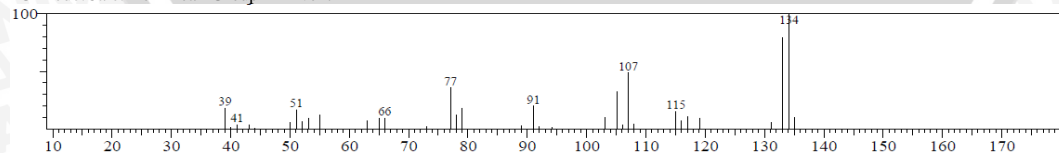
Library

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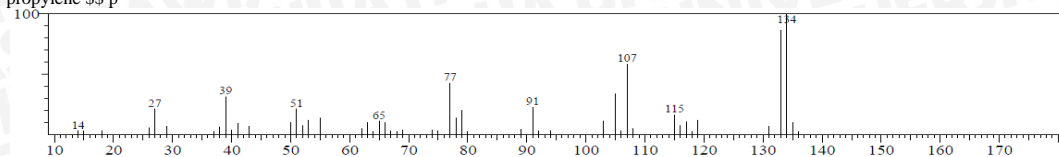
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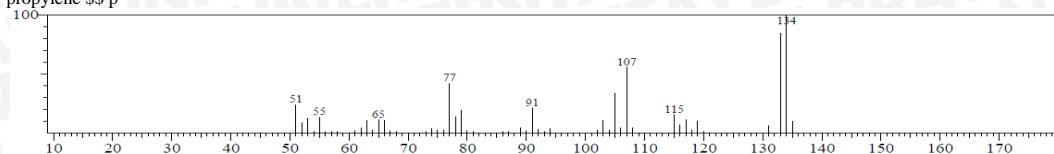
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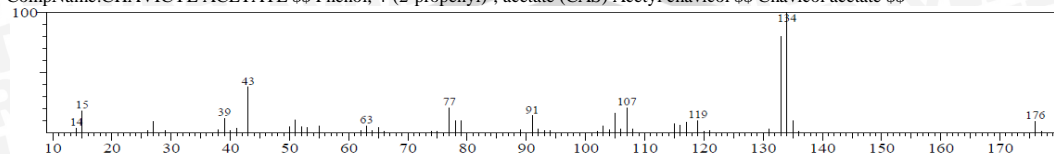
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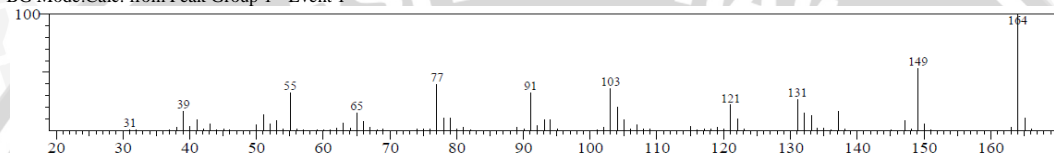


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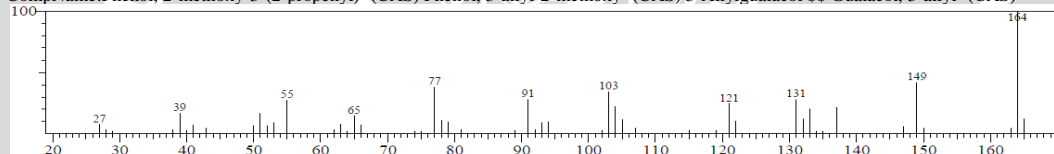


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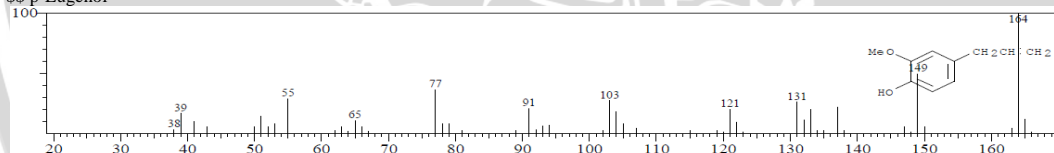
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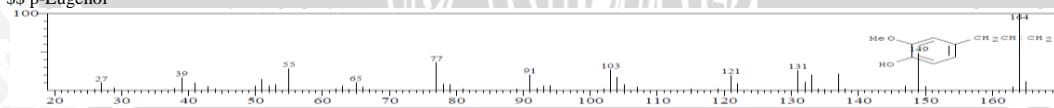
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 \$\$ p-Eugenol

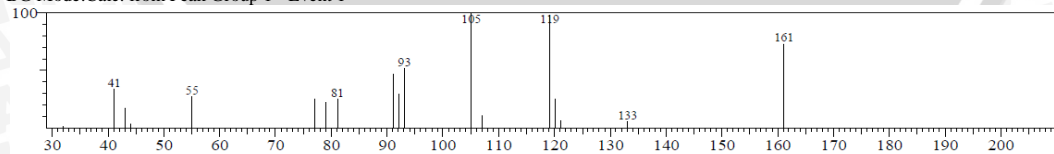


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 \$\$ p-Eugenol



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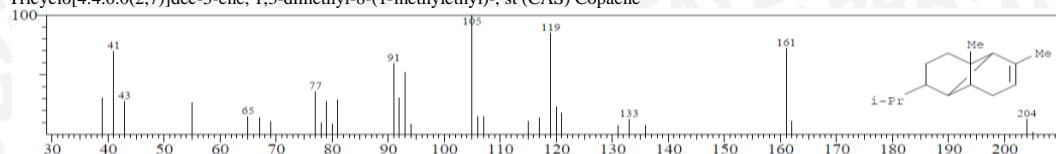
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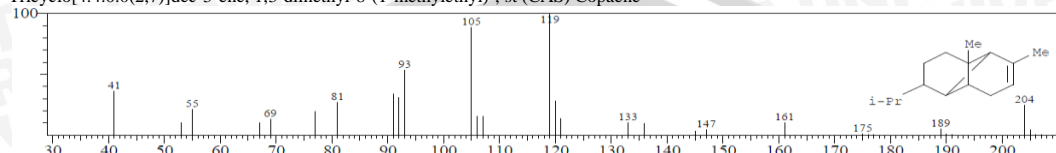
CompName:alpha-Copaene \$\$ Tricyclo[4.4.0.0(2,7)]dec-3-ene, 1,3-dimethyl-8-(1-methylethyl)-, stereoisomer (CAS)
Tricyclo[4.4.0.0(2,7)]dec-3-ene, 1,3-dimethyl-8-(1-methylethyl)-, st (CAS) Copaene



Hit#:2 Entry:101063 Library:WILEY7.LIB

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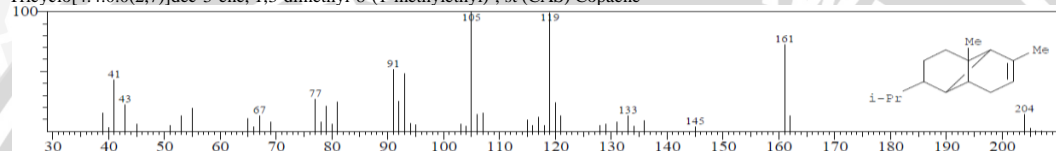
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Tricyclo[4.4.0.0(2,7)]dec-3-ene, 1,3-dimethyl-8-(1-methylethyl)-, st (CAS) Copaene



Hit#:3 Entry:101061 Library:WILEY7.LIB

SI:82 Formula:C15 H24 CAS:3856-25-5 MolWeight:204 RetIndex:0

CompName:alpha-Copaene \$\$ Tricyclo[4.4.0.0(2,7)]dec-3-ene, 1,3-dimethyl-8-(1-methylethyl)-, stereoisomer (CAS)
Tricyclo[4.4.0.0(2,7)]dec-3-ene, 1,3-dimethyl-8-(1-methylethyl)-, st (CAS) Copaene

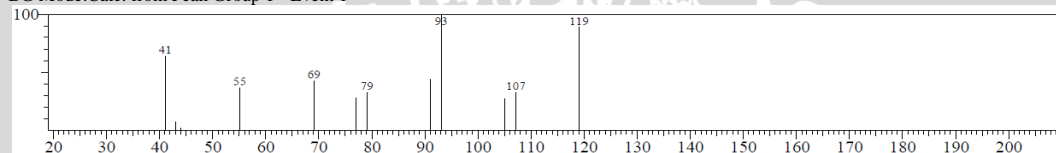


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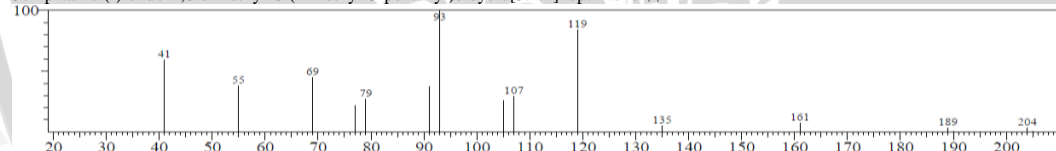
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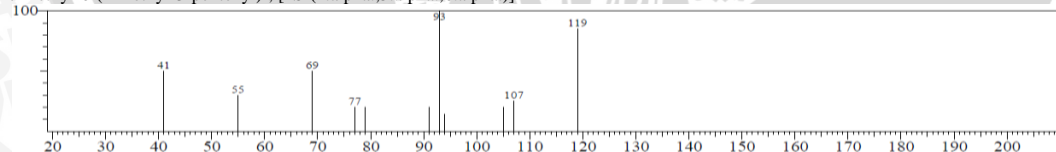
CompName:(-)-endo-2,6-dimethyl-6-(4-methyl-3-pentenyl)bicyclo[3.1.1]hept-2-ene \$\$



Hit#:2 Entry:100984 Library:WILEY7.LIB

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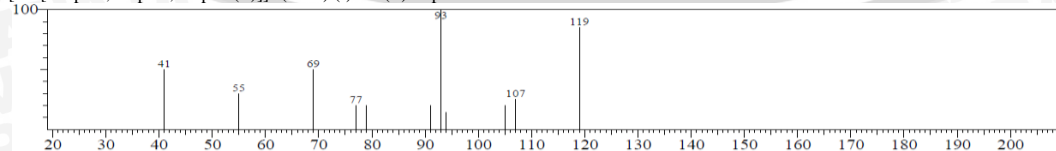
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Hit#:3 Entry:120386 Library:WILEY7.LIB

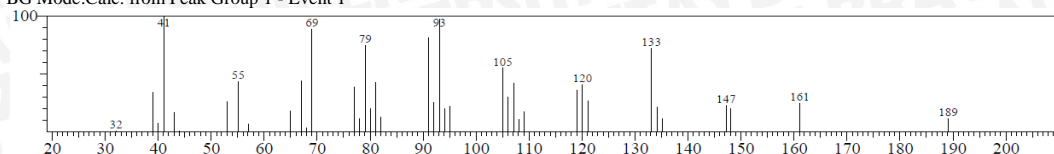
SI:88 Formula:C15 H24 O CAS:88034-74-6 MolWeight:220 RetIndex:0

CompName:(-)-(E)-TRANS-BERGAMOTA-2,12-DIEN-14-OL \$\$ 2-Penten-1-ol, 5-(2,6-dimethylbicyclo[3.1.1]hept-2-en-6-yl)-2-methyl-, [1S-[1.alpha.,5.alpha.,6.alpha.(Z)]]- (CAS) (-)-12-(Z)-.alpha

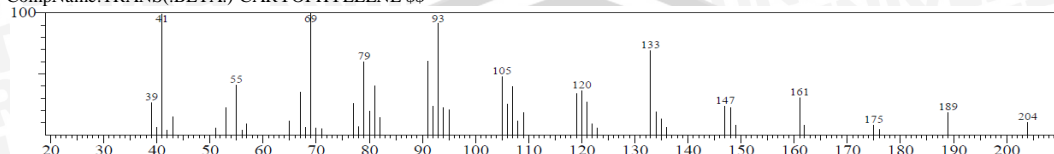


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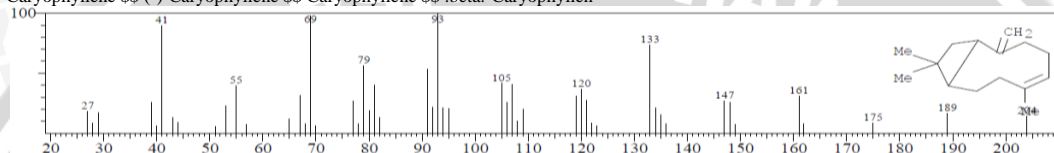
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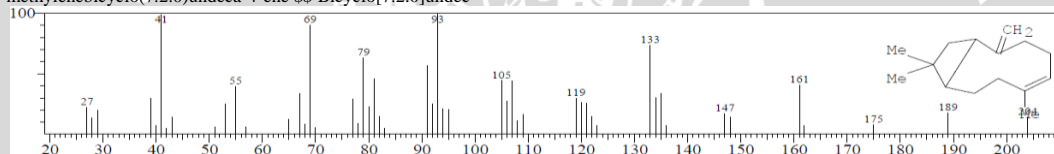
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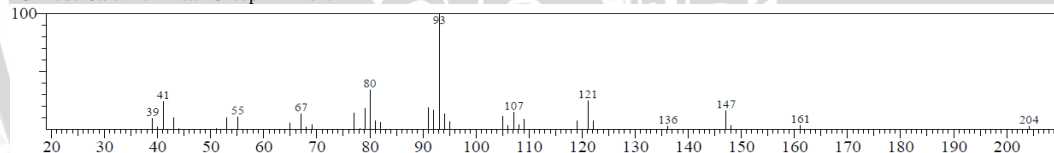


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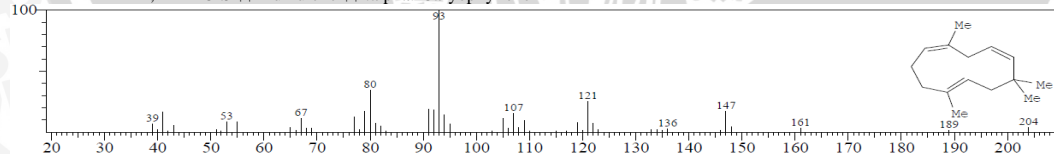


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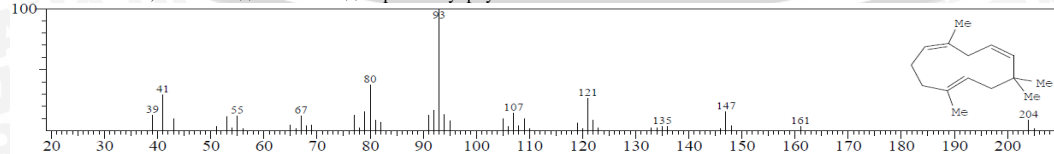
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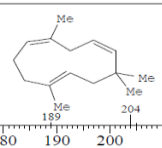
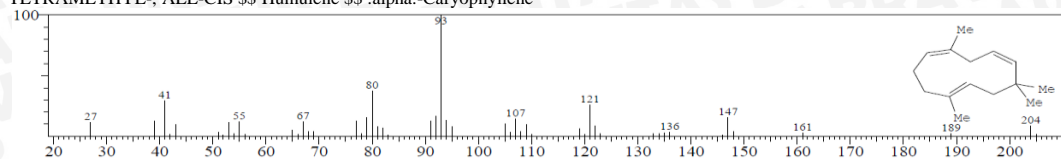
Hit#:1 Entry:100734 Library:WILEY7.LIB
 SI:95 Formula:C15 H24 CAS:6753-98-6 MolWeight:204 RetIndex:0
 CompName:.alpha.-Humulene \$\$ 1,4,8-Cycloundecatriene, 2,6,6,9-tetramethyl-, (E,E,E)- (CAS) 4,7,10-CYCLOUNDECATRIENE, 1,1,4,8-TETRAMETHYL-, ALL-CIS \$\$ Humulene \$\$.alpha.-Caryophyllene



Hit#:2 Entry:100745 Library:WILEY7.LIB
 SI:95 Formula:C15 H24 CAS:6753-98-6 MolWeight:204 RetIndex:0
 CompName:.alpha.-Humulene \$\$ 1,4,8-Cycloundecatriene, 2,6,6,9-tetramethyl-, (E,E,E)- (CAS) 4,7,10-CYCLOUNDECATRIENE, 1,1,4,8-TETRAMETHYL-, ALL-CIS \$\$ Humulene \$\$.alpha.-Caryophyllene

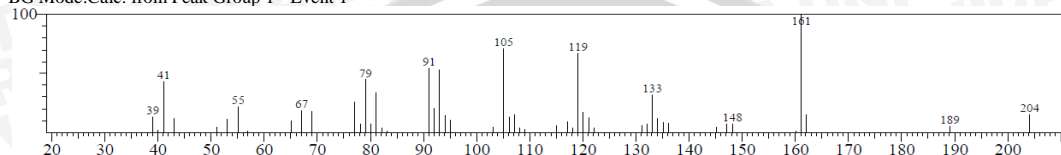


Hit#:3 Entry:100736 Library:WILEY7.LIB
 SI:94 Formula:C15 H24 CAS:6753-98-6 MolWeight:204 RetIndex:0
 CompName:.alpha.-Humulene \$\$ 1,4,8-Cycloundecatriene, 2,6,6,9-tetramethyl-, (E,E,E)- (CAS) 4,7,10-CYCLOUNDECATRIENE, 1,1,4,8-TETRAMETHYL-, ALL-CIS \$\$ Humulene \$\$.alpha.-Caryophyllene

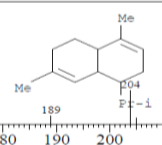
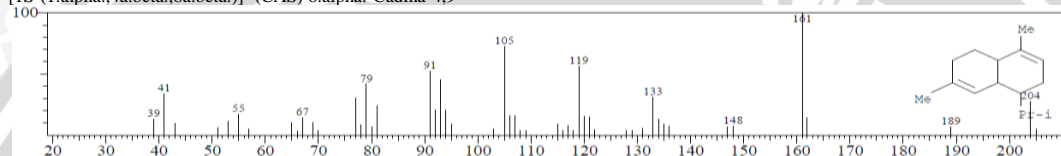


<< Target >>

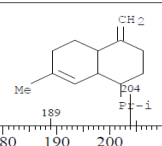
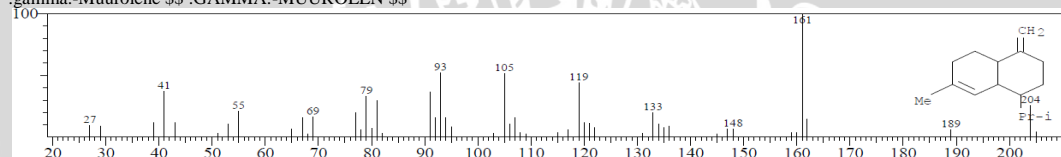
Line#:7 R.Time:18.700(Scan#:1045) MassPeaks:50
 RawMode:Averaged 18.692-18.708(1044-1046) BasePeak:161.15(30665)
 BG Mode:Calc. from Peak Group 1 - Event 1



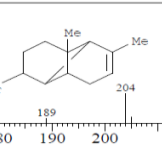
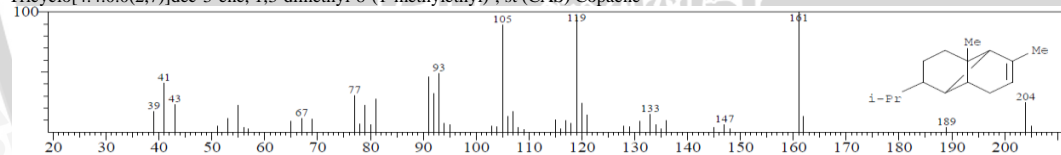
Hit#:1 Entry:100954 Library:WILEY7.LIB
 SI:94 Formula:C15 H24 CAS:23515-88-0 MolWeight:204 RetIndex:0
 CompName:.alpha.-Amorphene \$\$.ALPHA. AMORPHENE \$\$ Naphthalene, 1,2,4a,5,6,8a-hexahydro-4,7-dimethyl-1-(1-methylethyl)-, [1S-(1.alpha.,4a.beta.,8a.beta.)]- (CAS) 6.alpha.-Cadina-4,9-



Hit#:2 Entry:100949 Library:WILEY7.LIB
 SI:94 Formula:C15 H24 CAS:30021-74-0 MolWeight:204 RetIndex:0
 CompName:Naphthalene, 1,2,3,4,4a,5,6,8a-octahydro-7-methyl-4-methylene-1-(1-methylethyl)-, (1.alpha.,4a.alpha.,8a.alpha.)- (CAS) gamma-Muurolene \$\$.GAMMA.-MUUOLEN \$\$

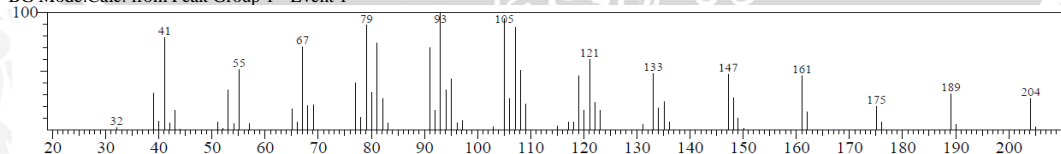


Hit#:3 Entry:101057 Library:WILEY7.LIB
 SI:91 Formula:C15 H24 CAS:3856-25-5 MolWeight:204 RetIndex:0
 CompName:.alpha.-Copaene \$\$ Tricyclo[4.4.0.(2,7)]dec-3-ene, 1,3-dimethyl-8-(1-methylethyl)-, stereoisomer (CAS) Tricyclo[4.4.0.(2,7)]dec-3-ene, 1,3-dimethyl-8-(1-methylethyl)-, st (CAS) Copaene

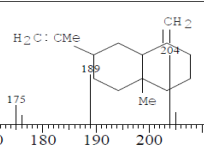
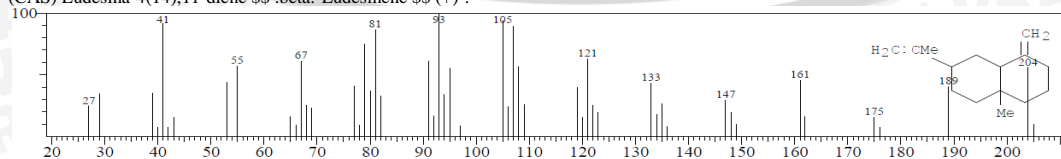


<< Target >>

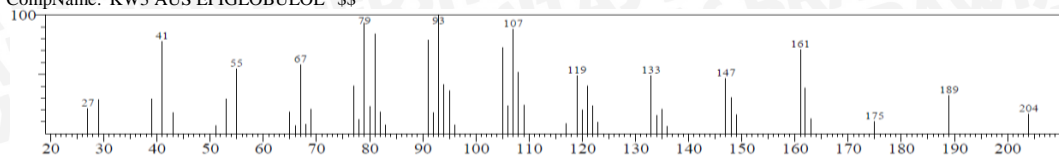
Line#:8 R.Time:19.033(Scan#:1085) MassPeaks:63
 RawMode:Averaged 19.025-19.042(1084-1086) BasePeak:93.05(24087)
 BG Mode:Calc. from Peak Group 1 - Event 1



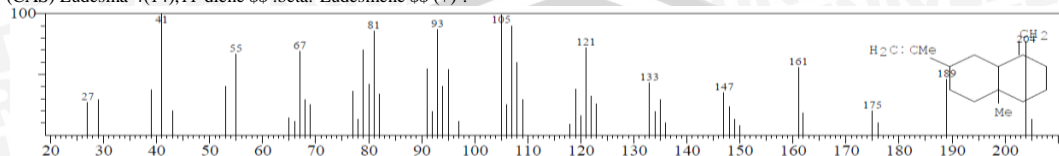
Hit#:1 Entry:100909 Library:WILEY7.LIB
 SI:95 Formula:C15 H24 CAS:17066-67-0 MolWeight:204 RetIndex:0
 CompName:.beta.-Selinene \$\$ Naphthalene, decahydro-4a-methyl-1-methylene-7-(1-methylethenyl)-, [4aR-(4a.alpha.,7.alpha.,8a.beta.)]- (CAS) Eudesma-4(14),11-diene \$\$.beta.-Eudesmene \$\$ (+)-.



Hit#:2 Entry:100357 Library:WILEY7.LIB
 SI:95 Formula:C15 H24 CAS:0-00-0 MolWeight:204 RetIndex:0
 CompName:"KW3 AUS EPIGLOBULOL" \$\$

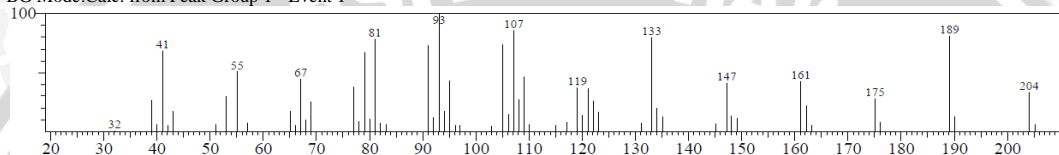


Hit#:3 Entry:100911 Library:WILEY7.LIB
 SI:94 Formula:C15 H24 CAS:17066-67-0 MolWeight:204 RetIndex:0
 CompName:.beta.-Selinene \$\$ Naphthalene, decahydro-4a-methyl-1-methylene-7-(1-methylethenyl)-, [4aR-(4a.alpha.,7.alpha.,8a.beta.)]-
 (CAS) Eudesma-4(14),11-diene \$\$.beta.-Eudesmene \$\$ (+)-

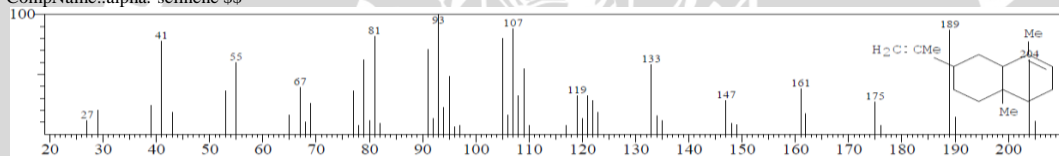


<< Target >>

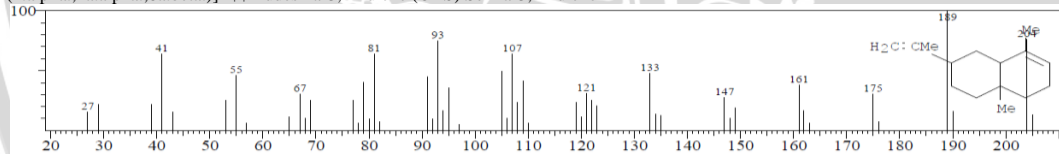
Line#:9 R.Time:19.250(Scan#:1111) MassPeaks:60
 RawMode:Averaged 19.242-19.258(1110-1112) BasePeak:93.10(26597)
 BG Mode:Calc. from Peak Group 1 - Event 1



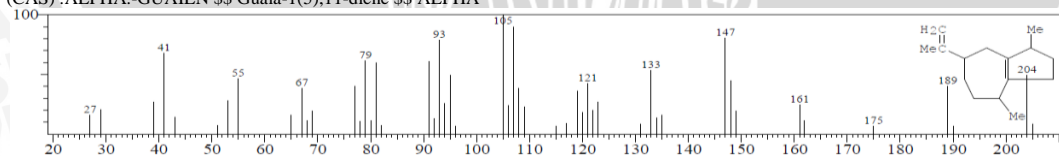
Hit#:1 Entry:101103 Library:WILEY7.LIB
 SI:95 Formula:C15 H24 CAS:473-13-2 MolWeight:204 RetIndex:0
 CompName:.alpha.-selinene \$\$



Hit#:2 Entry:100900 Library:WILEY7.LIB
 SI:91 Formula:C15 H24 CAS:473-13-2 MolWeight:204 RetIndex:0
 CompName:(-)-.alpha.-Selinene \$\$ Naphthalene, 1,2,3,4,4a,5,6,8a-octahydro-4a,8-dimethyl-2-(1-methylethenyl)-, [2R-(2.alpha.,4a.alpha.,8a.beta.)]- \$\$ Eudesma-3,11-diene (CAS) Selina-3,11-diene

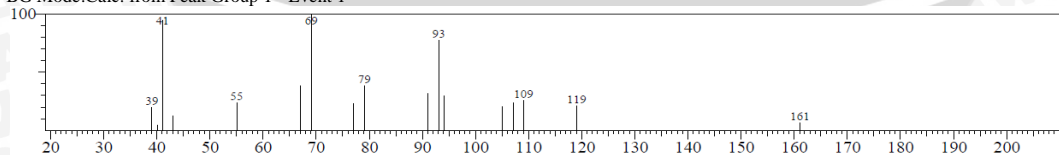


Hit#:3 Entry:100813 Library:WILEY7.LIB
 SI:91 Formula:C15 H24 CAS:3691-12-1 MolWeight:204 RetIndex:0
 CompName:.alpha.-Guaiene \$\$ Azulene, 1,2,3,4,5,6,7,8-octahydro-1,4-dimethyl-7-(1-methylethenyl)-, [1S-(1.alpha.,4.alpha.,7.alpha.)]-
 (CAS) .ALPHA.-GUAIEEN \$\$ Guaia-1(5),11-diene \$\$ ALPHA



<< Target >>

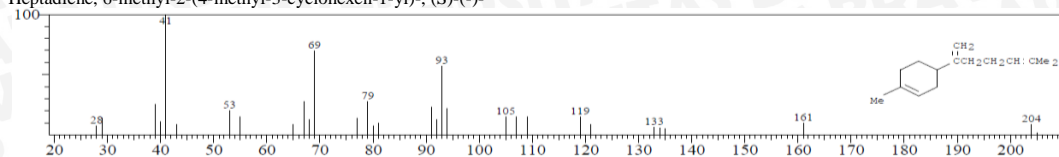
Line#:10 R.Time:19.400(Scan#:1129) MassPeaks:17
 RawMode:Averaged 19.392-19.408(1128-1130) BasePeak:69.10(5665)
 BG Mode:Calc. from Peak Group 1 - Event 1



Hit#:1 Entry:100714 Library:WILEY7.LIB

SI:84 Formula:C15 H24 CAS:495-61-4 MolWeight:204 RetIndex:0

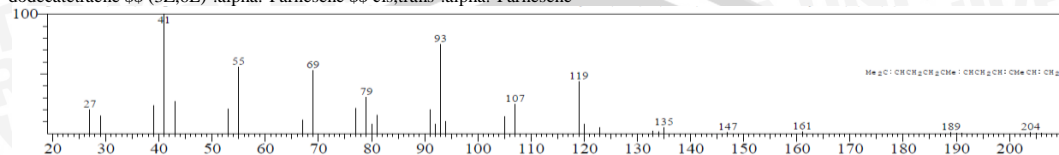
CompName:beta.-Bisabolene \$\$ Cyclohexene, 1-methyl-4-(5-methyl-1-methylene-4-hexenyl)-, (S)- (CAS) 1.-beta.-Bisabolene \$\$ 1,5-Heptadiene, 6-methyl-2-(4-methyl-3-cyclohexen-1-yl)-, (S)-(-)



Hit#:2 Entry:100662 Library:WILEY7.LIB

SI:82 Formula:C15 H24 CAS:26560-14-5 MolWeight:204 RetIndex:0

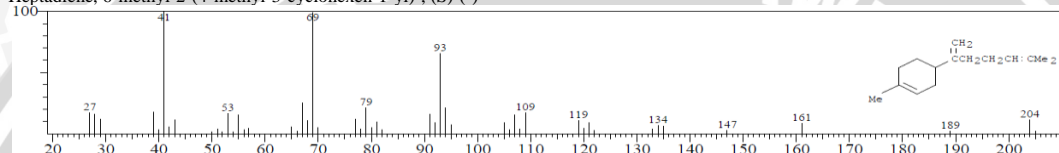
CompName:(Z,E)-.alpha.-farnesene \$\$ 1,3,6,10-Dodecatetraene, 3,7,11-trimethyl-, (Z,E)- (CAS) 3,7,11-trimethyl-1,(Z)3,(E)6,10-dodecatetraene \$\$ (3Z,6E)-.alpha.-Farnesene \$\$ cis,trans-.alpha.-Farnesene



Hit#:3 Entry:100711 Library:WILEY7.LIB

SI:81 Formula:C15 H24 CAS:495-61-4 MolWeight:204 RetIndex:0

CompName:beta.-Bisabolene \$\$ Cyclohexene, 1-methyl-4-(5-methyl-1-methylene-4-hexenyl)-, (S)- (CAS) 1.-beta.-Bisabolene \$\$ 1,5-Heptadiene, 6-methyl-2-(4-methyl-3-cyclohexen-1-yl)-, (S)-(-)

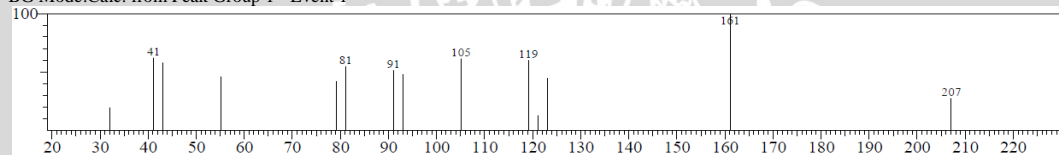


<< Target >>

Line#:11 R.Time:19.717(Scan#:1167) MassPeaks:14

RawMode:Averaged 19.708-19.725(1166-1168) BasePeak:161.10(2833)

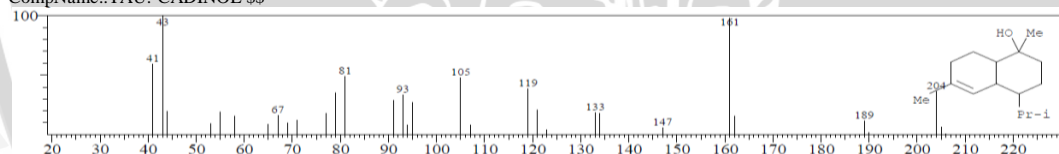
BG Mode:Calc. from Peak Group 1 - Event 1



Hit#:1 Entry:123277 Library:WILEY7.LIB

SI:73 Formula:C15 H26 O CAS:5937-11-1 MolWeight:222 RetIndex:0

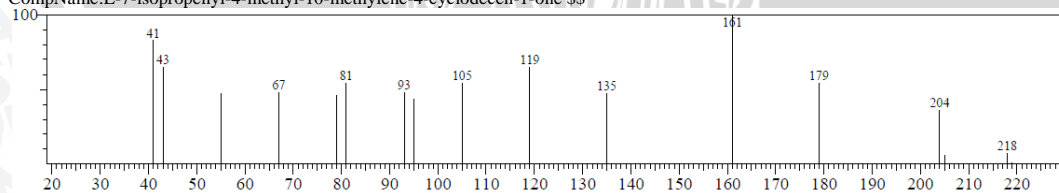
CompName:TAU.-CADINOL \$\$



Hit#:2 Entry:117739 Library:WILEY7.LIB

SI:73 Formula:C15 H22 O CAS:0-00-0 MolWeight:218 RetIndex:0

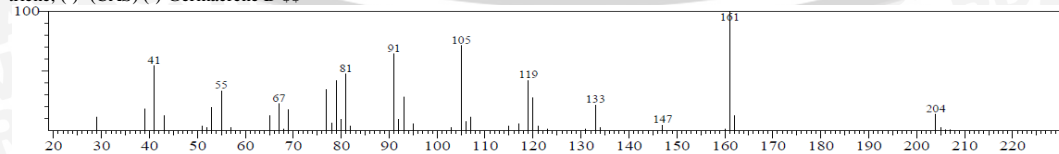
CompName:E-7-isopropenyl-4-methyl-10-methylene-4-cyclodecen-1-one \$\$



Hit#:3 Entry:101086 Library:WILEY7.LIB

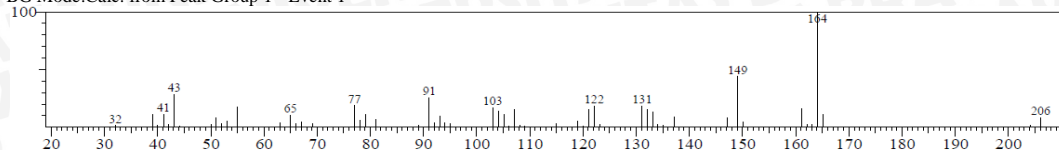
SI:72 Formula:C15 H24 CAS:23986-74-5 MolWeight:204 RetIndex:0

CompName:Germacrene D \$\$ 1,6-Cyclodecadiene, 1-methyl-5-methylene-8-(1-methylethyl)-, [s-(E,E)]- (CAS) Germacra-1(10),4(15),5-triene, (-)- (CAS) (-)-Germacrene D \$\$

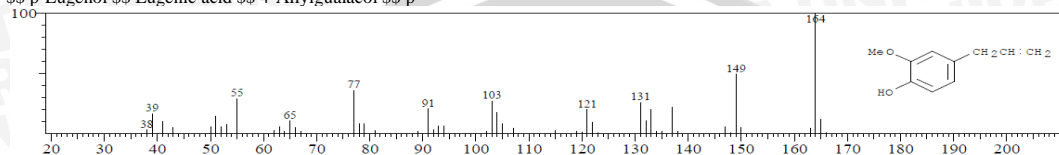


<< Target >>

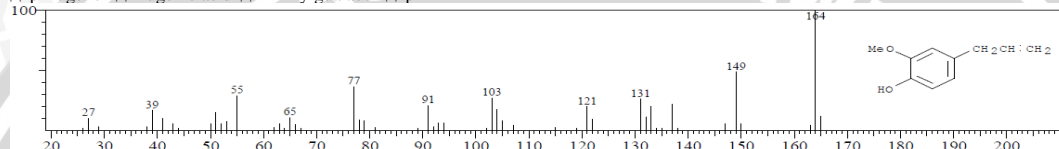
Line#:12 R.Time:19.825(Scan#:1180) MassPeaks:56
 RawMode:Averaged 19.817-19.833(1179-1181) BasePeak:164.05(54539)
 BG Mode:Calc. from Peak Group 1 - Event 1



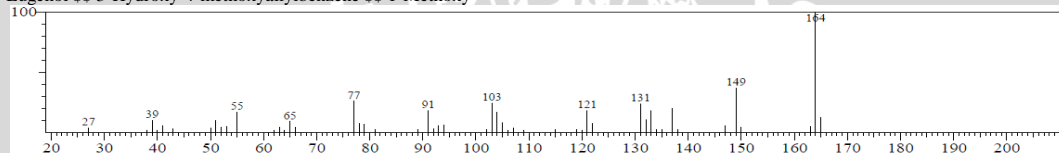
Hit#:1 Entry:53659 Library:WILEY7.LIB
 SI:87 Formula:C10 H12 O2 CAS:97-53-0 MolWeight:164 RetIndex:0
 CompName:Phenol, 2-methoxy-4-(2-propenyl)- (CAS) Eugenol \$\$ 1-(2-PROPENYL)-4-HYDROXY-3-METHOXYBENZENE \$\$ Eugenol
 \$\$ p-Eugenol \$\$ Eugenic acid \$\$ 4-Allylguaiacol \$\$ p-



Hit#:2 Entry:53661 Library:WILEY7.LIB
 SI:87 Formula:C10 H12 O2 CAS:97-53-0 MolWeight:164 RetIndex:0
 CompName:Phenol, 2-methoxy-4-(2-propenyl)- (CAS) Eugenol \$\$ 1-(2-PROPENYL)-4-HYDROXY-3-METHOXYBENZENE \$\$ Eugenol
 \$\$ p-Eugenol \$\$ Eugenic acid \$\$ 4-Allylguaiacol \$\$ p-

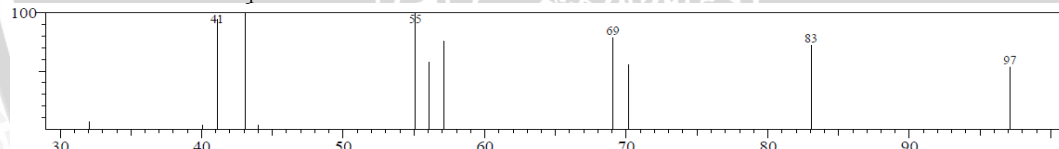


Hit#:3 Entry:53716 Library:WILEY7.LIB
 SI:87 Formula:C10 H12 O2 CAS:501-19-9 MolWeight:164 RetIndex:0
 CompName:3-Allyl-6-methoxyphenol \$\$ Phenol, 2-methoxy-5-(2-propenyl)- \$\$ Phenol, 5-allyl-2-methoxy- (CAS) Chavibetol (CAS) m-Eugenol \$\$ 3-Hydroxy-4-methoxyallylbenzene \$\$ 1-Methoxy-

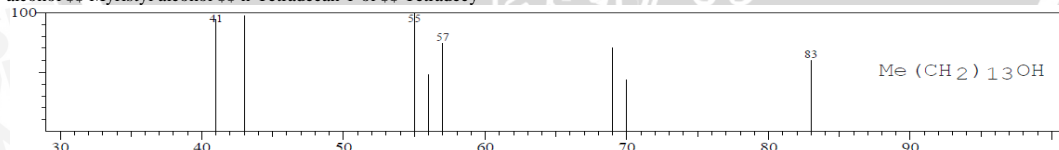


<< Target >>

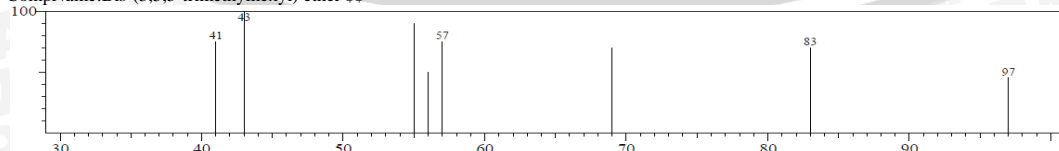
Line#:13 R.Time:21.292(Scan#:1356) MassPeaks:12
 RawMode:Averaged 21.283-21.300(1355-1357) BasePeak:55.10(2107)
 BG Mode:Calc. from Peak Group 1 - Event 1



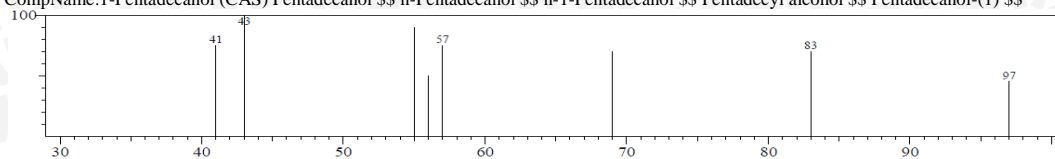
Hit#:1 Entry:113629 Library:WILEY7.LIB
 SI:93 Formula:C14 H30 O CAS:112-72-1 MolWeight:214 RetIndex:0
 CompName:1-Tetradecanol (CAS) Alfol 14 \$\$ Tetradecanol \$\$ Loxanol V \$\$ Lanette K \$\$ Lanette Wax KS \$\$ n-Tetradecanol \$\$ Myristic alcohol \$\$ Myristyl alcohol \$\$ n-Tetradecan-1-ol \$\$ Tetradecyl



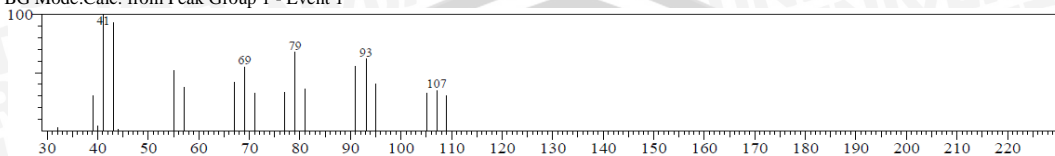
Hit#:2 Entry:180546 Library:WILEY7.LIB
 SI:92 Formula:C18 H38 O CAS:0-00-0 MolWeight:270 RetIndex:0
 CompName:Bis-(3,5,5-trimethylhexyl) ether \$\$



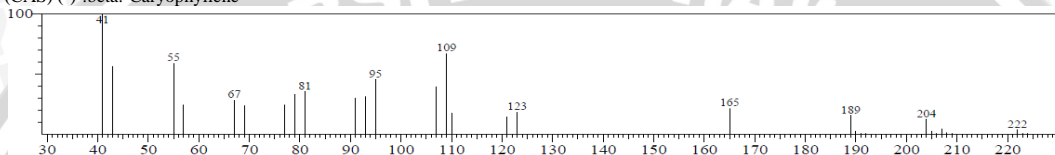
Hit#:3 Entry:131524 Library:WILEY7.LIB
 SI:92 Formula:C15 H32 O CAS:629-76-5 MolWeight:228 RetIndex:0
 CompName:1-Pentadecanol (CAS) Pentadecanol \$\$ n-Pentadecanol \$\$ n-1-Pentadecanol \$\$ Pentadecyl alcohol \$\$ Pentadecanol-(1) \$\$



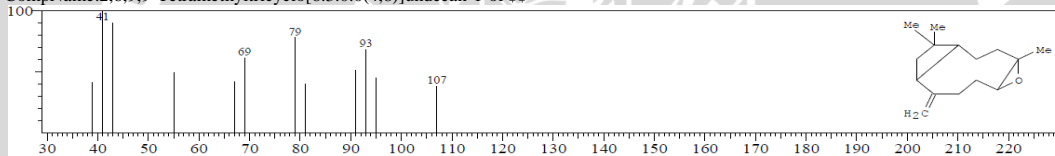
<< Target >>
 Line#:14 R.Time:21.492(Scan#:1380) MassPeaks:20
 RawMode:Averaged 21.483-21.500(1379-1381) BasePeak:41.10(3782)
 BG Mode:Calc. from Peak Group 1 - Event 1



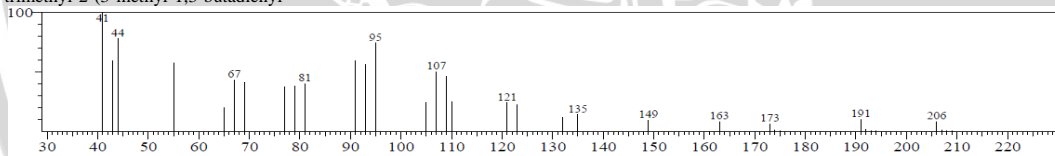
Hit#:1 Entry:121061 Library:WILEY7.LIB
 SI:87 Formula:C15 H24 O CAS:1139-30-6 MolWeight:220 RetIndex:0
 CompName:(-)-Caryophyllene oxide \$\$ (-)-5-Oxatricyclo[8.2.0.0(4,6)]dodecane,,12-trimethyl-9-methylene-, [1R-(1R*,4R*,6R*,10S*)]- (CAS) (-)-.beta.-Caryophyllene



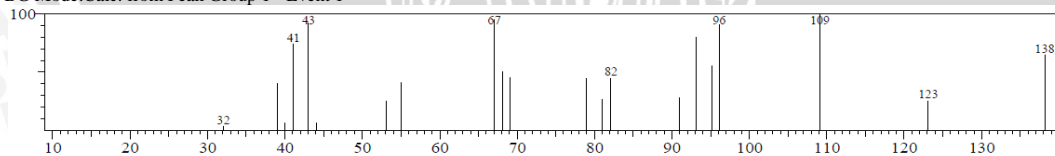
Hit#:2 Entry:123425 Library:WILEY7.LIB
 SI:78 Formula:C15 H26 O CAS:0-00-0 MolWeight:222 RetIndex:0
 CompName:2,6,9,9-Tetramethyltricyclo[6.3.0.0(4,8)]undecan-1-ol \$\$



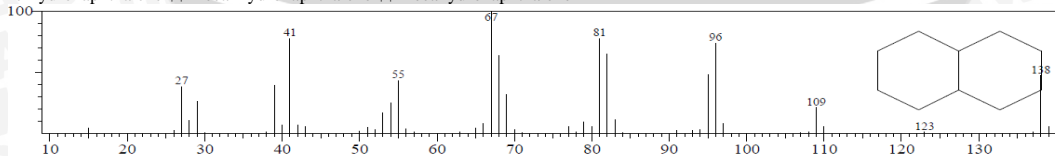
Hit#:3 Entry:103131 Library:WILEY7.LIB
 SI:78 Formula:C14 H22 O CAS:97550-03-3 MolWeight:206 RetIndex:0
 CompName:(Z,1'R,2'RS,3'SR)-1-(2',3'-epoxy-2',6',6'-trimethylcyclohexyl)-3-methyl-1,3-butadiene \$\$ 7-Oxabicyclo[4.1.0]heptane, 1,3,3-trimethyl-2-(3-methyl-1,3-butadienyl)



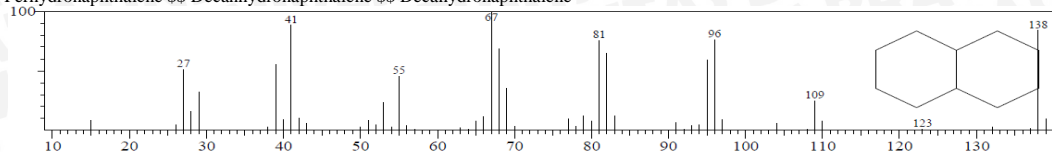
<< Target >>
 Line#:15 R.Time:22.142(Scan#:1458) MassPeaks:21
 RawMode:Averaged 22.133-22.150(1457-1459) BasePeak:109.10(2785)
 BG Mode:Calc. from Peak Group 1 - Event 1



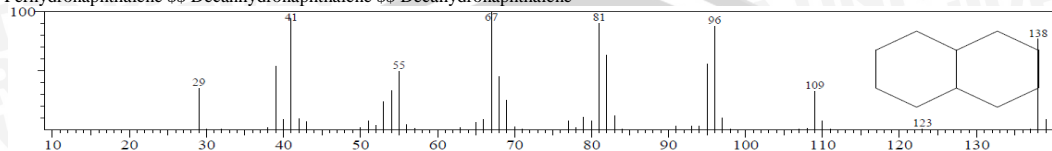
Hit#:1 Entry:28193 Library:WILEY7.LIB
 SI:81 Formula:C10 H18 CAS:91-17-8 MolWeight:138 RetIndex:0
 CompName:Naphthalene, decahydro- (CAS) Dec \$\$ Decalin \$\$ Dekalin \$\$ Naphthan \$\$ Decahydronaphthalene \$\$ Bicyclo[4.4.0]decane \$\$ Perhydronaphthalene \$\$ Decanhydronaphthalene \$\$ Decahydronaphthalene



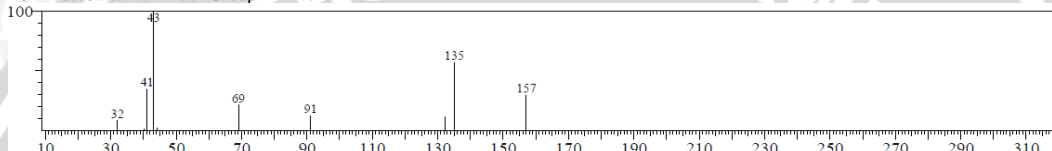
Hit#:2 Entry:28192 Library:WILEY7.LIB
 SI:80 Formula:C10 H18 CAS:91-17-8 MolWeight:138 RetIndex:0
 CompName:Naphthalene, decahydro- (CAS) Dec \$\$ Decalin \$\$ Dekalin \$\$ Naphthan \$\$ Decahydronaphthalene \$\$ Bicyclo[4.4.0]decane \$\$
 Perhydronaphthalene \$\$ Decanhydronaphthalene \$\$ Decahydronaphthalene



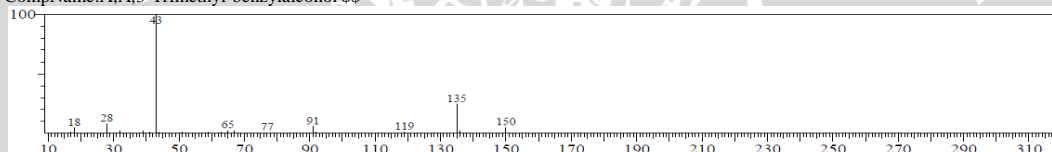
Hit#:3 Entry:28196 Library:WILEY7.LIB
 SI:80 Formula:C10 H18 CAS:91-17-8 MolWeight:138 RetIndex:0
 CompName:Naphthalene, decahydro- (CAS) Dec \$\$ Decalin \$\$ Dekalin \$\$ Naphthan \$\$ Decahydronaphthalene \$\$ Bicyclo[4.4.0]decane \$\$
 Perhydronaphthalene \$\$ Decanhydronaphthalene \$\$ Decahydronaphthalene



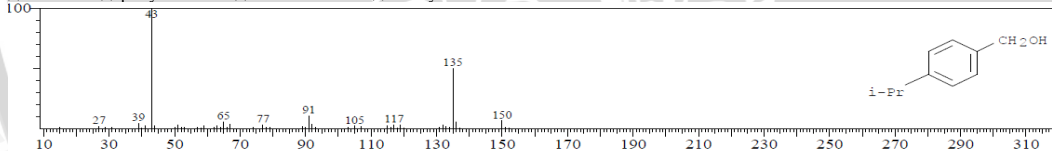
<< Target >>
 Line#:16 R.Time:22.617(Scan#:1515) MassPeaks:10
 RawMode:Averaged 22.608-22.625(1514-1516) BasePeak:43.10(5925)
 BG Mode:Calc. from Peak Group 1 - Event 1



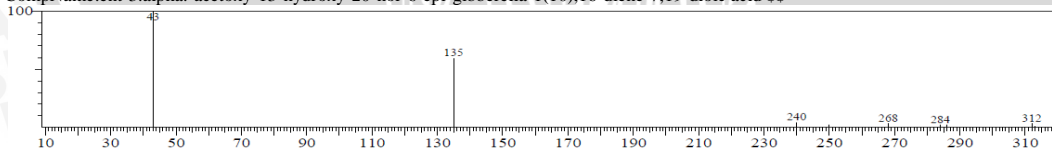
Hit#:1 Entry:37994 Library:WILEY7.LIB
 SI:72 Formula:C10 H14 O CAS:0-00-0 MolWeight:150 RetIndex:0
 CompName:A,A,3-Trimethyl-benzylalcohol \$\$



Hit#:2 Entry:38641 Library:WILEY7.LIB
 SI:70 Formula:C10 H14 O CAS:536-60-7 MolWeight:150 RetIndex:0
 CompName:Benzenemethanol, 4-(1-methylethyl)- (CAS) P-CYMEN-.ALPHA.-OL \$\$ 1-HYDROXYMETHYL-4-ISOPROPYLBENZENE
 \$\$ Cuminol \$\$ p-Cymen-7-ol \$\$ Cmic alcohol \$\$ Cumyl



Hit#:3 Entry:222806 Library:WILEY7.LIB
 SI:69 Formula:C19 H20 O4 CAS:0-00-0 MolWeight:312 RetIndex:0
 CompName:ent-3.alpha.-acetoxy-13-hydroxy-20-nor-6-epi-gibberella-1(10),16-diene-7,19-dioic acid \$\$

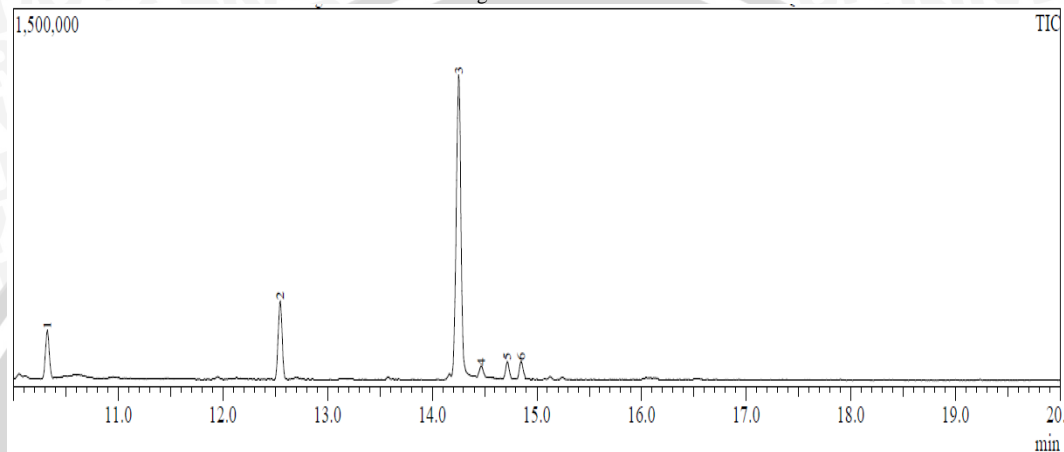


Lampiran 2. Analisis Senyawa Ekstrak Metanol Daun Sirih

Lab.KIMIA FMIPA - UB

AdminAnalyzed by : Admin
 Sample Name : Minyak Sirih (Metanol)
 Sample ID : 21 05 13
 Data File : C:\GCMSsolution\Data\atsiri\Maulidatur R N 92.QGD
 Method File : C:\GCMSsolution\Data\atsiri\M.Atstiri.qgm
 Tuning File : C:\GCMSsolution\System\Tune1\Tuning 2-7-2013.qgt

Chromatogram M. Sirih Metanol



Peak#	R.Time	I.Time	F.Time	Area	Area%	Height	Height%	A/H	Mark	Name
1	10.323	10.267	10.375	490389	8.95	192985	10.25	2.54	MI	
2	12.547	12.483	12.608	803851	14.68	310234	16.48	2.59	MI	
3	14.253	14.183	14.358	3742947	68.34	1196679	63.56	3.12	MI	
4	14.469	14.433	14.508	104892	1.92	43059	2.29	2.43	MI	
5	14.718	14.667	14.767	159442	2.91	69140	3.67	2.30	MI	
6	14.850	14.800	14.900	175315	3.20	70525	3.75	2.48	MI	
				5476836	100.00	1882622	100.00			

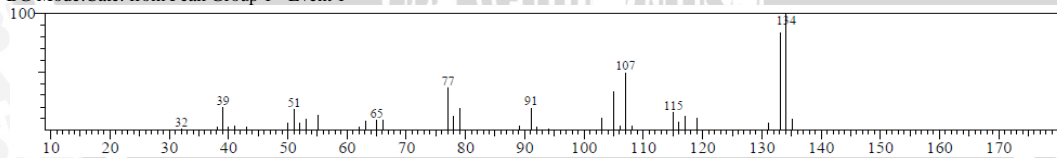
Library

<< Target >>

Line#:1 R.Time:10.325(Scan#:40) MassPeaks:36

RawMode:Averaged 10.317-10.333(39-41) BasePeak:134.10(32355)

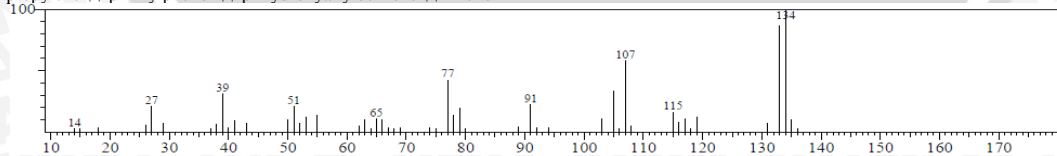
BG Mode:Calc. from Peak Group 1 - Event 1



Hit#:1 Entry:24352 Library:WILEY7.LIB

SI:94 Formula:C9 H10 O CAS:501-92-8 MolWeight:134 RetIndex:0

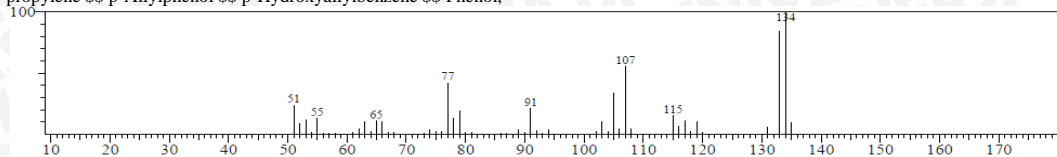
CompName:chavicol \$\$ 4-allylphenol \$\$ para-ALLYL PHENOL \$\$ Phenol, 4-(2-propenyl)- \$\$.gamma.-(p-Hydroxyphenyl)-.alpha.-propylene \$\$ p-Allylphenol \$\$ p-Hydroxyallylbenzene \$\$ Phenol



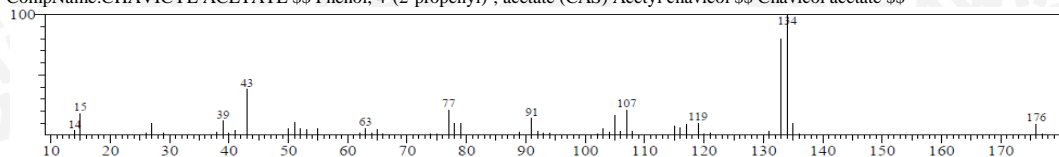
Hit#:2 Entry:24353 Library:WILEY7.LIB

SI:92 Formula:C9 H10 O CAS:501-92-8 MolWeight:134 RetIndex:0

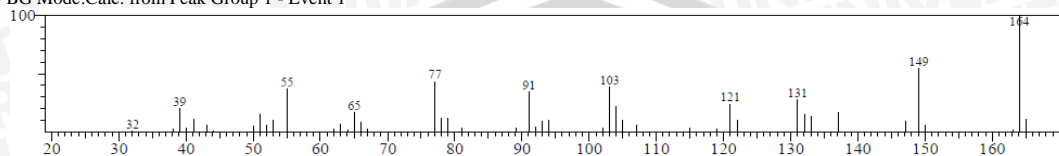
CompName:chavicol \$\$ 4-allylphenol \$\$ para-ALLYL PHENOL \$\$ Phenol, 4-(2-propenyl)- \$\$.gamma.-(p-Hydroxyphenyl)-.alpha.-propylene \$\$ p-Allylphenol \$\$ p-Hydroxyallylbenzene \$\$ Phenol,



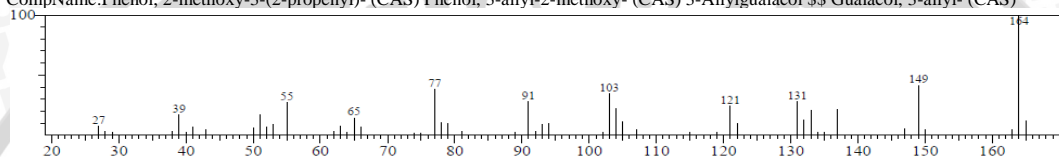
Hit#:3 Entry:66547 Library:WILEY7.LIB
 SI:88 Formula:C11 H12 O2 CAS:61499-22-7 MolWeight:176 RetIndex:0
 CompName:CHAVICYL ACETATE \$\$ Phenol, 4-(2-propenyl)-, acetate (CAS) Acetyl chavicol \$\$ Chavicol acetate \$\$



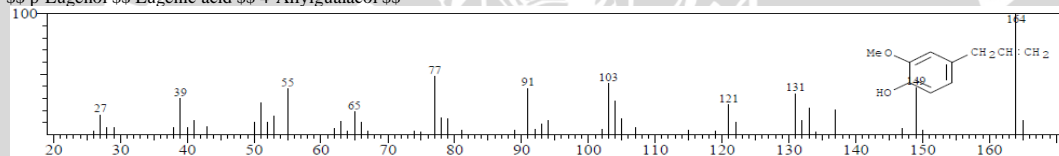
<< Target >>
 Line#:2 R.Time:12.550(Scan#:307) MassPeaks:46
 RawMode:Averaged 12.542-12.558(306-308) BasePeak:164.05(43575)
 BG Mode:Calc. from Peak Group 1 - Event 1



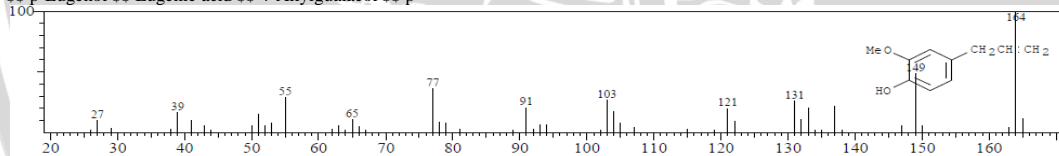
Hit#:1 Entry:52834 Library:WILEY7.LIB
 SI:96 Formula:C10 H12 O2 CAS:1941-12-4 MolWeight:164 RetIndex:0
 CompName:Phenol, 2-methoxy-3-(2-propenyl)- (CAS) Phenol, 3-allyl-2-methoxy- (CAS) 3-Allylguaiacol \$\$ Guaiacol, 3-allyl- (CAS)



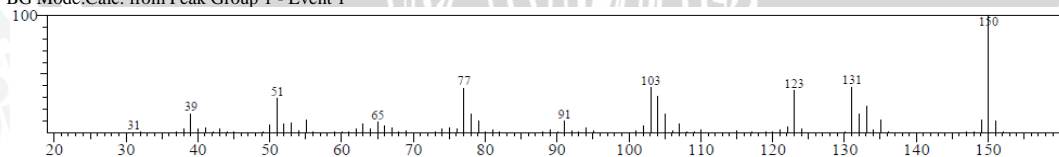
Hit#:2 Entry:53660 Library:WILEY7.LIB
 SI:95 Formula:C10 H12 O2 CAS:97-53-0 MolWeight:164 RetIndex:0
 CompName:Phenol, 2-methoxy-4-(2-propenyl)- (CAS) Eugenol \$\$ 1-(2-PROPENYL)-4-HYDROXY-3-METHOXYBENZENE \$\$ Engenol \$\$ p-Eugenol \$\$ Eugenic acid \$\$ 4-Allylguaiacol \$\$



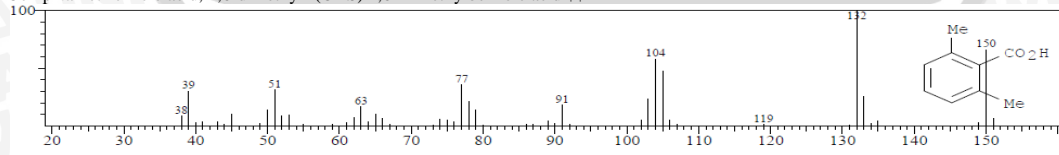
Hit#:3 Entry:53661 Library:WILEY7.LIB
 SI:94 Formula:C10 H12 O2 CAS:97-53-0 MolWeight:164 RetIndex:0
 CompName:Phenol, 2-methoxy-4-(2-propenyl)- (CAS) Eugenol \$\$ 1-(2-PROPENYL)-4-HYDROXY-3-METHOXYBENZENE \$\$ Engenol \$\$ p-Eugenol \$\$ Eugenic acid \$\$ 4-Allylguaiacol \$\$ p



<< Target >>
 Line#:3 R.Time:14.250(Scan#:511) MassPeaks:80
 RawMode:Averaged 14.242-14.258(510-512) BasePeak:150.05(185128)
 BG Mode:Calc. from Peak Group 1 - Event 1



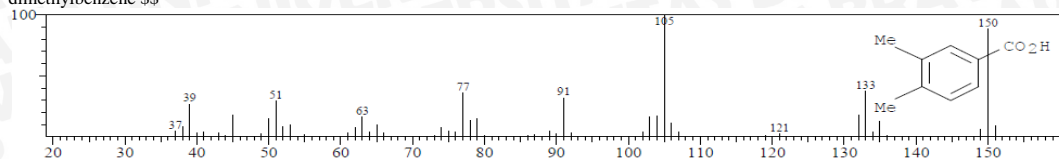
Hit#:1 Entry:37505 Library:WILEY7.LIB
 SI:79 Formula:C9 H10 O2 CAS:632-46-2 MolWeight:150 RetIndex:0
 CompName:Benzoic acid, 2,6-dimethyl- (CAS) 2,6-Dimethylbenzoic acid \$\$



Hit#:2 Entry:38377 Library:WILEY7.LIB

SI:78 Formula:C9 H10 O2 CAS:619-04-5 MolWeight:150 RetIndex:0

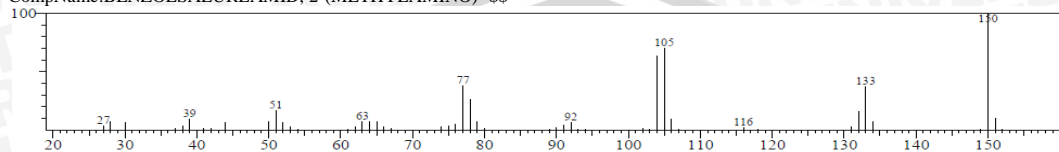
CompName:Benzoic acid, 3,4-dimethyl- (CAS) 3,4-Dimethylbenzoic acid \$\$ 3,4-DIMETHYLBENZOIC ACID \$\$ 1-Carboxy-3,4-dimethylbenzene \$\$



Hit#:3 Entry:37484 Library:WILEY7.LIB

SI:78 Formula:C8 H10 N2 O CAS:0-00-0 MolWeight:150 RetIndex:0

CompName:BENZOESAEUREAMID, 2-(METHYLAMINO)- \$\$

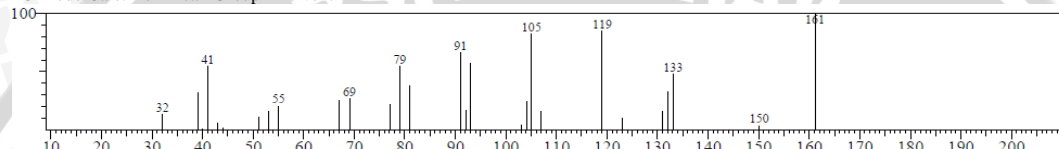


<< Target >>

Line#:4 R.Time:14.467(Scan#:537) MassPeaks:28

RawMode:Averaged 14.458-14.475(536-538) BasePeak:161.15(4558)

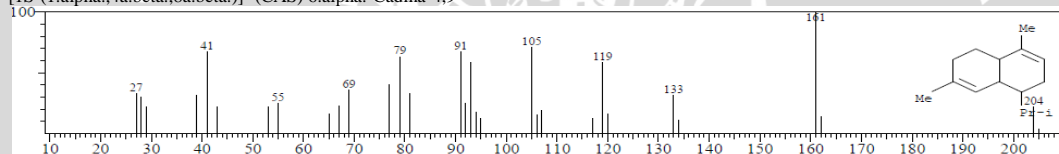
BG Mode:Calc. from Peak Group 1 - Event 1



Hit#:1 Entry:100957 Library:WILEY7.LIB

SI:82 Formula:C15 H24 CAS:23515-88-0 MolWeight:204 RetIndex:0

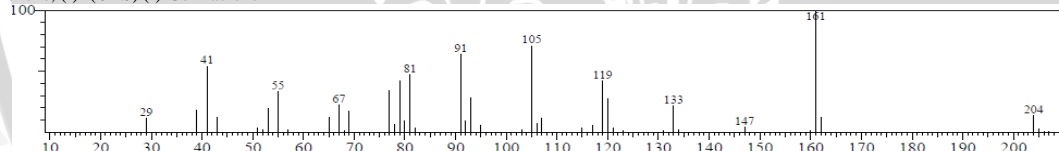
CompName:alpha-Amorphe \$\$.ALPHA. AMORPHENE \$\$ Naphthalene, 1,2,4a,5,6,8a-hexahydro-4,7-dimethyl-1-(1-methylethyl)-, [1S-(1.alpha.,4a.beta.,8a.beta.)]- (CAS) 6.alpha.-Cadina-4,9



Hit#:2 Entry:101086 Library:WILEY7.LIB

SI:81 Formula:C15 H24 CAS:23986-74-5 MolWeight:204 RetIndex:0

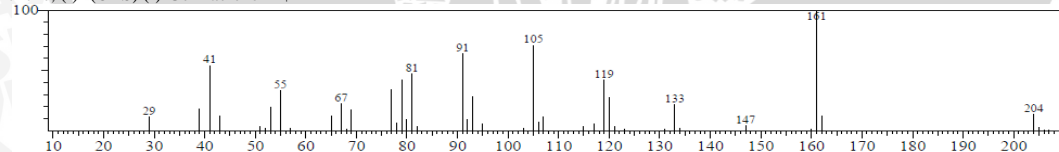
CompName:Germacrene D \$\$ 1,6-Cyclodecadiene, 1-methyl-5-methylene-8-(1-methylethyl)-, [s-(E,E)]- (CAS) Germacra-1(10),4(15),5-triene, (-) (CAS) (-)-Germacrene D



Hit#:3 Entry:101085 Library:WILEY7.LIB

SI:79 Formula:C15 H24 CAS:23986-74-5 MolWeight:204 RetIndex:0

CompName:Germacrene D \$\$ 1,6-Cyclodecadiene, 1-methyl-5-methylene-8-(1-methylethyl)-, [s-(E,E)]- (CAS) Germacra-1(10),4(15),5-triene, (-) (CAS) (-)-Germacrene D \$

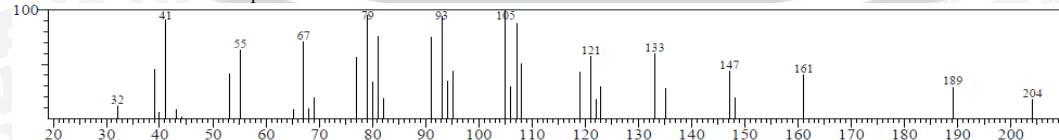


<< Target >>

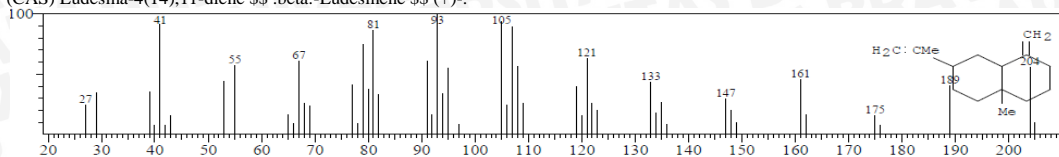
Line#:5 R.Time:14.717(Scan#:567) MassPeaks:36

RawMode:Averaged 14.708-14.725(566-568) BasePeak:105.05(4006)

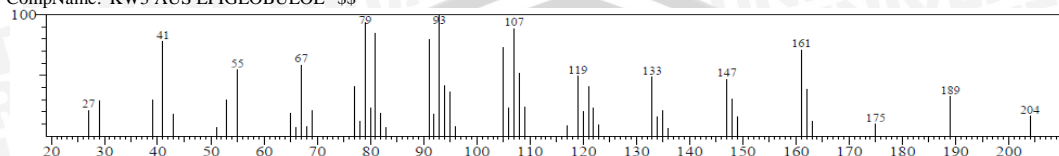
BG Mode:Calc. from Peak Group 1 - Event 1



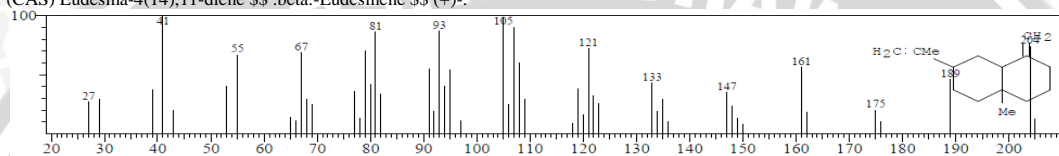
Hit#:1 Entry:100909 Library:WILEY7.LIB
 SI:90 Formula:C15 H24 CAS:17066-67-0 MolWeight:204 RetIndex:0
 CompName:beta.-Selinene \$\$ Naphthalene, decahydro-4a-methyl-1-methylene-7-(1-methylethenyl)-, [4aR-(4a.alpha.,7.alpha.,8a.beta.)]-
 (CAS) Eudesma-4(14),11-diene \$\$.beta.-Eudesmene \$\$ (+)-.



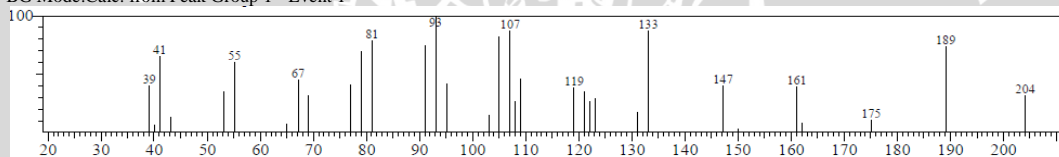
Hit#:2 Entry:100357 Library:WILEY7.LIB
 SI:88 Formula:C15 H24 CAS:0-00-0 MolWeight:204 RetIndex:0
 CompName:"KW3 AUS EPIGLOBULOL" \$\$



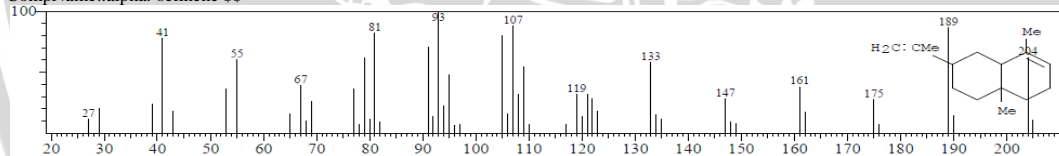
Hit#:3 Entry:100911 Library:WILEY7.LIB
 SI:88 Formula:C15 H24 CAS:17066-67-0 MolWeight:204 RetIndex:0
 CompName:beta.-Selinene \$\$ Naphthalene, decahydro-4a-methyl-1-methylene-7-(1-methylethenyl)-, [4aR-(4a.alpha.,7.alpha.,8a.beta.)]-
 (CAS) Eudesma-4(14),11-diene \$\$.beta.-Eudesmene \$\$ (+)-.



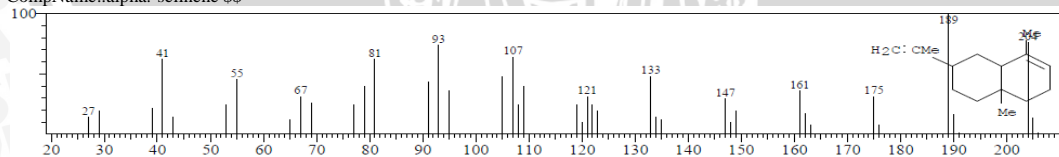
<< Target >>
 Line#:6 R.Time:14.850(Scan#:583) MassPeaks:33
 RawMode:Averaged 14.842-14.858(582-584) BasePeak:93.05(4496)
 BG Mode:Calc. from Peak Group 1 - Event 1



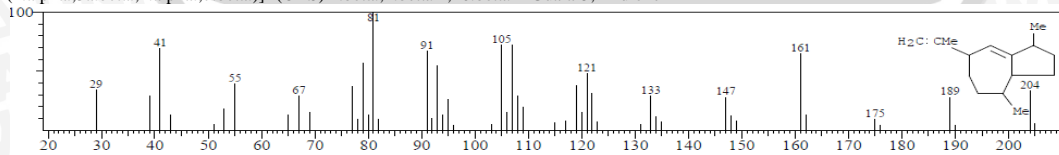
Hit#:1 Entry:101103 Library:WILEY7.LIB
 SI:88 Formula:C15 H24 CAS:473-13-2 MolWeight:204 RetIndex:0
 CompName:alpha.-selinene \$\$



Hit#:2 Entry:101104 Library:WILEY7.LIB
 SI:86 Formula:C15 H24 CAS:473-13-2 MolWeight:204 RetIndex:0
 CompName:alpha.-selinene \$\$



Hit#:3 Entry:100811 Library:WILEY7.LIB
 SI:85 Formula:C15 H24 CAS:22567-17-5 MolWeight:204 RetIndex:0
 CompName:gamma.-Gurjunene \$\$ Azulene, 1,2,3,3a,4,5,6,7-octahydro-1,4-dimethyl-7-(1-methylethenyl)-, [1R-(1.alpha.,3a.beta.,4.alpha.,7.beta.)]- (CAS) 1.beta.,4.beta.H,10.beta.H-Guaia-5,11-diene



Method

==== Analytical Line 1 =====

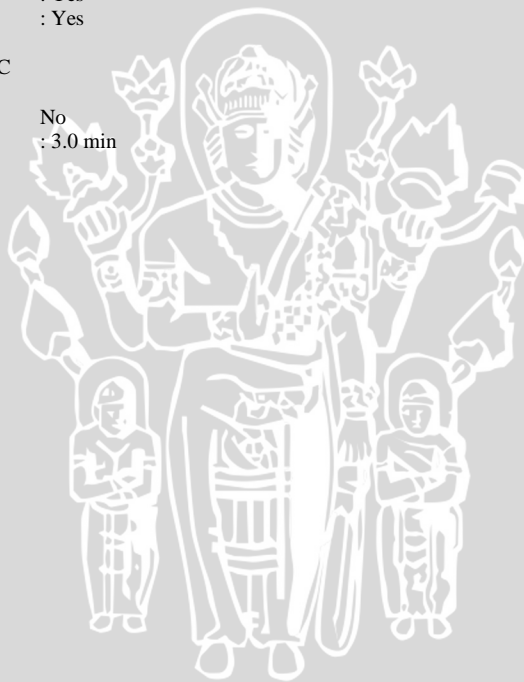
==== Analytical Line 1 =====

[GC-2010]

[GCMS-QP2010]
 IonSourceTemp :250.00 °C



Column Oven Temp.	: 80.0 °C	Interface Temp.	: 300.00 °C
Injection Temp.	: 250.00 °C	Solvent Cut Time	: 2.00 min
Injection Mode	: Split	Detector Gain	: Relative
		Mode	
Flow Control Mode	: Pressure	Detector Gain	: 0.00 kV
Pressure	: 28.0 kPa	Threshold	: 1000
Total Flow	: 87.5 mL/min		
Column Flow	: 0.60 mL/min	[MS Table]	
Linear Velocity	: 28.6 cm/sec	--Group 1 - Event 1--	
Purge Flow	: 3.0 mL/min	Start Time	: 10.00min
Split Ratio	: 139.1	End Time	: 30.00min
High Pressure Injection	: OFF	ACQ Mode	: Scan
Carrier Gas Saver	: OFF	Event Time	: 0.50sec
Splitter Hold	: OFF	Scan Speed	: 1250
Oven Temp. Program		Start m/z	: 30.00
Rate	Temperature(°C)	Hold Time(min)	End m/z
-	80.0	2.00	
8.00	250.0	20.00	
< Ready Check Heat Unit >		Sample Inlet Unit	: GC
Column Oven	: Yes		
SPL1	: Yes		
MS	: Yes		
< 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	: 3.0 min		



Lampiran 3. Analisis Ragam Penghambatan Pertumbuhan Jamur *E. turcicum* oleh Ekstrak N Heksana Daun Sirih

ANOVA

Pengamatan tanggal 17072013

SK	db	JK	KT	Fhit.	Ftab.		Sig.
					5%	1%	
Perlakuan	3	1068.712	356.237	2.038	3.24	5.29	0.149
Galat	16	2796.728	174.795	*tn			
Total	19	3865.440					

Hasil Uji BNT berbeda nyata jika F hitung > F tabel, *tn = tidak nyata

Pengamatan tanggal 18072013

SK	db	JK	KT	Fhit.	Ftab.		Sig.
					5%	1%	
Perlakuan	3	57.91	19.30	0.495	3.24	5.29	0.691
Galat	16	623.6	38.97	*tn			
Total	19	681.5					

Hasil Uji BNT berbeda nyata jika F hitung > F tabel, *tn = tidak nyata

Pengamatan tanggal 19072013

SK	db	JK	KT	Fhit.	Ftab.		Sig.
					5%	1%	
Perlakuan	3	28.181	9.394	0.382	3.24	5.29	0.768
Galat	16	393.90	24.62	*tn			
Total	19	422.08					

Hasil Uji BNT berbeda nyata jika F hitung > F tabel, *tn = tidak nyata

Pengamatan tanggal 20072013

SK	db	JK	KT	Fhit.	Ftab.		Sig.
					5%	1%	
Perlakuan	3	3.850	1.283	0.061	3.24	5.29	0.980
Galat	16	337.3	21.08	*tn			
Total	19	341.2					

Hasil Uji BNT berbeda nyata jika F hitung > F tabel, *tn = tidak nyata

Pengamatan tanggal 21072013

SK	db	JK	KT	Fhit.	Ftab.		Sig.
					5%	1%	
Perlakuan	3	43.996	14.66	0.765	3.24	5.29	0.530
Galat	16	306.69	19.17	*tn			
Total	19	350.67					

Hasil Uji BNT berbeda nyata jika F hitung > F tabel, *tn = tidak nyata

Lampiran 4. Analisis Ragam Penghambatan Pertumbuhan Jamur *E. turcicum* oleh Ekstrak Metanol Daun Sirih

ANOVA

Pengamatan tanggal 17072013

SK	db	JK	KT	Fhit.	Ftab.		Sig.
					5%	1%	
Perlakuan	3	1479.85	493.28	4.28	3.24	5.29	0.021
Galat	16	1846.12	115.38	*n			
Total	19	3325.97					

Hasil Uji BNT berbeda nyata jika F hitung > F tabel, *n = nyata

Pengamatan tanggal 18072013

SK	db	JK	KT	Fhit.	Ftab.		Sig.
					5%	1%	
Perlakuan	3	685.75	228.58	9.93	3.24	5.29	0.001
Galat	16	368.25	23.02	*n			
Total	19	1054.00					

Hasil Uji BNT berbeda nyata jika F hitung > F tabel, *n = nyata

Pengamatan tanggal 19072013

SK	db	JK	KT	Fhit.	Ftab.		Sig.
					5%	1%	
Perlakuan	3	67.31	22.438	0.281	3.24	5.29	0.839
Galat	16	1278.9	79.93	*tn			
Total	19	1346.25					

Hasil Uji BNT berbeda nyata jika F hitung > F tabel, *tn = tidak nyata

Pengamatan tanggal 20072013

SK	db	JK	KT	Fhit.	Ftab.		Sig.
					5%	1%	
Perlakuan	3	112.75	37.58	1.27	3.24	5.29	0.317
Galat	16	472.4	29.52	*tn			
Total	19	585.15					

Hasil Uji BNT berbeda nyata jika F hitung > F tabel, *tn = tidak nyata

Pengamatan tanggal 21072013

SK	db	JK	KT	Fhit.	Ftab.		Sig.
					5%	1%	
Perlakuan	3	172.18	57.39	1.25	3.24	5.29	0.324
Galat	16	733.97	45.87	*tn			
Total	19	906.15					

Hasil Uji BNT berbeda nyata jika F hitung > F tabel, *tn = tidak nyata

Lampiran 5. Analisis Ragam Berat Kering Miselium**Berat kering Ekstrak Heksana Daun Sirih****ANOVA**

Pengamatan tanggal 21072013

SK	db	JK	KT	Fhit.	Ftab.		Sig.
					5%	1%	
Perlakuan	4	0.0012	0.00029	7.39	3.24	5.29	0.01
Galat	20	0.0008	0.00004	*n			
Total	24	0.0020					

Hasil Uji BNT berbeda nyata jika F hitung > F tabel, *n = nyata

Berat kering Ekstrak Metanol Daun Sirih

Pengamatan tanggal 21072013

SK	db	JK	KT	Fhit.	Ftab.		Sig.
					5%	1%	
Perlakuan	4	0.0022	0.00045	17.38	3.24	5.29	0.00
Galat	20	0.0005	0.00002	*n			
Total	24	0.0027					

Hasil Uji BNT berbeda nyata jika F hitung > F tabel, *n = nyata

Lampiran 6. Perhitungan Persentase Senyawa dalam Konsentrasi**Ekstrak N Heksana Daun Sirih****1. Senyawa Eugenol**

$$\text{Konsentrasi 0.1 g/l} = 0.1 \times \frac{44.04}{100} = 0.044 \text{ g/l}$$

$$\text{Konsentrasi 2.5 g/l} = 2.5 \times \frac{44.04}{100} = 1.1 \text{ g/l}$$

$$\text{Konsentrasi 4 g/l} = 4 \times \frac{44.04}{100} = 1.76 \text{ g/l}$$

$$\text{Konsentrasi 7 g/l} = 7 \times \frac{44.04}{100} = 3.08 \text{ g/l}$$

2. Senyawa Kavikol

$$\text{Konsentrasi 0.1 g/l} = 0.1 \times \frac{3.84}{100} = 0.0038 \text{ g/l}$$

$$\text{Konsentrasi 2.5 g/l} = 2.5 \times \frac{3.84}{100} = 0.095 \text{ g/l}$$

$$\text{Konsentrasi 4 g/l} = 4 \times \frac{3.84}{100} = 0.152 \text{ g/l}$$

$$\text{Konsentrasi 7 g/l} = 7 \times \frac{3.84}{100} = 0.266 \text{ g/l}$$

3. Senyawa Naphtalene

$$\text{Konsentrasi 0.1 g/l} = 0.1 \times \frac{11.21}{100} = 0.011 \text{ g/l}$$

$$\text{Konsentrasi 2.5 g/l} = 2.5 \times \frac{11.21}{100} = 0.280 \text{ g/l}$$

$$\text{Konsentrasi 4 g/l} = 4 \times \frac{11.21}{100} = 0.448 \text{ g/l}$$

$$\text{Konsentrasi 7 g/l} = 7 \times \frac{11.21}{100} = 0.787 \text{ g/l}$$

4. Senyawa Selinene

$$\text{Konsentrasi 0.1 g/l} = 0.1 \times \frac{11.63}{100} = 0.116 \text{ g/l}$$

$$\text{Konsentrasi 2.5 g/l} = 2.5 \times \frac{11.63}{100} = 0.290 \text{ g/l}$$

$$\text{Konsentrasi 4 g/l} = 4 \times \frac{11.63}{100} = 0.645 \text{ g/l}$$

$$\text{Konsentrasi 7 g/l} = 7 \times \frac{11.63}{100} = 0.814 \text{ g/l}$$

Ekstrak Metanol Daun Sirih

1. Senyawa Karvakrol

$$\text{Konsentrasi 0.1 g/l} = 0.1 \times \frac{68.34}{100} = 0.068 \text{ g/l}$$

$$\text{Konsentrasi 2.5 g/l} = 2.5 \times \frac{68.34}{100} = 1.7 \text{ g/l}$$

$$\text{Konsentrasi 4 g/l} = 4 \times \frac{68.34}{100} = 2.73 \text{ g/l}$$

$$\text{Konsentrasi 7 g/l} = 7 \times \frac{68.34}{100} = 4.78 \text{ g/l}$$

2. Senyawa Kavikol

$$\text{Konsentrasi 0.1 g/l} = 0.1 \times \frac{8.95}{100} = 0.224 \text{ g/l}$$

$$\text{Konsentrasi 2.5 g/l} = 2.5 \times \frac{8.95}{100} = 0.095 \text{ g/l}$$

$$\text{Konsentrasi 4 g/l} = 4 \times \frac{8.95}{100} = 0.358 \text{ g/l}$$

$$\text{Konsentrasi 7 g/l} = 7 \times \frac{8.95}{100} = 0.626 \text{ g/l}$$

3. Senyawa Eugenol

$$\text{Konsentrasi 0.1 g/l} = 0.1 \times \frac{14.68}{100} = 0.0147 \text{ g/l}$$

$$\text{Konsentrasi 2.5 g/l} = 2.5 \times \frac{14.68}{100} = 0.367 \text{ g/l}$$

$$\text{Konsentrasi 4 g/l} = 4 \times \frac{14.68}{100} = 0.587 \text{ g/l}$$

$$\text{Konsentrasi 7 g/l} = 7 \times \frac{14.68}{100} = 1.028 \text{ g/l}$$

Lampiran 7. Surat Keterangan Identifikasi



LEMBAGA ILMU PENGETAHUAN INDONESIA
(Indonesia Institute of Sciences)
UPT BALAI KONSERVASI TUMBUHAN KEBUN RAYA PURWODADI
(Purwodadi Botanic Garden)
Jl. Raya Surabaya - Malang Km. 65 Purwodadi - Pasuruan 67163
Telepon : 0341 - 426046, 424076, 0343 - 615033
Fax. : 0341 - 426046, 0343 - 615033
e-mail : krpurwodadi@mail.lipi.go.id, - Website : www.krpurwodadi.lipi.go.id

SURAT KETERANGAN IDENTIFIKASI

No. *044*PH.3.04/HM/III/2013

Kepala UPT Balai Konservasi Tumbuhan Kebun Raya Purwodadi dengan ini menerangkan bahwa material tanaman yang dibawa oleh :

Maulidatur Rahmawati Ningrum, NIM : 0910480244

Mahasiswa Program Sarjana (S1) Fakultas Pertanian Universitas Brawijaya, Kementerian Pendidikan dan Kebudayaan, datang di UPT Balai Konservasi Tumbuhan Kebun Raya Purwodadi pada tanggal 19 Maret 2013, berdasarkan buku Flora of Java, karangan C.A. Backer dan R.C. Bakhuizen van den Brink jr., volume I, tahun 1963, halaman 170-173

nama ilmiahnya adalah :

Genus : *Piper*
Species : *Piper betle L.*


Adapun menurut buku An Integrated System of Classification of Flowering Plants, karangan Arthur Cronquist tahun 1981, halaman XII adalah sebagai berikut:

Divisio : *Magnoliophyta*
Class : *Magnoliopsida*
Sub Class : *Magnoliidae*
Ordo / Bangsa : *Piperales*
Family / Suku : *Piperaceae*

Demikian surat keterangan ini dibuat untuk dapat dipergunakan sebagaimana mestinya.

Purwodadi, 21 Maret 2013

An. Kepala
UPT Balai Konservasi Tumbuhan
Kebun Raya Purwodadi
Kepala Seksi Konservasi Ex-situ,


DEDEN MUDIANA, S.Hut, M.Si
NIP. 19750328.199903.1.004

