



Análise de óleo essencial de melaleuca por cromatografia a gás acoplada a espectrometria de massas

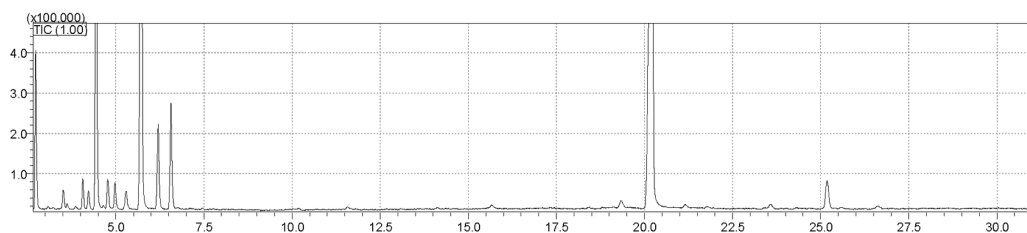
SINERGIA

1. Análises Cromatográficas da Amostra Adulto

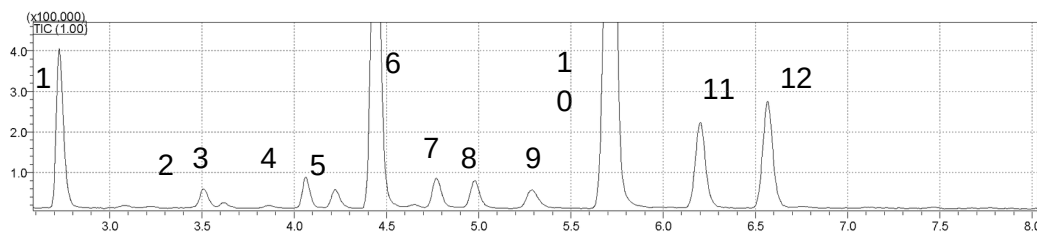
1.1) Da metodologia da análise

A composição química das amostras foi obtida por análises qualitativas. A análise de GC foi realizada em um equipamento da marca Shimadzu, modelo GC-2010 Plus, equipado com um processador de dados. Utilizou-se, também, uma coluna capilar Carbowax (30 m de comprimento × 0,250 mm de diâmetro interno × 0,25 µm de espessura).

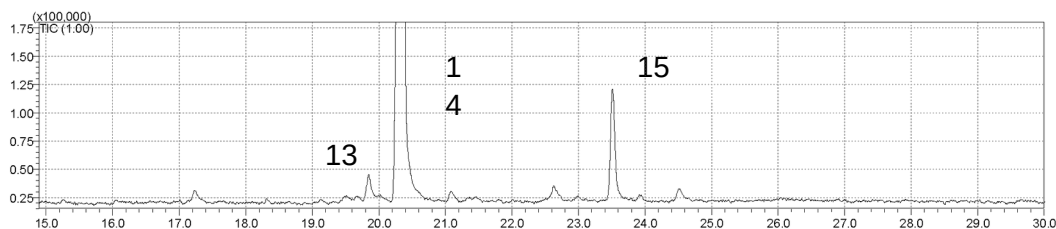
Além disso, o programa de temperatura da coluna foi de 60°C a 220°C, à razão de 2,0°C/min. As temperaturas do injetor e do detector foram mantidas em 250°C e o gás de arraste utilizado foi o hélio na pressão de 5,0 psi, em uma taxa de fluxo de entrada 3 mL/min e de fluxo total 20,2 mL/min. O volume injetado das amostras foi de 0,4 µL com um Split de 1:100. As análises no MS foram realizadas em um equipamento da marca Shimadzu, modelo GCMS – QP2010 Ultra, operando em 70eV, e a temperatura da fonte de íon foi mantida em 200 °C.



Cromatograma da amostra Adulto.



Ampliação do cromatograma.



Ampliação do cromatograma.

A coluna escrita representa a porcentagem correspondente ao composto analisado comparado com o banco de dados da biblioteca do aparelho.

Ademais, os tempos de retenção e porcentagem de área relativa estão explicitados na tabela abaixo.

Pico	Composto	Tempo de retenção	% área relativa	Pico	Composto	Tempo de retenção	% área relativa
1	α - pireno	2.72	4.13	9	1,8 - cineol	5.23	0.67
2	β - pireno	3.51	0.55	10	γ - terpineno	5.72	25.16
3	Sabineno	3.61	0.13	11	p - cimeno	6.20	3.14
4	β - mirceno	4.06	0.82	12	α - terpinoleno	6.57	3.89
5	α - thujeno	4.22	0.57	13	Aromadendrene	19.34	0.45
6	α - terpineno	4.44	13.70	14	4 - terpineol	20.21	43.35
7	Limoneno	4.77	0.89	15	α - terpineol	25.17	1.65
8	β - felandreno	4.98	0,90				

A identificação dos componentes foi realizada a partir da fragmentação das suas massas, por comparação dos espectros de massa dos compostos aos espectros das bibliotecas de referência Adams e NIST (Adams, 2008; NIST, 1990), armazenados na base de dados do MS, como segue:

Hit	Similar	Regi	Compound Name	Mol Wt	Formula	Library
1	96	<input checked="" type="checkbox"/>	.ALPHA.-PINENE, (-)- \$\$ Bicyclo[3.1.1]hept-2-	136	C10 H16	WILEY7.LIB
2	96	<input type="checkbox"/>	.ALPHA.-PINENE, (-)- \$\$ Bicyclo[3.1.1]hept-2-	136	C10 H16	WILEY7.LIB
3	95	<input type="checkbox"/>	.alpha.-Pinene \$\$ Bicyclo[3.1.1]hept-2-ene, 2,	136	C10H16	NIST08.LIB
4	95	<input type="checkbox"/>	.ALPHA.-PINENE, (-)- \$\$ Bicyclo[3.1.1]hept-2-	136	C10 H16	WILEY7.LIB
5	95	<input type="checkbox"/>	.alpha.-Pinene \$\$ Bicyclo[3.1.1]hept-2-ene, 2,	136	C10H16	NIST11s.lib
6	95	<input type="checkbox"/>	1R-.alpha.-Pinene \$\$ 1R-.alpha.-Pinene \$\$ Bi	136	C10H16	NIST08s.LIB
7	95	<input type="checkbox"/>	(1R)-2,6,6-Trimethylbicyclo[3.1.1]hept-2-ene \$	136	C10H16	NIST11s.lib
8	94	<input type="checkbox"/>	cis-Öcimene \$\$ 1,3,7-Octatriene, 3,7-dimethyl-	136	C10 H16	WILEY7.LIB
9	94	<input type="checkbox"/>	Bicyclo[3.1.1]hept-2-ene, 2,6,6-trimethyl-	136	C10H16	NIST08.LIB

Pico 1

Hit	Similar	Regi	Compound Name	Mol Wt	Formula	Library
1	91	<input checked="" type="checkbox"/>	Linalyl acetate \$\$ 1,6-Octadien-3-ol, 3,7-dimet	196	C12 H20 O2	WILEY7.LIB
2	91	<input type="checkbox"/>	2-.BETA.-PINENE \$\$ Bicyclo[3.1.1]heptane, 6	136	C10 H16	WILEY7.LIB
3	91	<input type="checkbox"/>	.beta.-Pinene \$\$ Bicyclo[3.1.1]heptane, 6,6-di	136	C10H16	NIST08.LIB
4	91	<input type="checkbox"/>	.beta.-Pinene \$\$ Bicyclo[3.1.1]heptane, 6,6-di	136	C10H16	NIST11.lib
5	90	<input type="checkbox"/>	2-.BETA.-PINENE \$\$ Bicyclo[3.1.1]heptane, 6	136	C10 H16	WILEY7.LIB
6	90	<input type="checkbox"/>	(-).beta.-Pinene \$\$ 6,6-DIMETHYL-2-METHY	136	C10 H16	WILEY7.LIB
7	90	<input type="checkbox"/>	.beta.-Pinene \$\$ Bicyclo[3.1.1]heptane, 6,6-di	136	C10H16	NIST11s.lib
8	90	<input type="checkbox"/>	Bicyclo[3.1.1]heptane, 6,6-dimethyl-2-methylen	136	C10H16	NIST11s.lib
9	90	<input type="checkbox"/>	Bicyclo[3.1.1]heptane, 6,6-dimethyl-2-methylen	136	C10H16	NIST08s.LIB

Pico 2

Hit	Similar	Regi	Compound Name	Mol Wt	Formula	Library
1	87	<input checked="" type="checkbox"/>	Sabinene \$\$ Bicyclo[3.1.0]hexane, 4-methylen	136	C10 H16	WILEY7.LIB
2	85	<input type="checkbox"/>	2-.BETA.-PINENE \$\$ Bicyclo[3.1.1]heptane, 6	136	C10 H16	WILEY7.LIB
3	85	<input type="checkbox"/>	Sabinene \$\$ Bicyclo[3.1.0]hexane, 4-methylen	136	C10 H16	WILEY7.LIB
4	84	<input type="checkbox"/>	Bicyclo[3.1.0]hexane, 4-methylene-1-(1-methyl	136	C10H16	NIST11.lib
5	84	<input type="checkbox"/>	Bicyclo[3.1.0]hexane, 4-methylene-1-(1-methyl	136	C10H16	NIST08.LIB
6	84	<input type="checkbox"/>	Sabinene \$\$ Bicyclo[3.1.0]hexane, 4-methylen	136	C10 H16	WILEY7.LIB
7	84	<input type="checkbox"/>	delta-3-carene \$\$	136	C10 H16	WILEY7.LIB
8	84	<input type="checkbox"/>	.DELTA.3-Carene \$\$ Bicyclo[4.1.0]hept-3-ene	136	C10 H16	WILEY7.LIB
9	84	<input type="checkbox"/>	Bicyclo[3.1.1]heptane, 6,6-dimethyl-2-methylen	136	C10H16	NIST08s.LIB

Pico 3

Hit	Similar	Regi	Compound Name	Mol Wt	Formula	Library
1	95	<input checked="" type="checkbox"/>	.beta.-Myrcene \$\$ 1,6-Octadiene, 7-methyl-3-	136	C10 H16	WILEY7.LIB
2	95	<input type="checkbox"/>	.beta.-Myrcene \$\$ 1,6-Octadiene, 7-methyl-3-	136	C10 H16	WILEY7.LIB
3	95	<input type="checkbox"/>	.beta.-Myrcene \$\$ 1,6-Octadiene, 7-methyl-3-	136	C10 H16	WILEY7.LIB
4	94	<input type="checkbox"/>	.beta.-Myrcene \$\$ 1,6-Octadiene, 7-methyl-3-	136	C10H16	NIST08.LIB
5	94	<input type="checkbox"/>	.beta.-Myrcene \$\$ 1,6-Octadiene, 7-methyl-3-	136	C10H16	NIST11.lib
6	94	<input type="checkbox"/>	.beta.-Myrcene \$\$ 1,6-Octadiene, 7-methyl-3-	136	C10 H16	WILEY7.LIB
7	94	<input type="checkbox"/>	.beta.-Myrcene \$\$ 1,6-Octadiene, 7-methyl-3-	136	C10H16	NIST11s.lib
8	94	<input type="checkbox"/>	.beta.-Myrcene \$\$ 1,6-Octadiene, 7-methyl-3-	136	C10H16	NIST08s.LIB
9	94	<input type="checkbox"/>	.beta.-Myrcene \$\$ 1,6-Octadiene, 7-methyl-3-	136	C10H16	NIST08s.LIB

Pico 4

Hit	Similar	Regi	Compound Name	Mol Wt	Formula	Library
1	93	<input checked="" type="checkbox"/>	l-Phellandrene \$\$ 1,3-Cyclohexadiene, 2-meth	136	C10 H16	WILEY7.LIB
2	92	<input type="checkbox"/>	.alpha.-Phellandrene \$\$ 1,3-Cyclohexadiene,	136	C10H16	NIST08s.LIB
3	92	<input type="checkbox"/>	.alpha.-Phellandrene \$\$ 1,3-Cyclohexadiene,	136	C10H16	NIST11s.lib
4	92	<input type="checkbox"/>	Bicyclo[3.1.0]hex-2-ene, 2-methyl-5-(1-methylet	136	C10H16	NIST11.lib
5	92	<input type="checkbox"/>	.alpha.-Thujene \$\$ Bicyclo[3.1.0]hex-2-ene, 2-	136	C10 H16	WILEY7.LIB
6	92	<input type="checkbox"/>	Bicyclo[3.1.0]hex-2-ene, 2-methyl-5-(1-methylet	136	C10H16	NIST08.LIB
7	91	<input type="checkbox"/>	.alpha.-Phellandrene \$\$ 1,3-Cyclohexadiene,	136	C10H16	NIST11.lib
8	91	<input type="checkbox"/>	l-Phellandrene \$\$ 1,3-Cyclohexadiene, 2-meth	136	C10 H16	WILEY7.LIB
9	91	<input type="checkbox"/>	.alpha.-Phellandrene \$\$ 1,3-Cyclohexadiene,	136	C10H16	NIST08.LIB

Pico 5

Hit	Similar	Regi	Compound Name	Mol Wt	Formula	Library
1	95	<input checked="" type="checkbox"/>	(+)-4-Carene \$\$ 4,7,7-Trimethylbicyclo[4.1.0]h	136	C10H16	NIST08.LIB
2	95	<input type="checkbox"/>	(+)-4-Carene \$\$ 4,7,7-Trimethylbicyclo[4.1.0]h	136	C10H16	NIST11.lib
3	95	<input type="checkbox"/>	(+)-2-CARENE \$\$	136	C10 H16	WILEY7.LIB
4	95	<input type="checkbox"/>	.alpha.-Terpinene \$\$ 1,3-Cyclohexadiene, 1-m	136	C10 H16	WILEY7.LIB
5	95	<input type="checkbox"/>	.ALPHA.-TERPINOLENE \$\$ Cyclohexene, 1-	136	C10 H16	WILEY7.LIB
6	95	<input type="checkbox"/>	.ALPHA. TERPINENE \$\$ PARA-MENTHA-1,	136	C10 H16	WILEY7.LIB
7	95	<input type="checkbox"/>	1,3-Cyclohexadiene, 1-methyl-4-(1-methylethyl)	136	C10H16	NIST08.LIB
8	95	<input type="checkbox"/>	1,3-Cyclohexadiene, 1-methyl-4-(1-methylethyl)	136	C10H16	NIST11.lib
9	95	<input type="checkbox"/>	.alpha.-Terpinene \$\$ 1,3-Cyclohexadiene, 1-m	136	C10 H16	WILEY7.LIB

Pico 6

Hit	Similar	Regi	Compound Name	Mol Wt	Formula	Library
1	95	<input checked="" type="checkbox"/>	l-Limonene \$\$ Cyclohexene, 1-methyl-4-(1-met	136	C10 H16	WILEY7.LIB
2	95	<input type="checkbox"/>	D-Limonene \$\$ Cyclohexene, 1-methyl-4-(1-me	136	C10H16	NIST11s.lib
3	93	<input type="checkbox"/>	dl-Limonene \$\$ Cyclohexene, 1-methyl-4-(1-me	136	C10 H16	WILEY7.LIB
4	93	<input type="checkbox"/>	Limonene \$\$ Cyclohexene, 1-methyl-4-(1-meth	136	C10H16	NIST11s.lib
5	93	<input type="checkbox"/>	Limonene \$\$ Cyclohexene, 1-methyl-4-(1-meth	136	C10H16	NIST08s.LIB
6	93	<input type="checkbox"/>	Cyclohexene, 1-methyl-4-(1-methylethenyl)- (C	136	C10 H16	WILEY7.LIB
7	92	<input type="checkbox"/>	l-Limonene \$\$ Cyclohexene, 1-methyl-4-(1-met	136	C10 H16	WILEY7.LIB
8	92	<input type="checkbox"/>	.beta.-Terpinyl acetate \$\$ Cyclohexanol, 1-met	196	C12 H20 O2	WILEY7.LIB
9	92	<input type="checkbox"/>	Cyclohexanol, 1-methyl-4-(1-methylethenyl)-	196	C12H20O2	NIST11s.lib

Pico 7

Hit	Similar	Regi	Compound Name	Mol Wt	Formula	Library
1	95	<input checked="" type="checkbox"/>	.beta.-Phellandrene \$\$ Cyclohexene, 3-methyl	136	C10 H16	WILEY7.LIB
2	94	<input type="checkbox"/>	.beta.-Phellandrene \$\$ Cyclohexene, 3-methyl	136	C10 H16	WILEY7.LIB
3	93	<input type="checkbox"/>	Sabinene \$\$ Bicyclo[3.1.0]hexane, 4-methylen	136	C10 H16	WILEY7.LIB
4	93	<input type="checkbox"/>	Sabinene \$\$ Bicyclo[3.1.0]hexane, 4-methylen	136	C10 H16	WILEY7.LIB
5	92	<input type="checkbox"/>	Sabinene \$\$ Bicyclo[3.1.0]hexane, 4-methylen	136	C10 H16	WILEY7.LIB
6	91	<input type="checkbox"/>	Sabinene \$\$ Bicyclo[3.1.0]hexane, 4-methylen	136	C10 H16	WILEY7.LIB
7	91	<input type="checkbox"/>	Bicyclo[3.1.0]hexane, 4-methylene-1-(1-methyl	136	C10H16	NIST08.LIB
8	91	<input type="checkbox"/>	Bicyclo[3.1.0]hexane, 4-methylene-1-(1-methyl	136	C10H16	NIST11.lib
9	91	<input type="checkbox"/>	Sabinene \$\$ Bicyclo[3.1.0]hexane, 4-methylen	136	C10 H16	WILEY7.LIB

Pico 8

Hit	Similar	Regi	Compound Name	Mol Wt	Formula	Library
1	95	<input checked="" type="checkbox"/>	1,8-Cineole \$\$ 2-Oxabicyclo[2.2.2]octane, 1,3,	154	C10 H18 O	WILEY7.LIB
2	94	<input type="checkbox"/>	EUCALYPTOL (1,8-CINEOLE) \$\$	154	C10 H18 O	WILEY7.LIB
3	94	<input type="checkbox"/>	1,8-Cineole \$\$ 2-Oxabicyclo[2.2.2]octane, 1,3,	154	C10 H18 O	WILEY7.LIB
4	93	<input type="checkbox"/>	1,8-Cineole \$\$ 2-Oxabicyclo[2.2.2]octane, 1,3,	154	C10 H18 O	WILEY7.LIB
5	93	<input type="checkbox"/>	Eucalyptol \$\$ Cineole \$\$ 2-Oxabicyclo[2.2.2]o	154	C10H18O	NIST08.LIB
6	93	<input type="checkbox"/>	Eucalyptol \$\$ Cineole \$\$ 2-Oxabicyclo[2.2.2]o	154	C10H18O	NIST08s.LIB
7	93	<input type="checkbox"/>	Eucalyptol \$\$ Cineole \$\$ 2-Oxabicyclo[2.2.2]o	154	C10H18O	NIST11.lib
8	93	<input type="checkbox"/>	Eucalyptol \$\$ Cineole \$\$ 2-Oxabicyclo[2.2.2]o	154	C10H18O	NIST11s.lib
9	93	<input type="checkbox"/>	Eucalyptol \$\$ Cineole \$\$ 2-Oxabicyclo[2.2.2]o	154	C10H18O	NIST11s.lib

Pico 9

Hit	Similar	Regi	Compound Name	Mol Wt	Formula	Library
1	97	<input checked="" type="checkbox"/>	1,4-Cyclohexadiene, 1-methyl-4-(1-methylethyl)	136	C10H16	NIST08s.LIB
2	97	<input type="checkbox"/>	.gamma.-Terpinene \$\$ 1,4-Cyclohexadiene, 1-	136	C10 H16	WILEY7.LIB
3	97	<input type="checkbox"/>	.gamma.-Terpinene \$\$ 1,4-Cyclohexadiene, 1-	136	C10H16	NIST11s.lib
4	96	<input type="checkbox"/>	.gamma.-Terpinene \$\$ 1,4-Cyclohexadiene, 1-	136	C10 H16	WILEY7.LIB
5	95	<input type="checkbox"/>	1,4-Cyclohexadiene, 1-methyl-4-(1-methylethyl)	136	C10H16	NIST08s.LIB
6	95	<input type="checkbox"/>	.gamma.-Terpinene \$\$ 1,4-Cyclohexadiene, 1-	136	C10H16	NIST11s.lib
7	95	<input type="checkbox"/>	.gamma.-Terpinene \$\$ 1,4-Cyclohexadiene, 1-	136	C10 H16	WILEY7.LIB
8	95	<input type="checkbox"/>	.gamma.-Terpinene \$\$ 1,4-Cyclohexadiene, 1-	136	C10H16	NIST11s.lib
9	95	<input type="checkbox"/>	.gamma.-Terpinene \$\$ 1,4-Cyclohexadiene, 1-	136	C10 H16	WILEY7.LIB

Pico 10

Hit	Similar	Regi	Compound Name	Mol Wt	Formula	Library
1	96	<input checked="" type="checkbox"/>	Benzene, 1-methyl-3-(1-methylethyl)- (CAS) m-	134	C10 H14	WILEY7.LIB
2	96	<input type="checkbox"/>	Benzene, 1-methyl-2-(1-methylethyl)- (CAS) 1-	134	C10 H14	WILEY7.LIB
3	95	<input type="checkbox"/>	Benzene, methyl(1-methylethyl)- (CAS) Cymol \$	134	C10 H14	WILEY7.LIB
4	95	<input type="checkbox"/>	Benzene, 1-methyl-3-(1-methylethyl)- \$\$ m-Cym	134	C10H14	NIST08s.LIB
5	95	<input type="checkbox"/>	Benzene, 1-methyl-3-(1-methylethyl)- \$\$ m-Cym	134	C10H14	NIST11s.lib
6	95	<input type="checkbox"/>	Benzene, 1-methyl-4-(1-methylethyl)- \$\$ p-Cym	134	C10H14	NIST08s.LIB
7	95	<input type="checkbox"/>	p-Cymene \$\$ Benzene, 1-methyl-4-(1-methylet	134	C10H14	NIST11s.lib
8	95	<input type="checkbox"/>	o-Cymene \$\$ Benzene, 1-methyl-2-(1-methylet	134	C10H14	NIST11s.lib
9	95	<input type="checkbox"/>	Benzene, 1-methyl-2-(1-methylethyl)- \$\$ o-Cym	134	C10H14	NIST08s.LIB

Pico 11

Hit	Similar	Regi	Compound Name	Mol Wt	Formula	Library
1	97	<input checked="" type="checkbox"/>	.ALPHA.-TERPINOLENE \$\$ Cyclohexene, 1-	136	C10 H16	WILEY7.LIB
2	96	<input type="checkbox"/>	.ALPHA.-TERPINOLENE \$\$ Cyclohexene, 1-	136	C10 H16	WILEY7.LIB
3	96	<input type="checkbox"/>	.ALPHA.-TERPINOLENE \$\$ Cyclohexene, 1-	136	C10 H16	WILEY7.LIB
4	96	<input type="checkbox"/>	.ALPHA.-TERPINOLENE \$\$ Cyclohexene, 1-	136	C10 H16	WILEY7.LIB
5	96	<input type="checkbox"/>	Cyclohexene, 1-methyl-4-(1-methylethylidene)-	136	C10H16	NIST11.lib
6	96	<input type="checkbox"/>	Cyclohexene, 1-methyl-4-(1-methylethylidene)-	136	C10H16	NIST08.LIB
7	96	<input type="checkbox"/>	Cyclohexene, 4-methyl-3-(1-methylethylidene)-	136	C10H16	NIST11.lib
8	96	<input type="checkbox"/>	Cyclohexene, 4-methyl-3-(1-methylethylidene)-	136	C10 H16	WILEY7.LIB
9	96	<input type="checkbox"/>	Cyclohexene, 4-methyl-3-(1-methylethylidene)-	136	C10H16	NIST08.LIB

Pico 12

Hit	Similar	Regi	Compound Name	Mol Wt	Formula	Library
1	94	<input checked="" type="checkbox"/>	(+)-Aromadendrene \$\$ 1H-Cycloprop[e]azulen	204	C15 H24	WILEY7.LIB
2	94	<input type="checkbox"/>	Alloaromadendrene \$\$ 1H-Cycloprop[e]azulen	204	C15 H24	WILEY7.LIB
3	94	<input type="checkbox"/>	Alloaromadendrene \$\$ 1H-Cycloprop[e]azulen	204	C15H24	NIST11s.lib
4	94	<input type="checkbox"/>	1H-Cycloprop[e]azulene, decahydro-1,1,7-trim	204	C15H24	NIST08s.LIB
5	92	<input type="checkbox"/>	Alloaromadendrene \$\$ 1H-Cycloprop[e]azulen	204	C15 H24	WILEY7.LIB
6	92	<input type="checkbox"/>	1H-Cycloprop[e]azulene, decahydro-1,1,7-trim	204	C15H24	NIST08.LIB
7	92	<input type="checkbox"/>	Alloaromadendrene \$\$ 1H-Cycloprop[e]azulen	204	C15H24	NIST11.lib
8	92	<input type="checkbox"/>	1H-Cycloprop[e]azulene, decahydro-1,1,7-trim	204	C15H24	NIST08s.LIB
9	92	<input type="checkbox"/>	Aromadendrene \$\$ 1H-Cycloprop[e]azulen	204	C15H24	NIST11s.lib

Pico 13

Hit	Similar	Regi	Compound Name	Mol Wt	Formula	Library
1	96	<input checked="" type="checkbox"/>	Terpinen-4-ol \$\$ 3-Cyclohexen-1-ol, 4-methyl-1	154	C10H18O	NIST11s.lib
2	96	<input type="checkbox"/>	3-Cyclohexen-1-ol, 4-methyl-1-(1-methylethyl)-	154	C10H18O	NIST08s.LIB
3	96	<input type="checkbox"/>	3-Cyclohexen-1-ol, 4-methyl-1-(1-methylethyl)- (	154	C10 H18 O	WILEY7.LIB
4	96	<input type="checkbox"/>	3-Cyclohexen-1-ol, 4-methyl-1-(1-methylethyl)- (	154	C10 H18 O	WILEY7.LIB
5	96	<input type="checkbox"/>	3-Cyclohexen-1-ol, 4-methyl-1-(1-methylethyl)-,	154	C10H18O	NIST08.LIB
6	96	<input type="checkbox"/>	3-Cyclohexen-1-ol, 4-methyl-1-(1-methylethyl)-,	154	C10H18O	NIST11.lib
7	96	<input type="checkbox"/>	3-Cyclohexen-1-ol, 4-methyl-1-(1-methylethyl)- (	154	C10 H18 O	WILEY7.LIB
8	95	<input type="checkbox"/>	3-Cyclohexen-1-ol, 4-methyl-1-(1-methylethyl)- (	154	C10 H18 O	WILEY7.LIB
9	95	<input type="checkbox"/>	3-Cyclohexen-1-ol, 4-methyl-1-(1-methylethyl)- (	154	C10 H18 O	WILEY7.LIB

Pico 14

Hit	Similar	Regi	Compound Name	Mol Wt	Formula	Library
1	95	<input checked="" type="checkbox"/>	.ALPHA. TERPINEOL \$\$	154	C10 H18 O	WILEY7.LIB
2	94	<input type="checkbox"/>	.BETA. FENCHYL ALCOHOL \$\$	154	C10 H18 O	WILEY7.LIB
3	93	<input type="checkbox"/>	3-Cyclohexene-1-methanol, .alpha.,.alpha.,4-tri	154	C10H18O	NIST08s.LIB
4	93	<input type="checkbox"/>	L-.alpha.-Terpineol \$\$ 3-Cyclohexene-1-metha	154	C10H18O	NIST11s.lib
5	93	<input type="checkbox"/>	3-Cyclohexene-1-methanol, .alpha.,.alpha.,4-tri	154	C10 H18 O	WILEY7.LIB
6	93	<input type="checkbox"/>	(+)-.ALPHA.-TERPINEOL \$\$ (+)-.alpha.-Terpi	154	C10 H18 O	WILEY7.LIB
7	93	<input type="checkbox"/>	.alpha.-Terpineol \$\$ 3-Cyclohexene-1-methan	154	C10H18O	NIST11s.lib
8	93	<input type="checkbox"/>	3-Cyclohexene-1-methanol, .alpha.,.alpha.4tri	154	C10H18O	NIST08s.LIB
9	93	<input type="checkbox"/>	3-Cyclohexene-1-methanol, .alpha.,.alpha.4tri	154	C10 H18 O	WILEY7.LIB

Pico 15



Ricardo Natalino




Analista

Página de assinaturas



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