



INDOFINE Chemical Company, Inc.

121 Stryker Lane, Bldg. 30, Suite 1 • Hillsborough, NJ 08844 • U.S.A.

Phone: (908) 359-6778 • FAX: (908) 359-1179

website: www.indofinechemical.com

e-mail: chemical@indofinechemical.com

CERTIFICATE OF ANALYSIS

Catalog Number: P-005

Product Name: **PLUMBAGIN**
(5-Hydroxy-2-methyl-1,4-naphthoquinone)

Source: Plumbago Indica

Cas Number: [481-42-5]

Lot Number: 1811168

Chemical Formula: C₁₁H₈O₃

Molecular Weight: 188.18

Melting Point: 76-78°C

Appearance: Orange crystalline powder

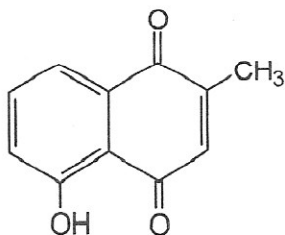
Solubility: Soluble in chloroform

TLC: Hexane:Ethyl acetate (8:2)

NMR Spectrum: Enclosed (conforms to the structure)

Storage: Store in a cool, dry place

Purity(HPLC): 99.58%



Prepared by:
Ramesh Mandadi
Ramesh Mandadi
Director of Operations

Reviewed and approved by:
Sujata Moton
S. Moton
VP



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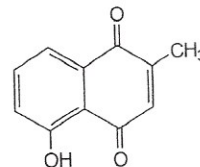
Phone: (908) 359-6778; Fax: (908) 359-1179

HPLC ANALYSIS

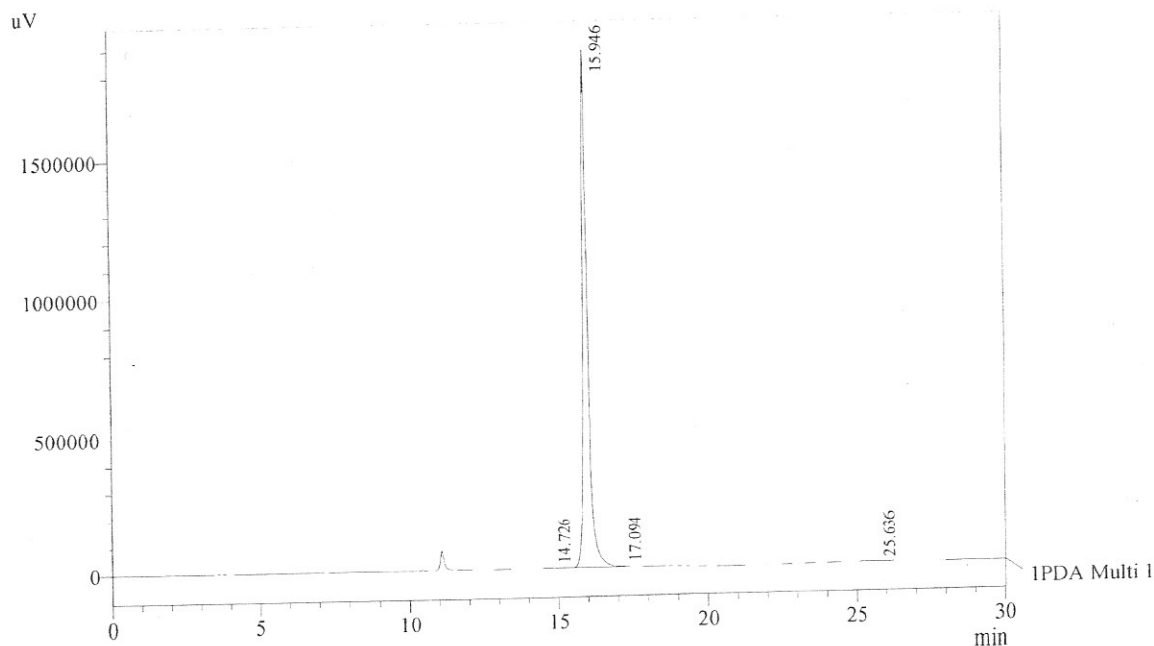
Acquired by : Admin
Sample Name : PLUMBAGIN

Injection Volume : 20 uL
Data Filename : 301118G.lcd
Method Filename : Linear Gradient-G.M.lcm
Report Filename : Default.lcr

Catalog No.: P-005
Product Name: Plumbagin
Lot No.: 1811168



Chromatogram



1 PDA Multi 1 / 254nm 4nm

PeakTable

PDA Ch1 254nm 4nm						
Peak#	Name	Ret. Time	Height	Area %	Relative Retention Time	
1	RT: 14.726	14.726	603	0.05	0.92	
2	RT: 15.946	15.946	1876074	99.58	1.00	
3	RT: 17.094	17.094	3909	0.25	1.07	
4	RT: 25.636	25.636	734	0.12	1.61	
Total			1881321	100.00		

Prepared by:

Ramesh Mandadi

Ramesh Mandadi
Director of Operations

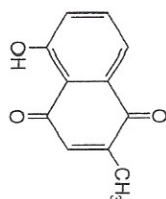
Reviewed and Approved by:

Sujata Moton

Sujata Moton
VP



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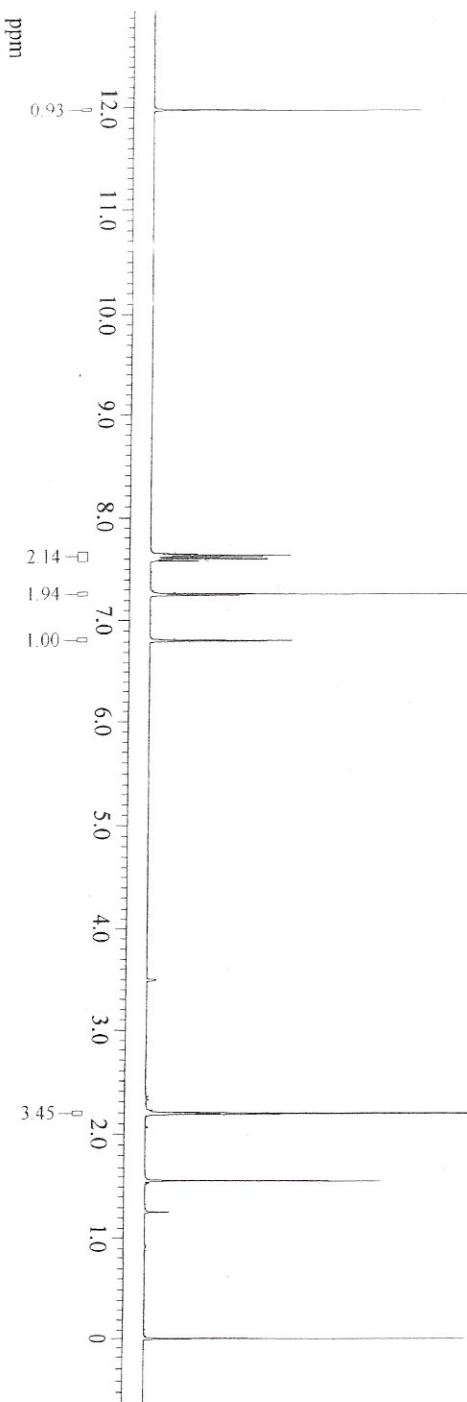
7.646
7.632
7.630
7.619
7.602
7.587
7.246
7.243
6.811
6.809

2.197
2.194

----- PROCESSING PARAMETERS -----
sepp (0.2 [Hz] , 0.0 [s])
trapezoid (0 [%] , 0 [%] , 80 [%] , 100 [%])
zerofill (1)
fft (1 , TRUE , TRUE)
machphase
pnm
reference (-0.01432 [ppm] , 0 [ppm])

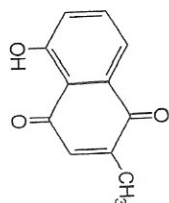
Instrument - NMR-500MHz (JEOL)
Instrument id - NMR-02
Author - man11406
Reviewed by - Ramesh Yadav
Solvent - CHLOROFORM-D
Spectrometer - JNM-ECZ500R/SI
Experiment - proton.jxp

Acquisition Parameter
X Domain = 1H
X Offset = 7.0 [ppm]
X Sweep = 11.28156845 [kHz]
Scans = 16
Relaxation_Delay = 2 [s]





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7.243

6.811
6.809

----- PROCESSING PARAMETERS -----
sexp(0.2[Hz], 0.0[s])
traprord(0[%], 0[%], 80[%], 100[%])
zerofill(1)
fft(1, TRUE, TRUE)
machphase
ppm
reference(-0.01432[ppm], 0[ppm])

Instrument - NMR-500MHz (JEOL)
Instrument id - NMR-02
Author - man11405
Reviewed by - Ramesh Yadav
Solvent - CHLOROFORM-D
Spectrometer - JNM-ECS500R/SI
Experiment - proton.jxp

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X_Domain = 1H
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X_Sweep = 11.2815845[kHz]
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Relaxation_Delay = 2[s]

