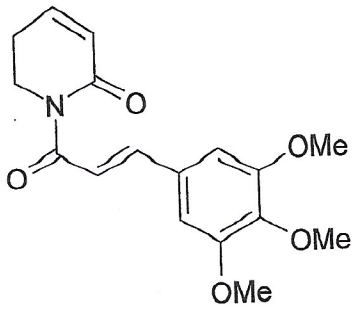
INDOFINE Chemical Company, Inc.

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-004
Product Name:	**PIPERLONGUMINE** (Piplartine)
CAS Number:	[20069-09-4]
Lot No.:	2112629
Molecular Formula:	$C_{17}H_{19}NO_5$
Molecular Weight:	317.34
Melting Point:	123-125°C
Appearance:	White powder
Solubility:	Soluble in Chloroform
NMR Spectrum:	Conforms to the structure
TLC:	Hexane:Ethyl acetate (7:3)
Water content(KF):	0.4%
Purity(HPLC):	99.4%



Prepared by:
Ramesh Mandadi
Ramesh Mandadi
Director of Operations

Reviewed and Approved by:
Sujata Moton
Sujata Moton
VP

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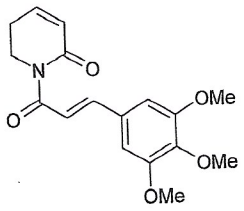
HPLC ANALYSIS

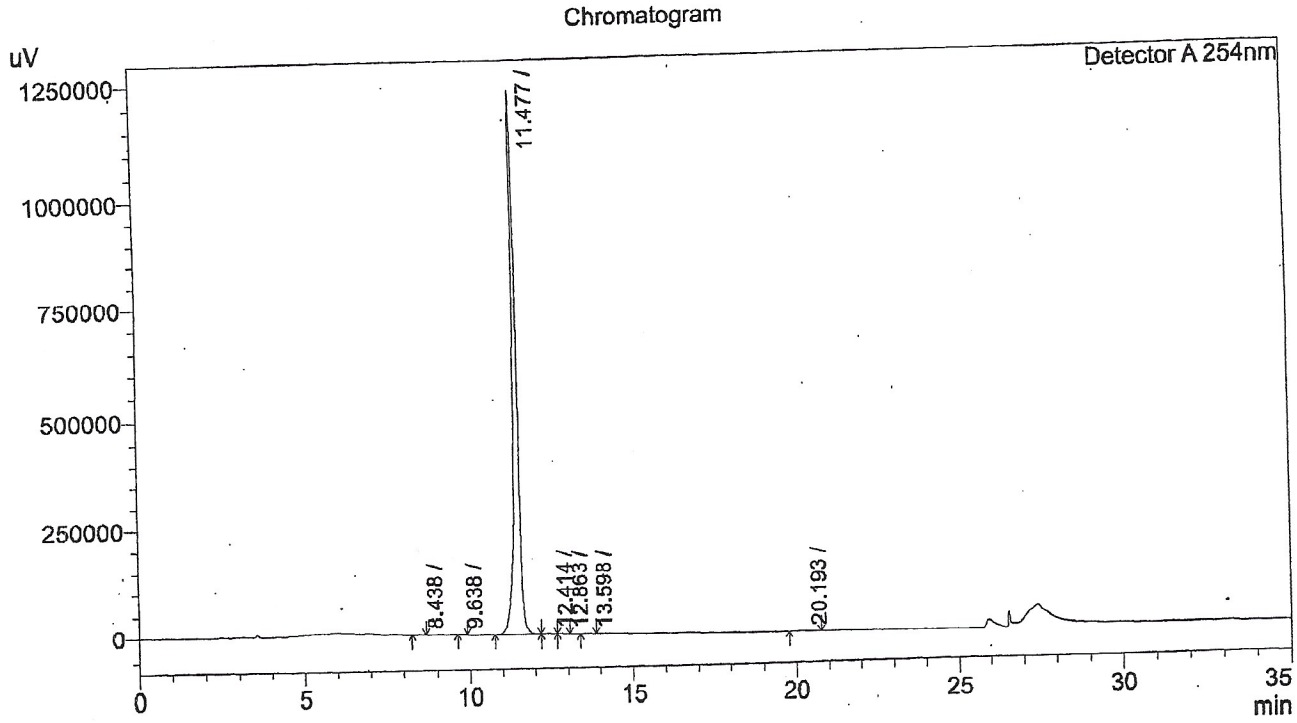
Sample ID :
Data Filename : 19112021161.lcd
Method Filename : Linear Isocratic Method.lcm
Vial # : 1-5
Injection Volume : 10 uL

Catalog No.: P-004
Product Name: Piperlongumine
Lot No.: 2112629



Column: Inertsil ODS-2 : 250mm x 4.6mm,5.0um
MP-A: Acetonitrile,MP-B: 10mM Ammonium acetate in water
Flow Rate: 1.0 ml/min,
Gradient program : 0.01/90,12/10,20/10,23/90,30/10 (% of A Conc)
Diluent: Acetonitrile (8 mg/25ml in diluent)
Acquired by: Sanjeev

<Chromatogram>



<Peak Table>

Detector A 254nm

Peak#	Name	Ret. Time	Area	Area%	Relative Retention Time
1		8.438	7690	0.06	0.74
2		9.638	1770	0.01	0.84
3		11,477	11770707	99.40	1.00
4		12.414	15686	0.13	1.08
5		12.863	8434	0.07	1.12
6		13.598	17663	0.15	1.18
7		20.193	19683	0.17	1.76
Total			11841633	100.00	

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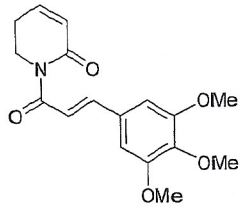
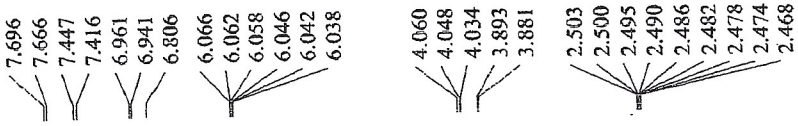
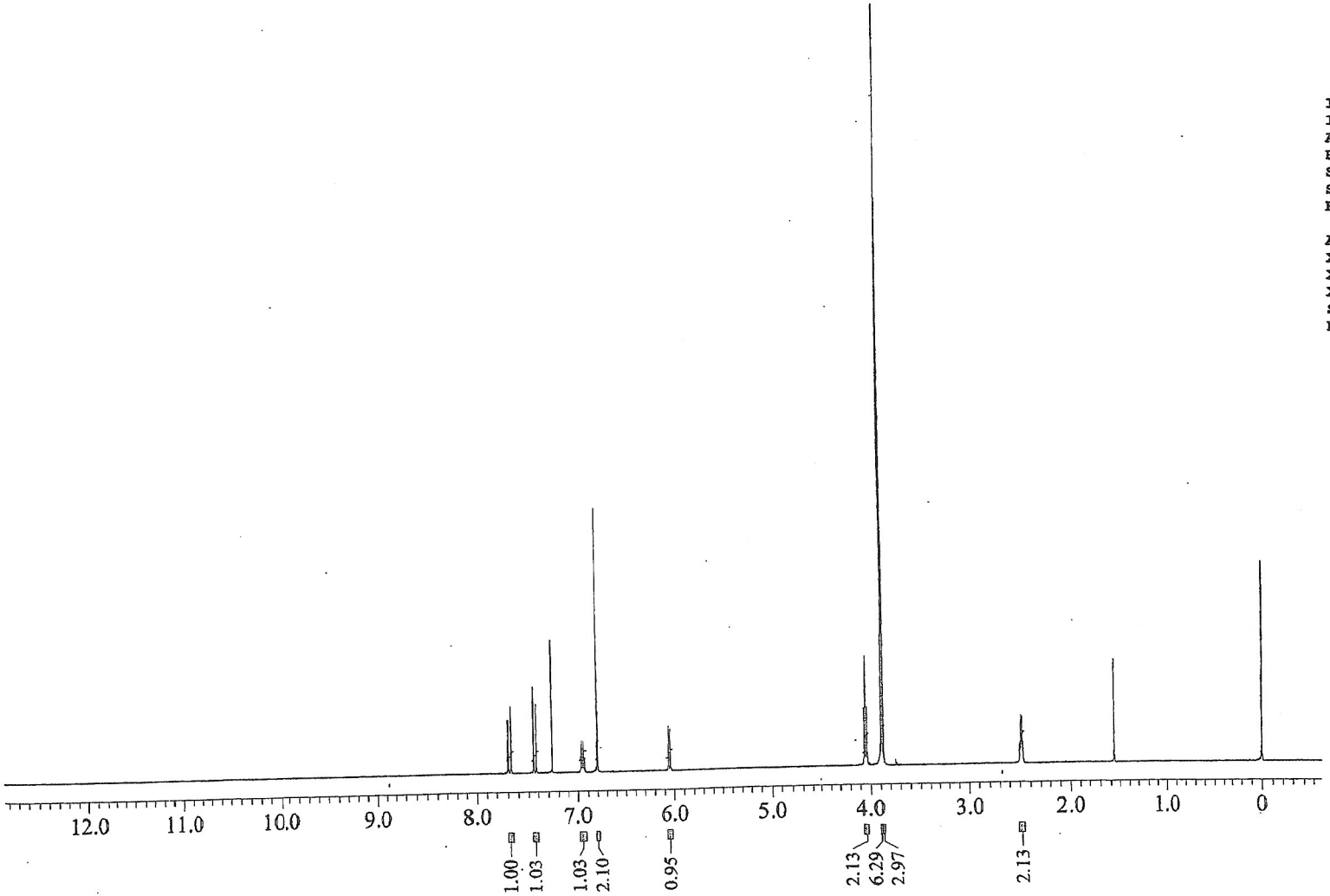





```
.---- PROCESSING PARAMETERS ----
sexp( 0.2[Hz], 0.0[s] )
trapezoid( 0[%], 0[%], 80[%], 100[%] )
zerofill( 1 )
fft( 1, TRUE, TRUE )
machinephase
ppm
auto_reference( 5[%], TRUE )
```




```
Instrument        - NMR-500MHz(JEOL)
Instrument id     - NMR-02
Author            = anil1406
Reviewed by       - Ramesh Yadav
Solvent           = CHLOROFORM-D
Spectrometer      = JNM-ECZ500R/S1
Experiment        = proton.jxp

Acquisition Parameter
X_Domain          = Proton
X_Offset          = 7.0[ppm]
X_Sweep           = 11.28158845[kHz]
Scans             = 16
Relaxation_Delay  = 2[s]
```

X : ppm : Proton