



# 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](http://www.indofinechemical.com)

e-mail: [chemical@indofinechemical.com](mailto:chemical@indofinechemical.com)

## CERTIFICATE OF ANALYSIS

Catalog Number: H-002

Product Name: **HARMALINE HYDROCHLORIDE DIHYDRATE**

CAS Number: [6027-98-1]

Lot Number: 1311396

Chemical Formula:  $C_{13}H_{14}N_2O \cdot HCl \cdot 2H_2O$

Molecular Weight: 286.76

Melting Point: 240-242°C

Appearance: Yellow crystalline powder

Solubility: Soluble in DMSO

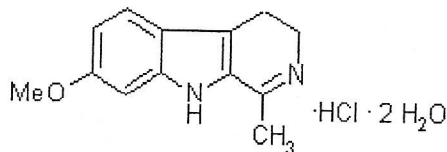
TLC: Chloroform:Methanol (8:2)

Moisture(KF): 1.5%

NMR Spectrum: Enclosed (Confirms to the structure)

Storage: Store in a cool, dry place

Assay(HPLC): 98.32%





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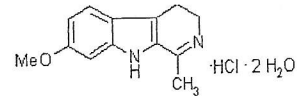
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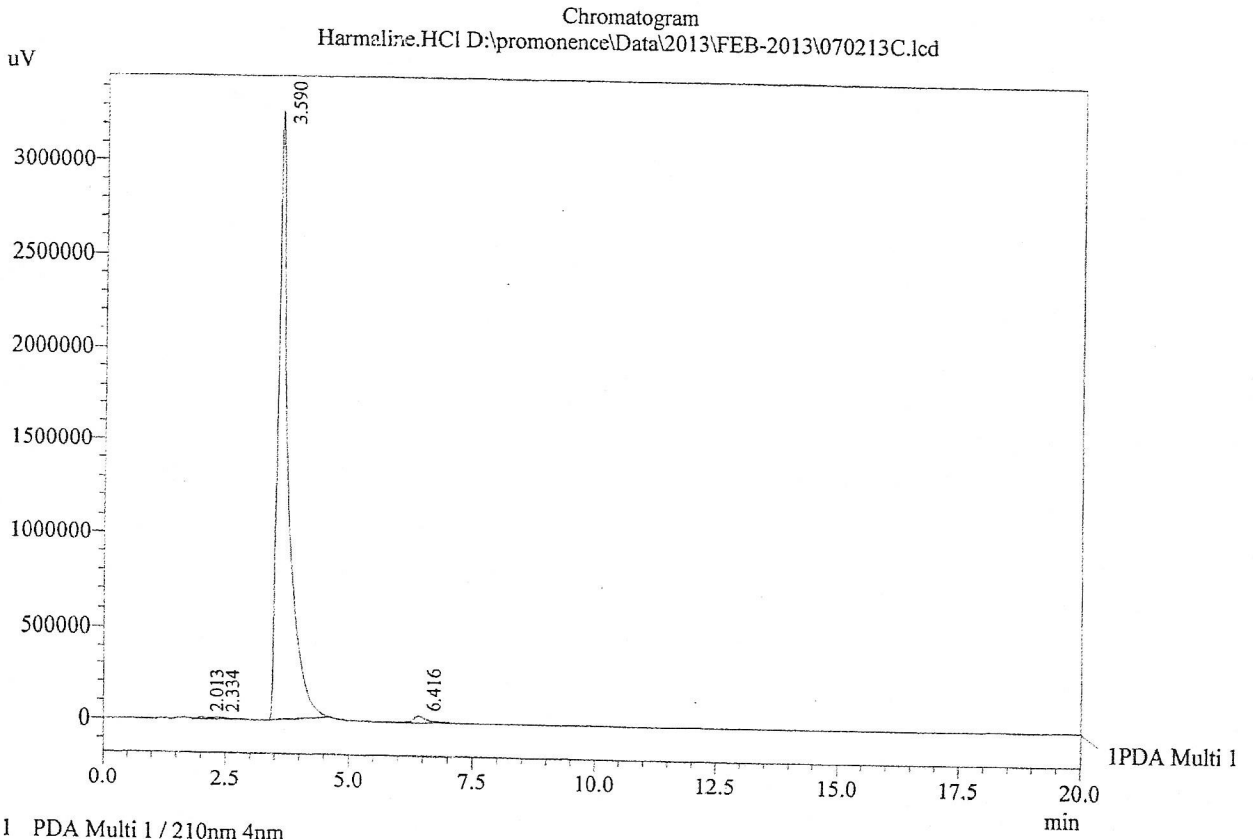
## HPLC ANALYSIS

Acquired by : Sanjeev  
Sample Name : Harmaline.HCl  
Sample ID : 450 gms Uniform Lot  
Injection Volume : 20 uL  
Data Filename : 070213C.lcd  
Method Filename : Linear Isocratic.M.lcm

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Lot No.: 1311396



Column : Inertsil ODS, (250mm x4.6mm 5.0μ)  
Flow : 1.500 mL/min.  
Mobile Phase : Phosphate buffer:Acetonitrile(550:450)



PDA Ch1 210nm 4nm

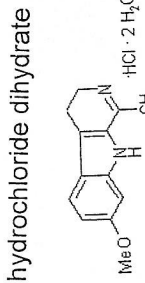
PeakTable

Peak#	Name	Ret. Time	Area	Area %	Relative Retention Time
1	RT:2.013	2.013	133510	0.27	1.00
2	RT:2.334	2.334	123080	0.25	1.16
3	Harmaline.HCl	3.590	48377239	98.32	1.78
4	Harmine.HCl	6.416	567650	1.15	3.19
Total			49201480	100.00	



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HRML-475gm 1H NMR DMSO-d6

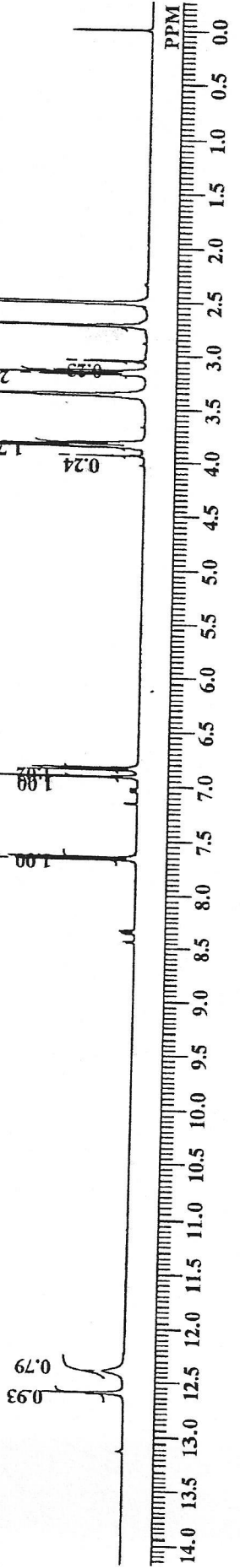
Analysed By : MSR

12.604  
12.392

7.670  
7.648  
6.855  
6.850  
6.833  
6.827

3.937  
3.851  
3.834  
3.812  
3.176  
3.154  
3.133  
3.049  
2.721

DFILE HRML-475gm 1H.als  
COMNT HRML-475gm 1H NMR DN  
DATIM Fri Feb 08 19:06:25 2013  
OBNUC 1H  
EXMOD NON  
OBFRQ 399.65 MHz  
OBSET 124.00 KHz  
OBFIN 10500.00 Hz  
POINT 65536  
FREQU 7992.01 Hz  
SCANS 16  
ACQTM 8.2002 sec  
PD 3.0000 sec  
PW1 6.00 usec  
IRNUC 1H  
CTEMP 23.3 c  
SLVNT DMSO  
EXREF 0.00 ppm  
BF 0.30 Hz  
RGAIN 16

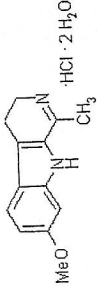




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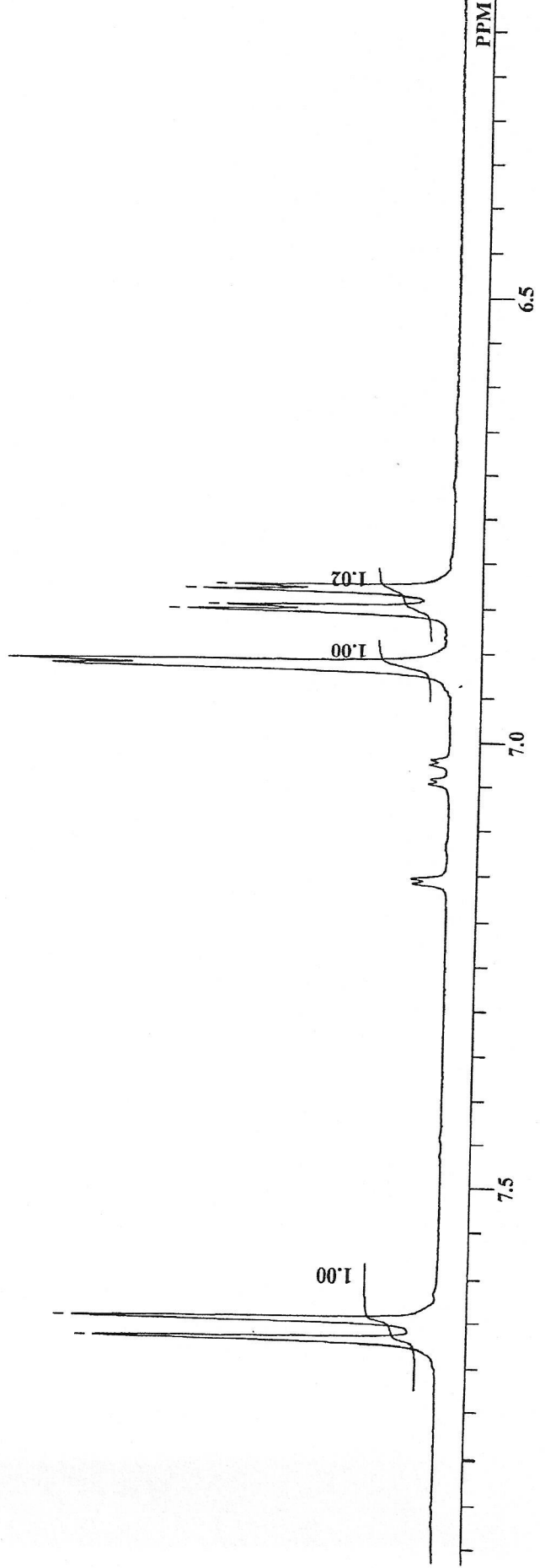
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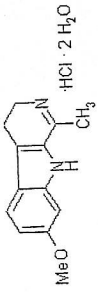
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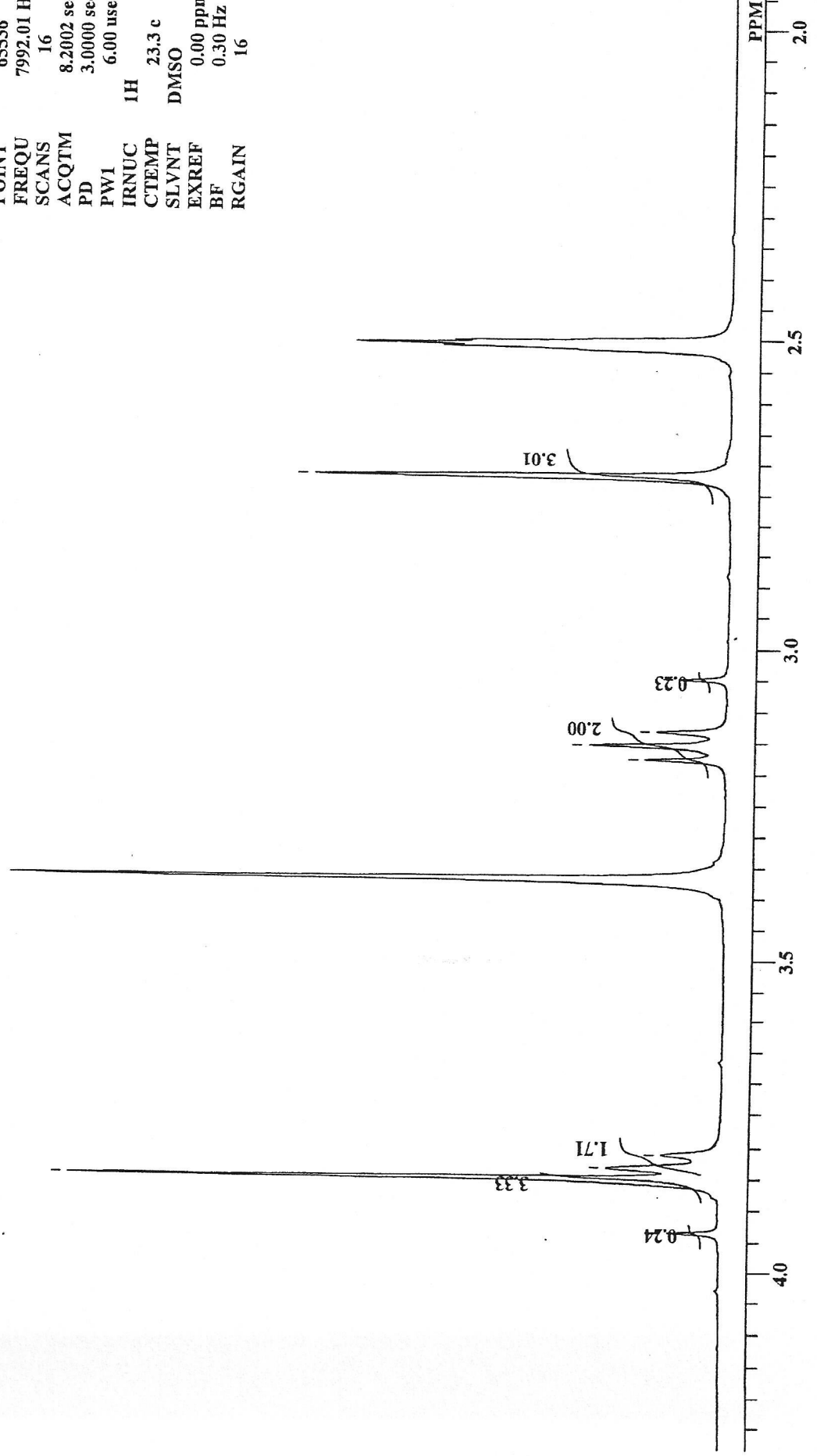
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HRML-475gm 1H NMR DMSO-d6

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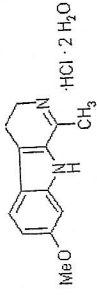
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Sample Information  
Sample Name : HRML  
B.No : -  
Data File : HRML.lcd  
Method File : Test1(ESI).lcm  
Acquired by : KK.iran  
Date Acquired : 2/8/2013 12:04:23

Probe : ESI  
Polarity:Pos

MS Spectrum Graph

