



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: L-101

Product Name: LUTEOLIN
(5,7,3',4'-Tetrahydroxyflavone)

Cas Number: [491-70-3]

Lot Number: 1308370

Chemical Formula: C₁₅H₁₀O₆

Molecular Weight: 286.25

Appearance: Yellow powder

Solubility: Soluble in DMSO

Solubility test in ethanol: 100 mg. soluble in 50ml ethanol

TLC: Chloroform:methanol (8:2)

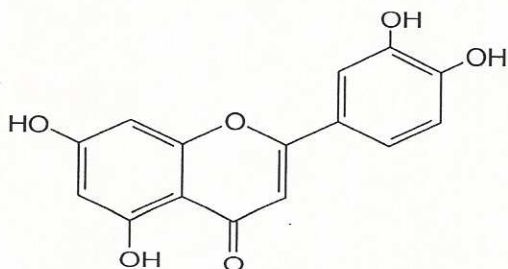
NMR Spectrum: Enclosed (Confirms to the structure)

Mass Spec: Enclosed

IR Spectrum: Enclosed

Storage: Store in a cool, dry place

Purity (HPLC): 99.16%





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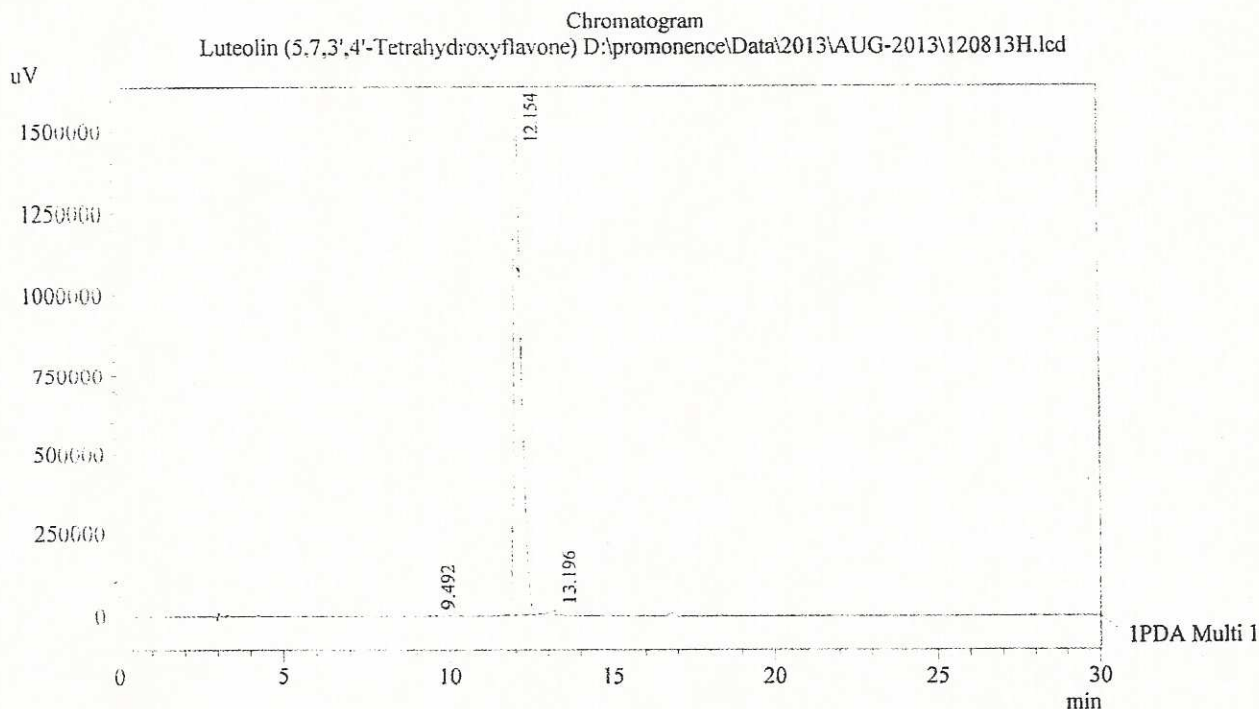
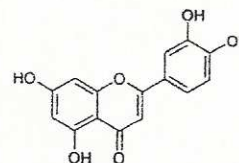
e-mail: chemical@indofinechemical.com

HPLC ANALYSIS

Acquired by : Sanjeev
 Sample Name : Luteolin (5,7,3',4'-Tetrahydroxyflavone)
 Sample ID : Lot No: 1306336 (5.5 gm Lot)
 Injection Volume : 20 uL
 Data Filename : 120813H.lcd
 Method Filename : Linear Gradient.M.lcm

Catalog No.: L-101
 Product Name: Luteolin
 (5,7,3',4'-Tetrahydroxyflavone)
 Lot No.: 1308370

Column : LUNA C-18(2), (250mm x4.6mm 5.0µ)
 Flow : 1.000 mL/min.
 Mobile Phase : A(0.05% TFA in water) B(Acetonitrile)
 0.01 90 10
 12.0 10 90
 20.0 10 90
 23.0 90 10
 30.0 90 10
 Diluent : Methanol



1 IPDA Multi 1 / 254nm 4nm

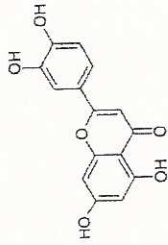
PeakTable

Peak#	Name	Ret. Time	Area	Area %	Relative Retention Time
1	RT:9.492	9.492	35102	0.14	0.78
2	Luteolin	12.154	24714407	99.16	1.00
3	RT:13.199	13.196	173780	0.70	1.09
Total			24923289	100.00	



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Catalog No.: L-101
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 Lot No.: 1308370



LTLN 5.5gm 1H NMR DMSO-d6

Analysed By : TJR

12.911

7.334
 7.329
 7.308
 6.770
 6.750
 6.488
 6.263
 6.259
 6.008

DFILE LTLN 5.5gm 1H.als
 COMNT LTLN 5.5gm 1H NMR DM
 DATIM Wed Aug 14 16:16:07 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 5.80 usec
 IRNUC 1H
 CTEMP 22.6 c
 SLVNT DMSO
 EXREF 2.49 ppm
 BF 0.30 Hz
 RGAIN 18

1.251
 1.235



0.62

2.07

1.00

1.02

1.05

1.07

0.16



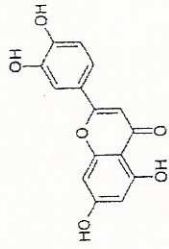


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Catalog No.: L-101

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(5,7,3',4'-Tetrahydroxyflavone)
Lot No.: 1308370



LTLN 5.5gm 1H NMR DMSO-d6

Analysed By : TJR

7.334
7.329
7.308

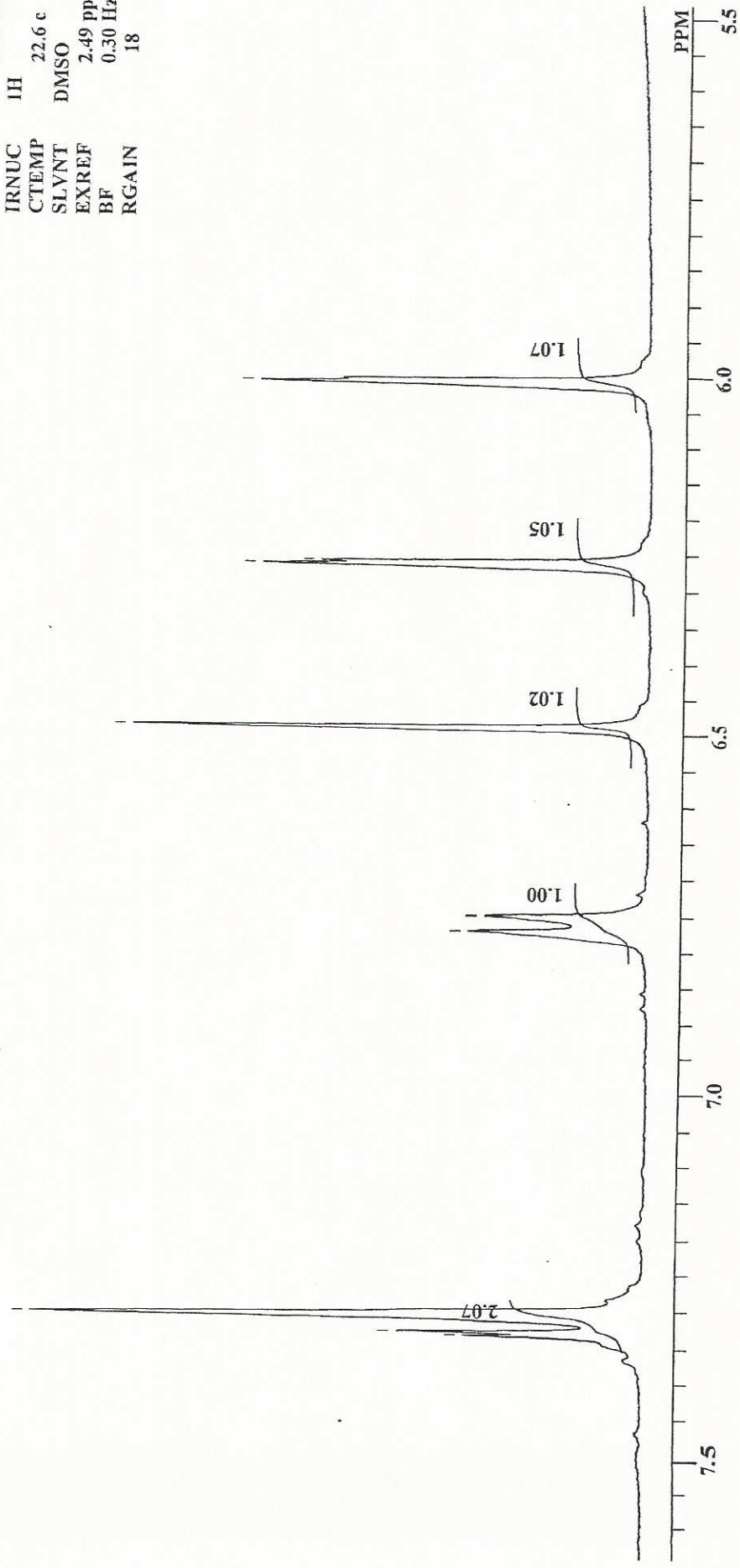
6.770
6.750

6.488

6.263
6.259

6.008

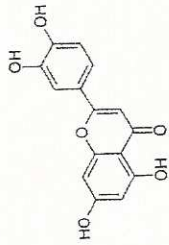
DFILE LTLN 5.5gm 1H.als
COMNT LTLN 5.5gm 1H NMR DM
DATIM Wed Aug 14 16:07 2013
OBNUC 1H
EXMOD NON
OBFRQ 399.65 MHz
OBSET 124.00 KHz
OBFIN 10500.00 Hz
POINT 65536
FREQU 7992.01 Hz
SCANS 16
ACQTM 8.2002 sec
PD 3.0000 sec
PWI 5.80 usec
IRNUC 1H
CTEMP 22.6 c
SLVNT DMSO
EXREF 2.49 ppm
BF 0.30 Hz
RGAIN 18





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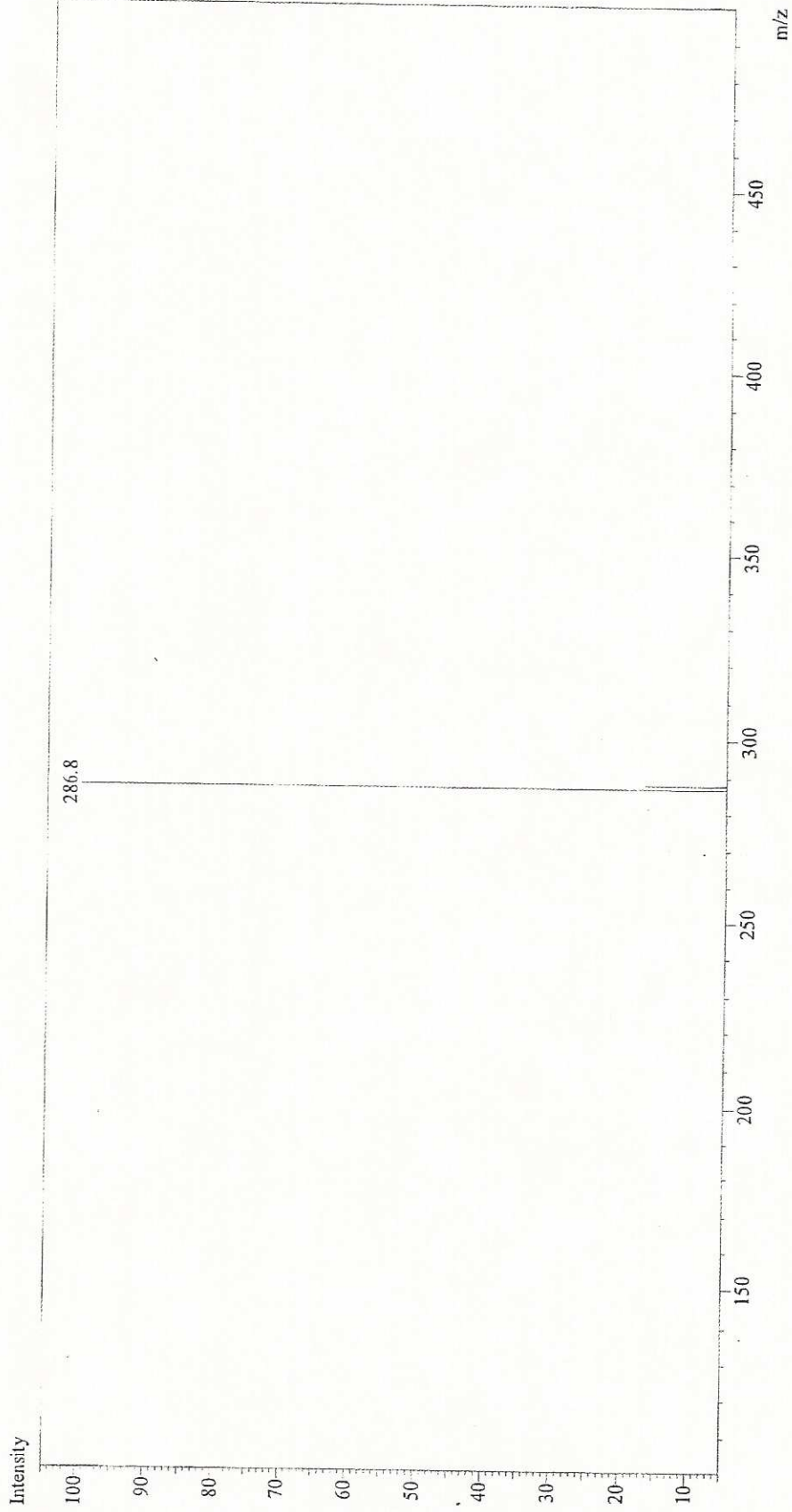
Catalog No.: L-101
Product Name: Luteolin
(5,7,3',4'-Tetrahydroxyflavone)
Lot No.: 1308370



Sample Information
Sample Name : LTLN
B.No : -
Data File : LTLN.lcd
Method File : Test1(APCI).lcm
Acquired by : KKIran

MS Spectrum Graph

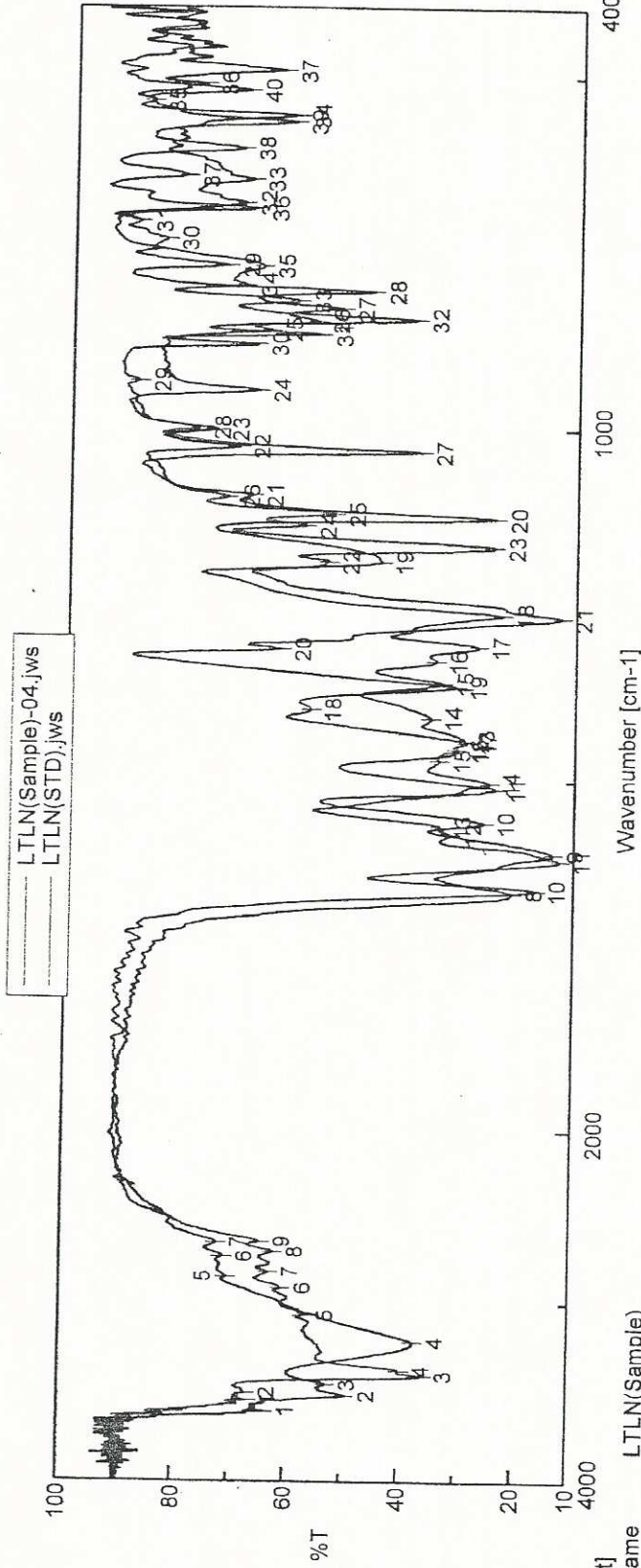
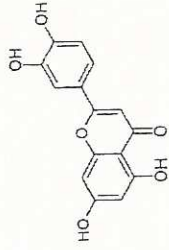
Probe : APCI
Polarity:Pos





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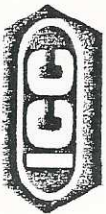
Catalog No.: L-101
 Product Name: Luteolin
 (5,7,3',4'-Tetrahydroxyflavone)
 Lot No.: 1308370



[Comment]
 Sample Name LTLN(Sample)
 Comment KBr, pillete
 User PSR
 Division QC

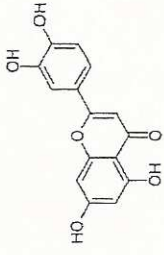
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 Vertical %T
 Start 399.193 cm-1
 End 4000.6 cm-1
 Data pitch 0.964233 cm-1
 Data points 3736

Result of Peak Picking		Wavenumber [cm-1]		Intensity		Position	
No.	Position	Intensity	No.	Intensity	Position	No.	Intensity
1	3626.48	63.3896	2	3533.92	3533.92	3	3472.2
4	3217.65	37.3392	5	2848.35	2848.35	6	2726.85
7	2640.07	72.3332	8	1661.37	20.9946	9	1602.56
10	1560.13	26.0094	11	1511.92	24.1661	12	1455.99
13	1441.53	29.7041	14	1408.75	35.6448	15	1360.53
16	1329.68	34.8959	17	1308.46	27.3876	18	1262.18
19	1188.9	44.6025	20	1126.22	24.4996	21	1094.4
22	1025.94	70.3073	23	1001.84	74.2445	24	943.985
25	855.275	64.9835	26	841.776	56.5527	27	824.42
28	800.314	46.554	29	764.637	72.7781	30	727.996
31	702.926	88.4628	32	677.856	69.8974	33	646.036
34	556.363	60.5294	35	536.114	86.5426	36	511.044
37	491.759	63.155				36	77.2233

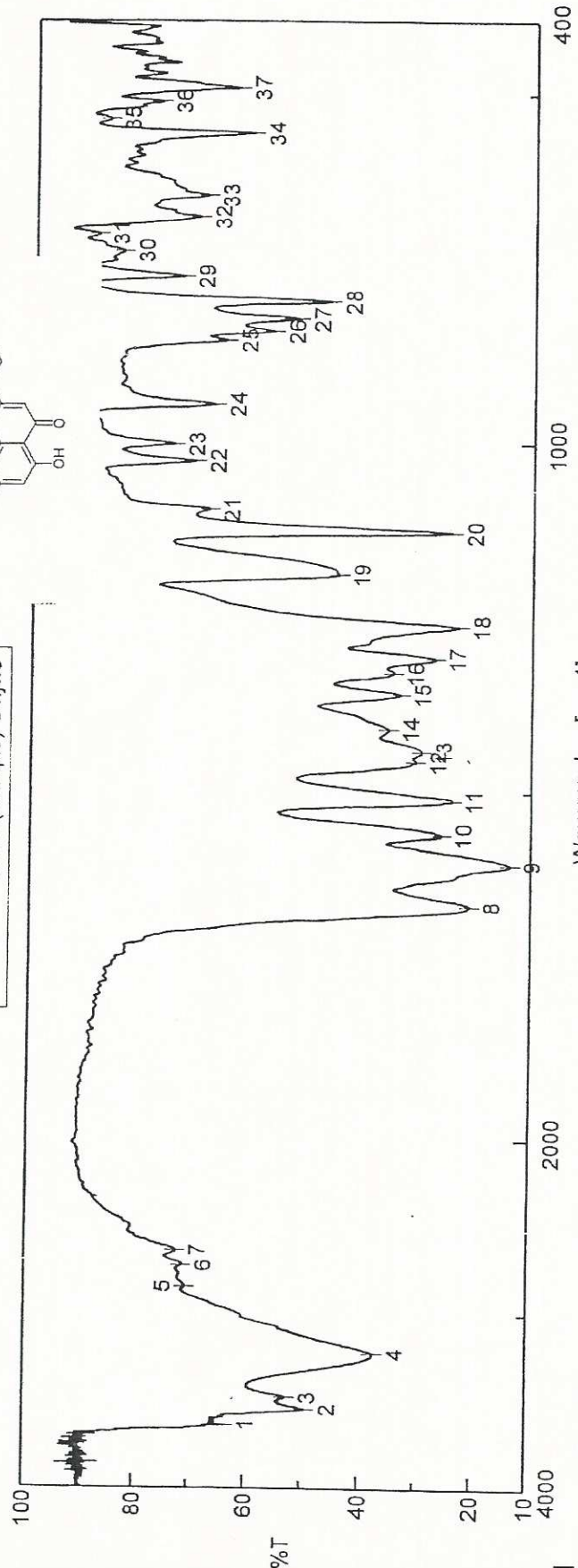


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LTLN(Sample)-04.jws



[Comment]
 Sample Name LTLN(Sample)
 Comment KBr pillete
 User PSR
 Division QC

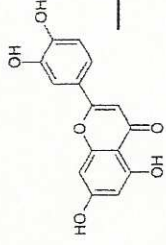
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 Horizontal Wavenumber [cm-1]
 Vertical %T
 Start 399.193 cm-1
 End 4000.6 cm-1
 Data pitch 0.964233 cm-1
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Result of Peak Picking	
No.	Position
1	3626.48
2	63.3896
4	3217.65
5	37.3392
7	2640.07
8	72.3332
10	1560.13
11	26.0094
13	1441.53
14	29.7041
16	1329.68
17	34.8959
19	1188.9
20	44.6025
22	1025.94
23	70.3073
25	855.275
26	64.9835
28	800.314
29	46.554
31	702.926
32	88.4628
34	556.363
35	60.5294
37	491.759
8	1011.92
9	29.7041
10	26.0094
11	24.1661
12	24.1661
13	1408.75
14	1408.75
15	35.6448
18	1308.46
19	1308.46
20	1126.22
21	24.4996
22	24.4996
23	74.2445
24	74.2445
27	841.776
28	841.776
30	764.637
31	764.637
32	677.856
33	69.8974
35	536.114
36	86.5426
37	86.5426

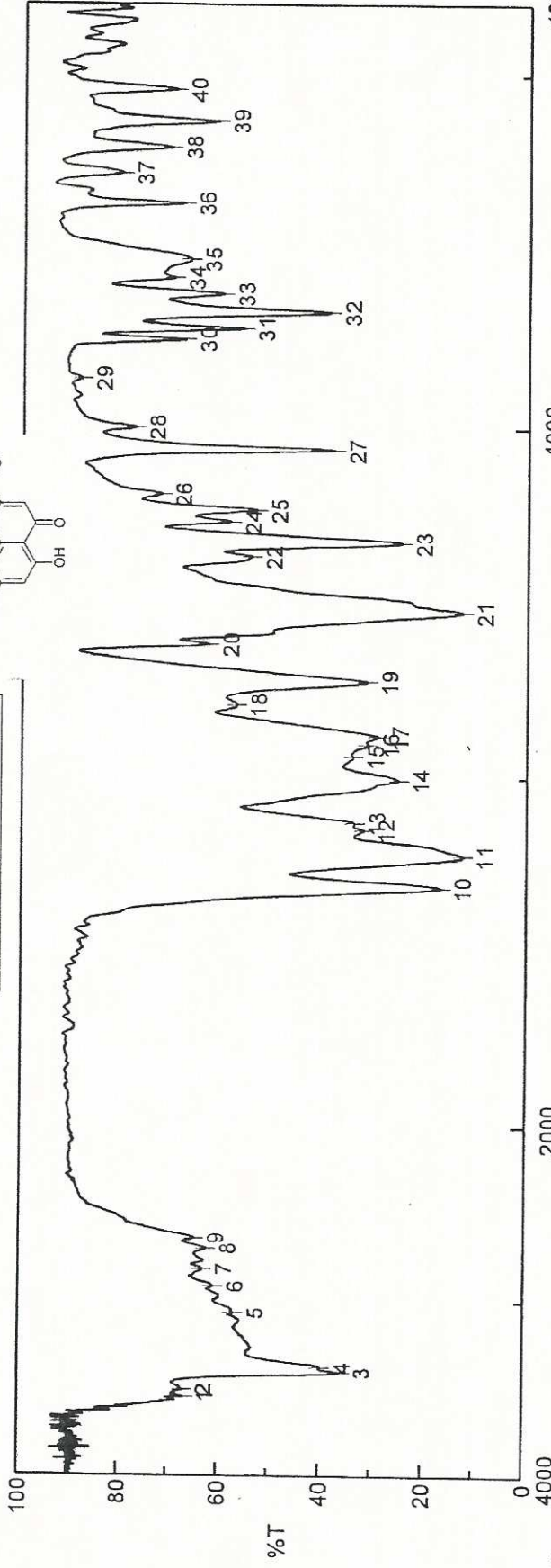


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 Lot No.: 1308370



LTLN(STD).jws



[Comment]
 Sample Name LTLN(STD)
 Comment KBr pillete
 User PSR
 Division QC

[Data Information]
 Creation Date 8/13/2013 12:16 PM
 Data array type Linear data array
 Horizontal Wavenumber [cm-1]
 Vertical %T
 Start 399.193 cm-1
 End 4000.6 cm-1
 Data pitch 0.964233 cm-1
 Data points 3736

Result of Peak Picking		No.		Position		Intensity	
No.	Position	No.	Position	No.	Position	No.	Position
1	3562.84	2	3519.45	3	3419.17	3	3419.17
4	3390.24	5	3071.08	6	2916.81	6	2916.81
7	2819.42	8	2697.93	9	2635.25	9	2635.25
10	1656.55	11	1611.23	12	12.4339	12	1575.56
13	1565.92	14	1503.24	15	25.1799	15	1470.46
16	1454.06	17	1443.46	18	29.3214	18	1399.1
19	1365.35	20	1313.29	21	62.465	21	1266.04
22	1188.9	23	1166.72	24	24.7806	24	1136.83
25	1120.44	26	1097.3	27	72.055	27	1031.73
28	999.91	29	930.485	30	88.1462	30	876.488
31	861.06	32	838.883	33	38.9701	33	813.813
34	791.636	35	765.601	36	66.5184	36	685.57
37	641.215	38	602.646	39	70.4088	39	61.0914
40	520.686						