



# 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

Cat No.: L-101

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

Cas Number: [491-70-3]

Lot Number: 1306336

Chemical Formula: C<sub>15</sub>H<sub>10</sub>O<sub>6</sub>

Molecular Weight: 286.25

Melting Point: >290°C

Appearance: Creamish yellow powder

TLC: Chloroform:methanol (8:2)

Solubility: Soluble in DMSO

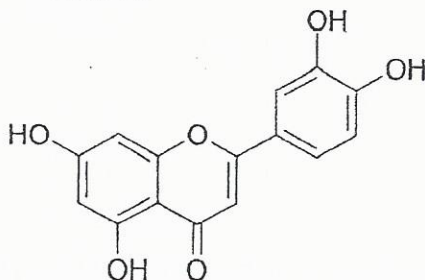
NMR Spectrum: Enclosed (Confirms to the structure)

Mass Spectrum: Complies

IR Spectrum: Complies

Storage: Store in a cool, dry place

Purity (HPLC): 99.12%





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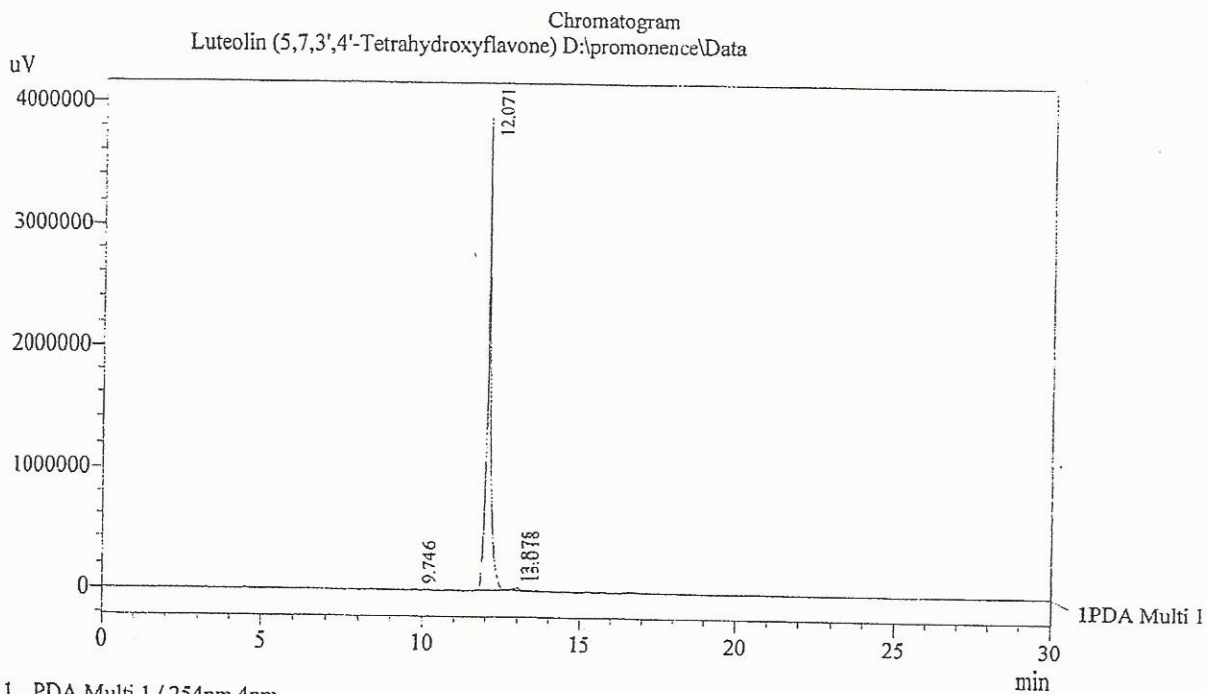
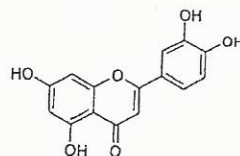
e-mail: [chemical@indofinechemical.com](mailto:chemical@indofinechemical.com)

## HPLC ANALYSIS

Acquired by : Sanjeev  
 Sample Name : Luteolin (5,7,3',4'-Tetrahydroxyflavone)  
 Sample ID : 145 gms Lot  
 Injection Volume : 20 uL  
 Data Filename : 270513D.lcd  
 Method Filename : Linear Gradient.M.lcm

Catalog No.: L-101  
 Product name: Luteolin  
 Lot No.: 1306336

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



PDA Ch1 254nm 4nm

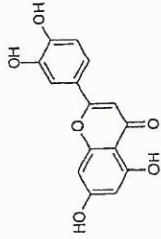
PeakTable

| Peak# | Name      | Ret. Time | Area     | Area % | Relative Retention Time |
|-------|-----------|-----------|----------|--------|-------------------------|
| 1     | RT:9.746  | 9.746     | 49713    | 0.16   | 0.81                    |
| 2     | Luteolin  | 12.071    | 30154900 | 99.12  | 1.00                    |
| 3     | RT:12.875 | 12.875    | 80415    | 0.26   | 1.07                    |
| 4     | RT:13.018 | 13.018    | 138708   | 0.46   | 1.08                    |
| Total |           |           | 30423735 | 100.00 |                         |



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Catalog No.: L-101  
 Product name: Luteolin  
 Lot No.: 1306336

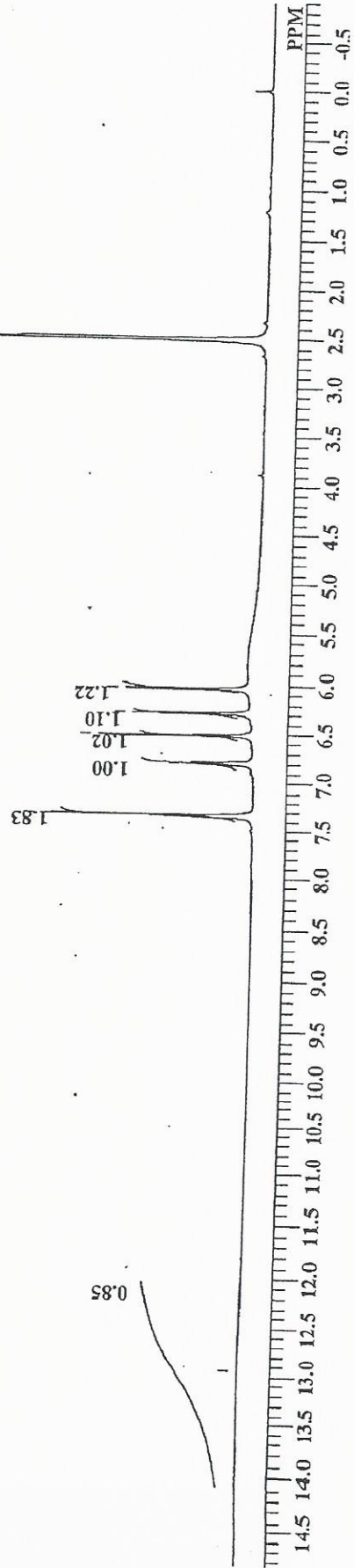


LTLN Purified 1H NMR DMSO-d6  
 Analysed By: MSR

12.946

7.331  
 7.331  
 6.801  
 6.781  
 6.517  
 6.289  
 6.034

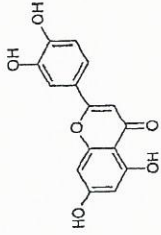
DFILE LTLN Purified 1H.als  
 COMNT LTLN Purified 1H NMR Df  
 OBNUC 1H  
 EXMOD NON  
 OBFRQ 399.65 MHz  
 OBSET 124.00 KHz  
 OBFIN 10500.00 Hz  
 POINT 65536  
 FREQU 7992.01 Hz  
 SCANS 16  
 ACQTM 8.2002 sec  
 PD 3.0000 sec  
 PW1 5.80 usec  
 IRNUC 1H  
 CTEMP 21.6 c  
 SLVNT DMSO  
 EXREF 0.00 ppm  
 BF 0.30 Hz  
 RGAIN 16





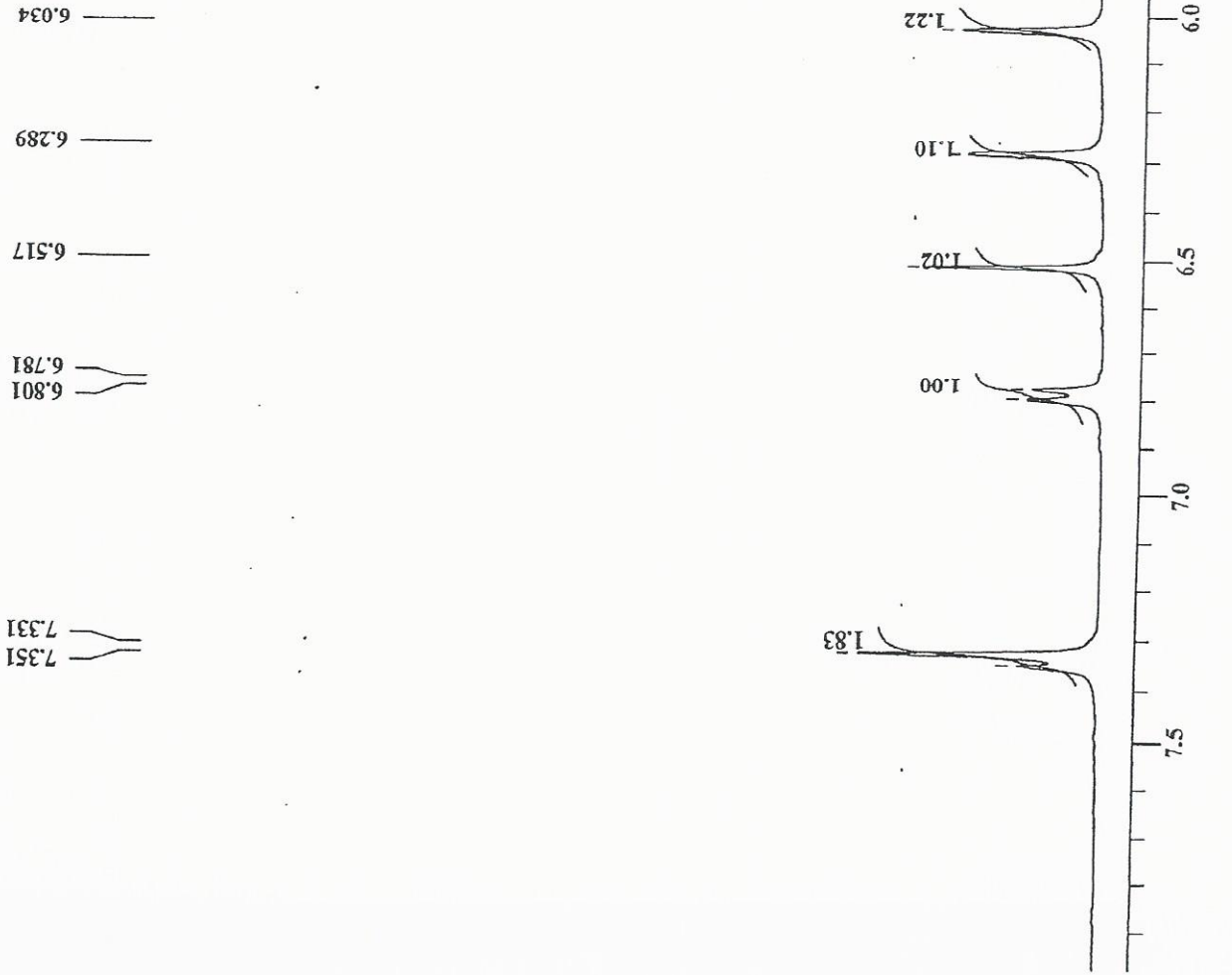
INDOFINE Chemical Company, Inc.  
121 STRYKER LANE  
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HILLSBOROUGH, NJ 08844

Catalog No.: L-101  
Product name: Luteolin  
Lot No.: 1306336



LTLN Purified 1H NMR DMSO-d6  
Analysed By: MSR

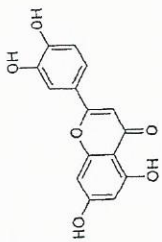
|       |                      |
|-------|----------------------|
| DFILE | LTLN Purified 1H.als |
| COMNT | LTLN Purified 1HNMRE |
| OBNUC | 1H                   |
| EXMOD | NON                  |
| OBFRQ | 399.65 MHz           |
| OBSET | 124.00 KHz           |
| OBFIN | 10500.00 Hz          |
| POINT | 65536                |
| FREQU | 7992.01 Hz           |
| SCANS | 16                   |
| ACQTM | 8.2002 sec           |
| PD    | 3.0000 sec           |
| PW1   | 5.80 usec            |
| IRNUC | 1H                   |
| CTEMP | 21.6 c               |
| SLVNT | DMSO                 |
| EXREF | 0.00 ppm             |
| BF    | 0.30 Hz              |
| RGAIN | 16                   |





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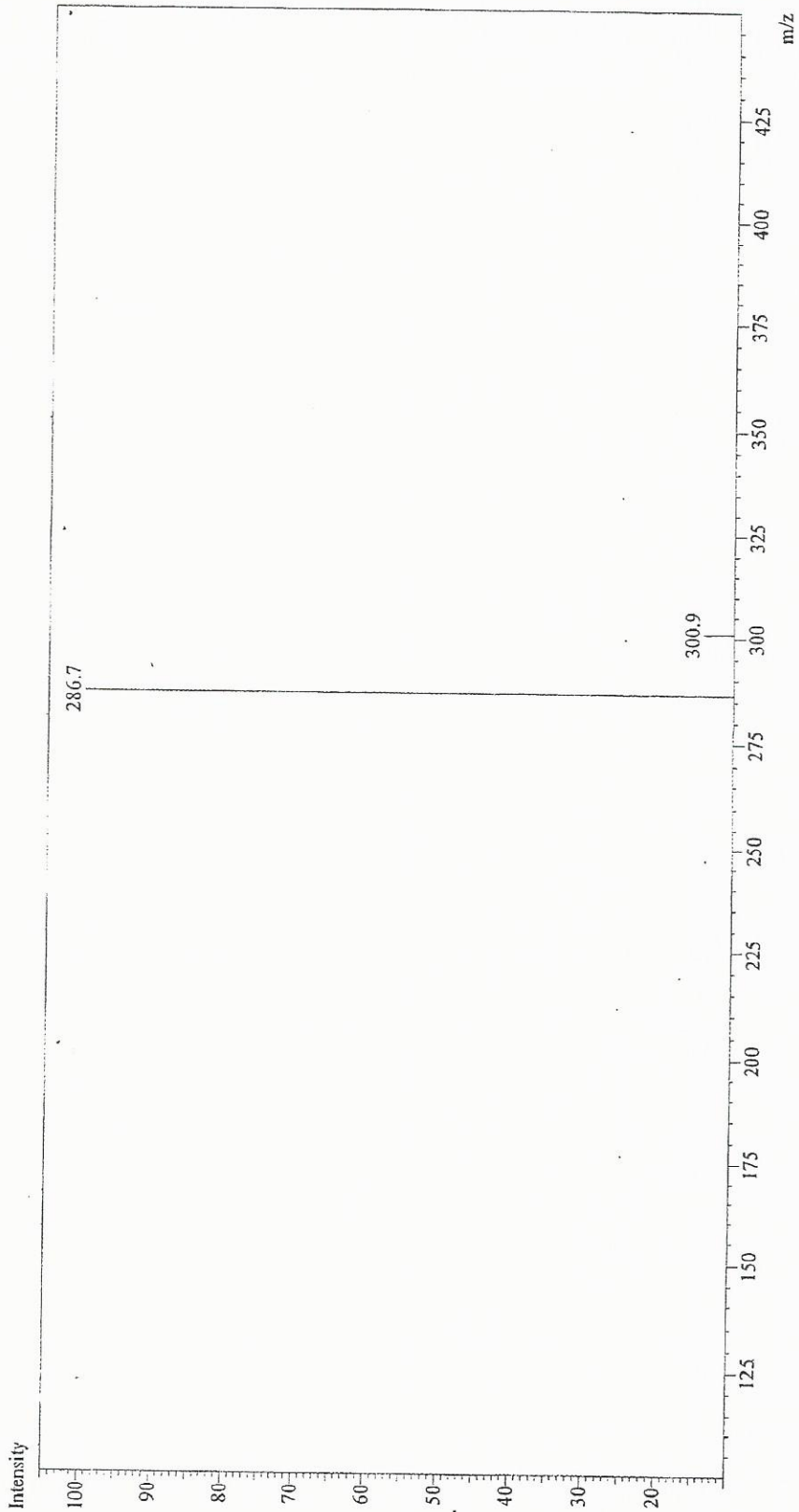
Catalog No.: L-101  
Product name: Luteolin  
Lot No.: 1306336



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

### MS Spectrum Graph

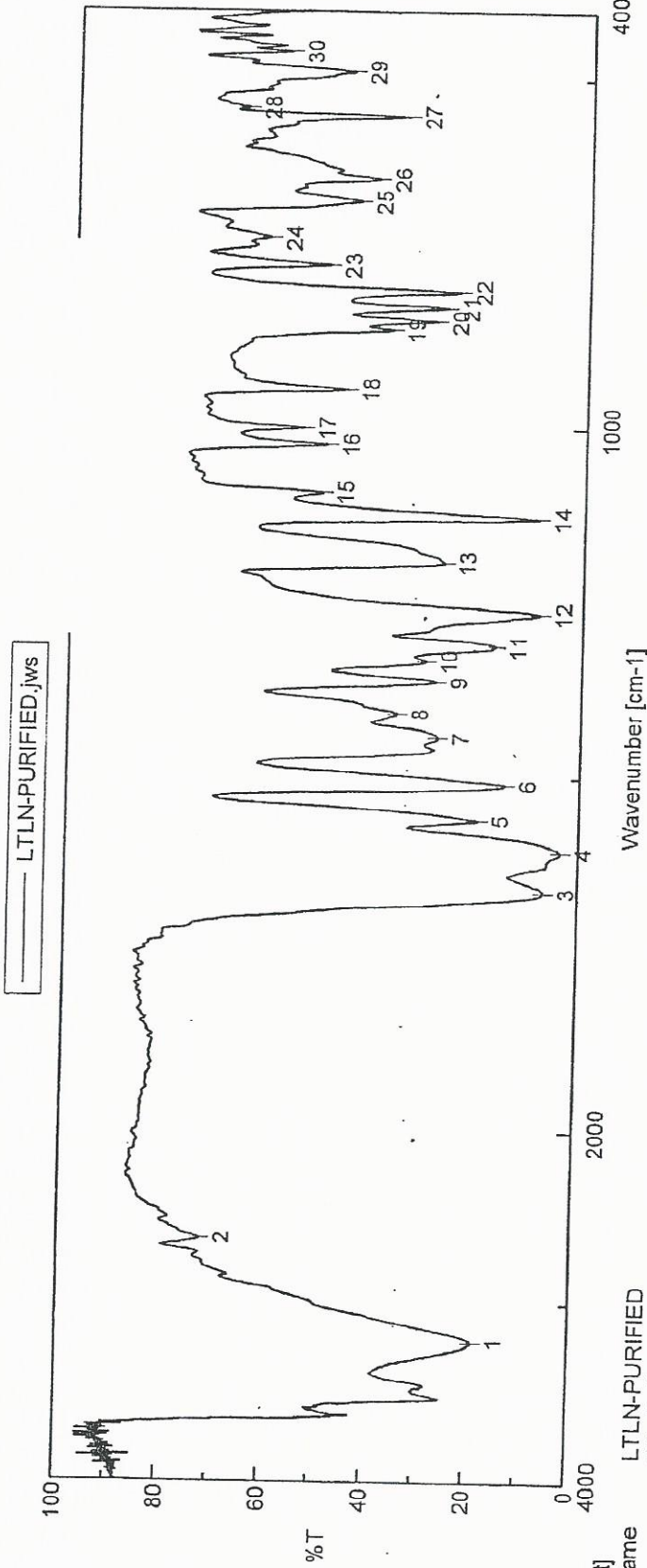
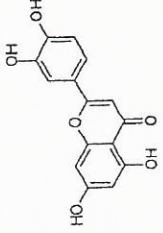
Probe : APCI  
Polarity:Pos





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BLDG. 90, SUITE 1  
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Catalog No.: L-101  
Product name: Luteolin  
Lot No.: 1306336

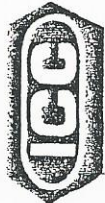


[Comment]  
Sample Name LTLN-PURIFIED  
Comment KBr Pellet  
User VVN  
Division QC

[Data Information]

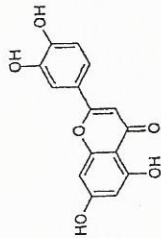
Data array type Linear data array  
Horizontal Wavenumber [cm-1]  
Vertical %T  
Start 399.193 cm-1  
End 4000.6 cm-1  
Data pitch 0.964233 cm-1  
Data points 3736

| Result of Peak Picking |          |           |
|------------------------|----------|-----------|
| No.                    | Position |           |
| 1                      | 3230.18  |           |
| 4                      | 1603.52  |           |
| 7                      | 1441.53  |           |
| 10                     | 1329.68  |           |
| 13                     | 1189.86  |           |
| 16                     | 1025.94  |           |
| 19                     | 855.275  |           |
| 22                     | 799.35   |           |
| 25                     | 677.856  |           |
| 28                     | 544.792  |           |
| 2                      | 18.5933  |           |
| 5                      | 3.49239  |           |
| 8                      | 27.5151  |           |
| 11                     | 30.1024  |           |
| 14                     | 26.8036  |           |
| 17                     | 50.0027  |           |
| 20                     | 37.8288  |           |
| 23                     | 24.8156  |           |
| 26                     | 44.6036  |           |
| 29                     | 66.7376  |           |
| No.                    | Position |           |
| 3                      | 1661.37  |           |
| 6                      | 1509.99  |           |
| 9                      | 1360.53  |           |
| 12                     | 1262.18  |           |
| 15                     | 1093.44  |           |
| 18                     | 943.985  |           |
| 21                     | 823.455  |           |
| 24                     | 728.961  |           |
| 27                     | 556.363  |           |
| 30                     | 459.939  |           |
| No.                    | Position |           |
| 3                      | 1661.37  |           |
| 6                      | 1509.99  |           |
| 9                      | 1360.53  |           |
| 12                     | 1262.18  |           |
| 15                     | 1093.44  |           |
| 18                     | 943.985  |           |
| 21                     | 823.455  |           |
| 24                     | 728.961  |           |
| 27                     | 556.363  |           |
| 30                     | 459.939  |           |
| Intensity              | Position | Intensity |
| 6.55415                | 1661.37  | 71.9049   |
| 14.3691                | 1509.99  | 19.4687   |
| 28.0939                | 1360.53  | 35.5552   |
| 8.16207                | 1262.18  | 16.6616   |
| 50.8772                | 1093.44  | 8.75786   |
| 46.4776                | 943.985  | 54.7693   |
| 27.2584                | 823.455  | 29.2777   |
| 62.078                 | 728.961  | 50.4269   |
| 35.4488                | 556.363  | 41.1259   |
| 58.5856                | 459.939  | 46.4161   |

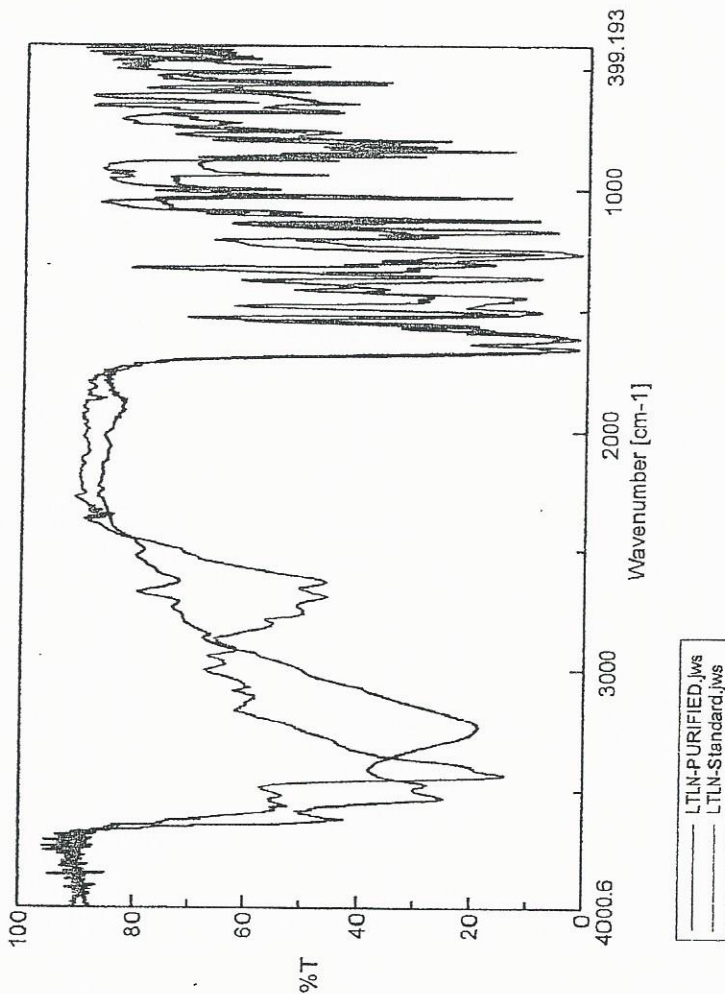


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 Product name: Luteolin  
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### Result - LTLN-PURIFIED.jws



[Comparison of data]  
 Algorithm Correlation Coefficient  
 Range 4000.60 - 399.19 cm-1  
 Threshold 0.0  
 Sample D:\mascol\FT-IR Data  
 &calibration\Data  
 Score 0.749  
 Judge OK

Data array type  
 Horizontal  
 Vertical  
 Start 399.193 cm-1  
 End 4000.6 cm-1  
 Data pitch 0.964233 cm-1  
 Data points 3736

[Measurement Information]  
 Model Name FT/IR-4100typeA  
 Serial Number B088661016

Light Source Standard  
 Detector TGS  
 Accumulation 32  
 Resolution 4 cm-1  
 Zero Filling On  
 Apodization Cosine  
 Gain Auto (16)  
 Aperture Auto (7.1 mm)  
 Scanning Speed Auto (2 mm/sec)  
 Filter Auto (30000 Hz)

[Comment]  
 Sample Name LTLN-PURIFIED  
 Comment KBr Pellet  
 User WVN  
 Division QC