



INDOFINE Chemical Company, Inc.

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

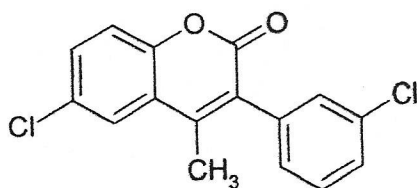
Phone: (908) 359-6778 • FAX: (908) 359-1179

website: www.indofinechemical.com

e-mail: chemical@indofinechemical.com

CERTIFICATE OF ANALYSIS

<u>Catalog Number:</u>	19-169
<u>Product Name:</u>	6-CHLORO-3(3'-CHLOROPHENYL)-4-METHYLCOUMARIN
<u>Lot Number:</u>	99174
<u>Chemical Formula:</u>	$C_{16}H_{10}Cl_2O_2$
<u>Molecular Weight:</u>	305.17
<u>Melting Point:</u>	175°C (dec)
<u>Appearance:</u>	Dark cream powder
<u>Solubility:</u>	Soluble in Chloroform
<u>TLC:</u>	Hexane:Ethyl acetate (9:1)
<u>NMR Spectrum:</u>	Enclosed (Confirms to the structure)
<u>Storage:</u>	Cool dry place
<u>Purity (HPLC):</u>	99.59%





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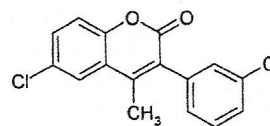
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HPLC ANALYSIS

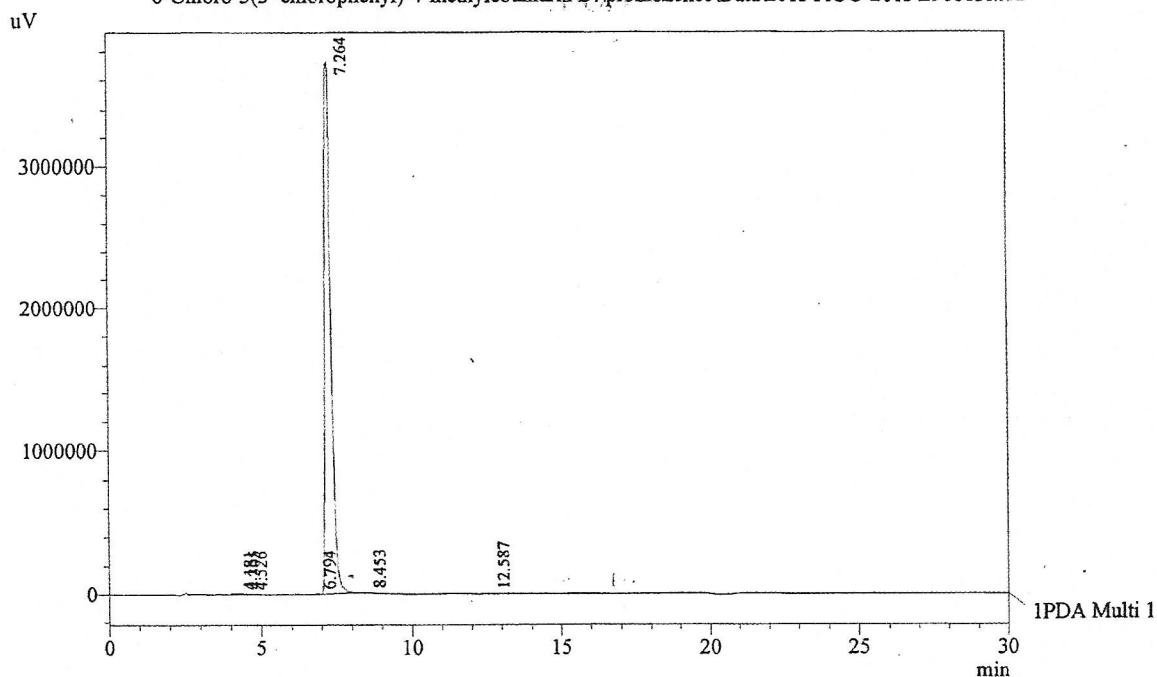
Acquired by : Sanjeev
Sample Name : 6-Chloro-3(3'-chlorophenyl)-4-methylcoumarin
Sample ID : Lot No: 99174
Injection Volume : 20 uL
Data Filename : 2908131.lcd
Method Filename : Linear Isocratic.M.lcm

Catalog No.: 19-169
Product Name: 6-Chloro-3(3'-chlorophenyl)-4-methylcoumarin
Lot No.: 99174



Column : LUNA C-18(2), (250mm x4.6mm 5.0µ)
Flow : 1.000 mL/min.
Mobile Phase : A(20% of 0.05% TFA in water) B(80% of Acetonitrile)
Diluent : Acetonitrile

Chromatogram
6-Chloro-3(3'-chlorophenyl)-4-methylcoumarin D:\promonence\Data\2013\AUG-2013\2908131.lcd



1 PDA Multi 1 / 220nm 4nm

PeakTable

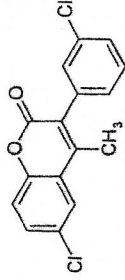
PDA Ch1 220nm 4nm

Peak#	Name	Ret. Time	Area	Area %	Relative Retention Time
1	RT:4.181	4.181	10260	0.02	0.58
2	RT:4.305	4.305	64029	0.12	0.59
3	RT:4.526	4.526	4847	0.01	0.62
4	RT:6.794	6.794	38251	0.07	0.94
5	RT:7.264	7.264	52341352	99.59	1.00
6	RT:8.453	8.453	82617	0.16	1.16
7	RT:12.587	12.587	14017	0.03	1.73
Total			52555372	100.00	



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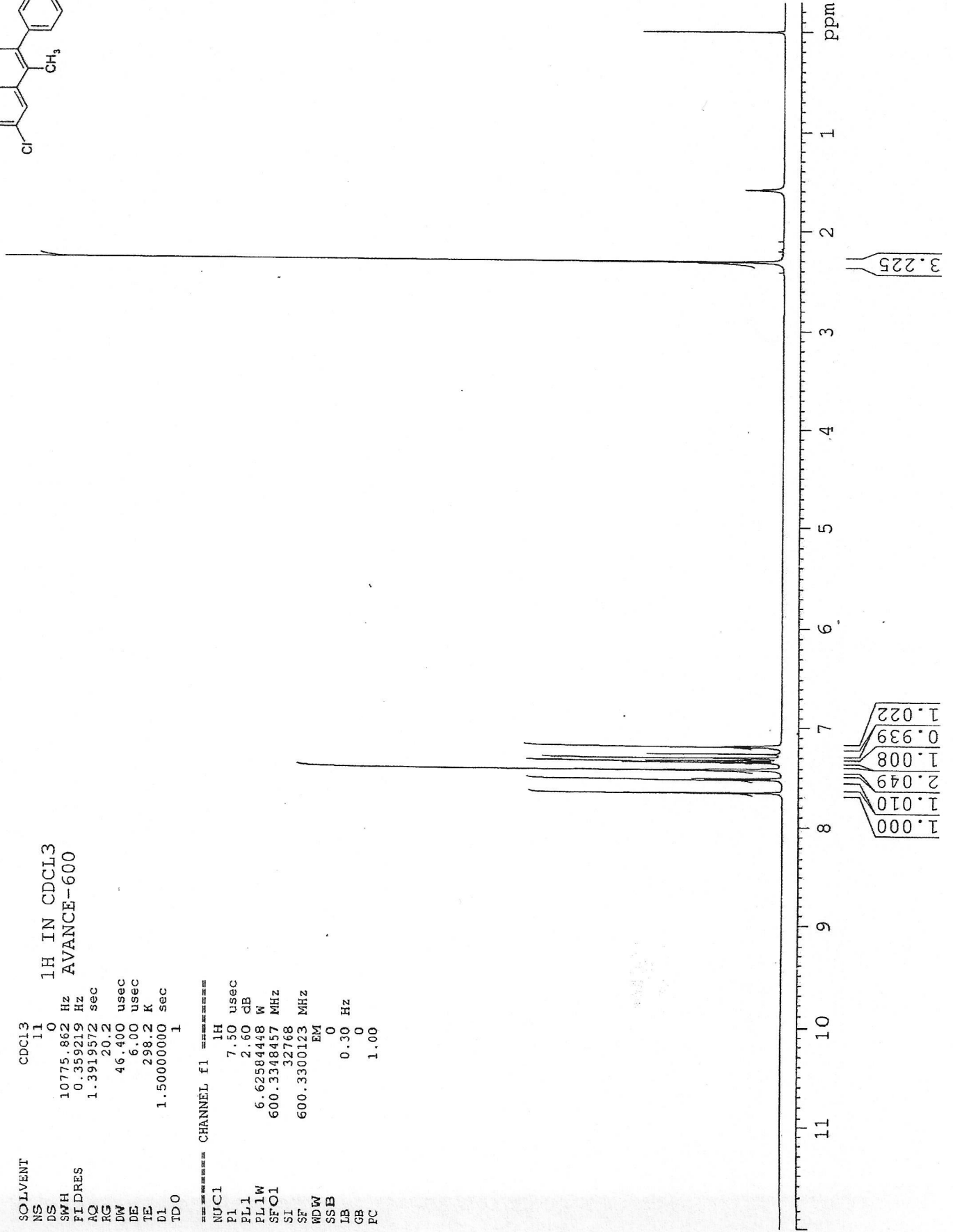
Catalog No.: 19-169
Product Name: 6-Chloro-3(3'-chlorophenyl)-4-methylcoumarin
Lot No.: 99174



SOLVENT CDCL3
NS 11
DS 0
SWH 10775.862 Hz
FIDRES 0.359219 Hz
AQ 1.3919372 sec
RG 20.2
D_W 46.400 usec
DE 6.00 usec
TE 298.2 K
D1 1.5000000 sec
TDO 1

1H IN CDCL3
AVANCE-600

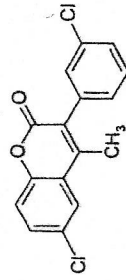
===== CHANNEL f1 =====
NUC1 1H
P1 7.50 usec
PL1 2.60 dB
PL1W 6.62584448 W
SFO1 600.3348457 MHz
SI 32768
SF 600.3300123 MHz
WDW EM
SSB 0
LB 0.30 Hz
GB 0
FC 1.00





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methylcoumarin
Lot No.: 99174



SOLVENT CDCL3
NS 11
DS 0
SWH 10775.862 Hz
FIDRES 0.359219 Hz
AQ 1.3919572 sec
RG 20.2
DW 46.400 usec
DE 6.00 usec
TE 298.2 K
D1 1.50000000 sec
TD0 1

1H IN CDCL3
AVANCE-600

===== CHANNEL f1 =====
NUC1 1H
P1 7.50 usec
PL1 2.60 dB
PL1W 6.62584448 W
SF01 600.3348457 MHz
SI 32768
SF 600.3300123 MHz
WDW EM
SSB 0
LB 0.30 Hz
GB 0
PC 1.00

