

ICC **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

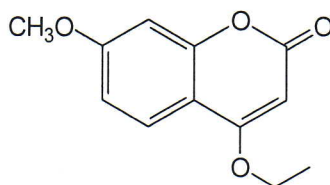
website: www.indofinechemical.com

e-mail: chemical@indofinechemical.com

CERTIFICATE OF ANALYSIS

Cat No.: 19-331

<u>Product:</u>	4-ETHOXY-7-METHOXYCOUMARIN
<u>Lot Number:</u>	0008236
<u>Molecular Formula:</u>	C ₁₂ H ₁₂ O ₄
<u>M.W.:</u>	220.22
<u>Melting Point:</u>	168-170°C
<u>Appearance:</u>	Off white powder
<u>Solubility:</u>	Soluble in Chloroform
<u>TLC:</u>	Hexane : ethyl acetate (7:3)
<u>Purity(HPLC):</u>	99.57%





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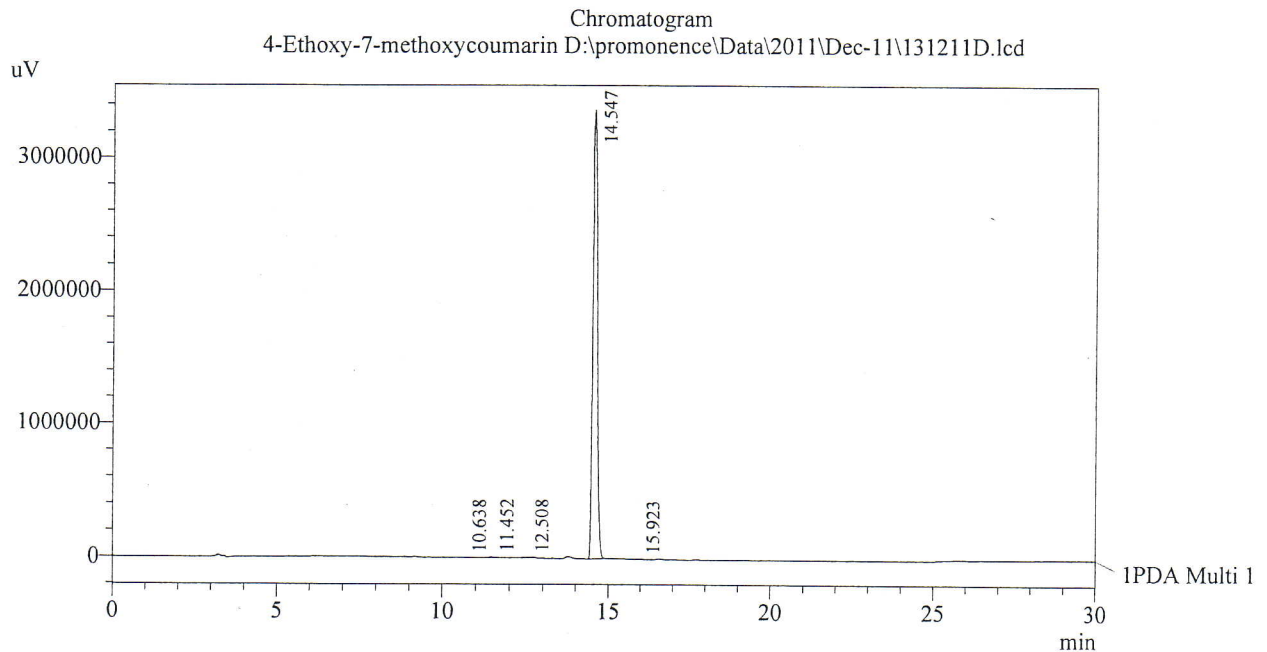
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HPLC ANALYSIS

Acquired by	: Sanjeev	Cat. No.:	19-331
Sample Name	: 4-Ethoxy-7-methoxycoumarin	Product name:	4-Ethoxy-7-methoxycoumarin
Sample ID	: Lot No:- 0008236	Lot No.:	0008236
Injection Volume	: 20 uL		
Data Filename	: 131211D.lcd		
Method Filename	: Linear Gradient.M.lcm		

Date Acquired	: 12/13/2011 12:19:31 PM
Data Processed	: 12/13/2011 1:21:39 PM
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
	25.0 90 10
	30.0 90 10



1 PDA Multi 1 / 230nm 4nm

PeakTable

PDA Ch1 230nm 4nm

Peak#	Name	Ret. Time	Area	Area %	Relative Retention Time
1	RT:10.638	10.638	7983	0.02	0.73
2	RT:11.452	11.452	62587	0.19	0.79
3	RT:12.508	12.508	28349	0.09	0.86
4	RT:14.547	14.547	32491932	99.57	1.00
5	RT:15.923	15.923	42034	0.13	1.09
Total			32632886	100.00	

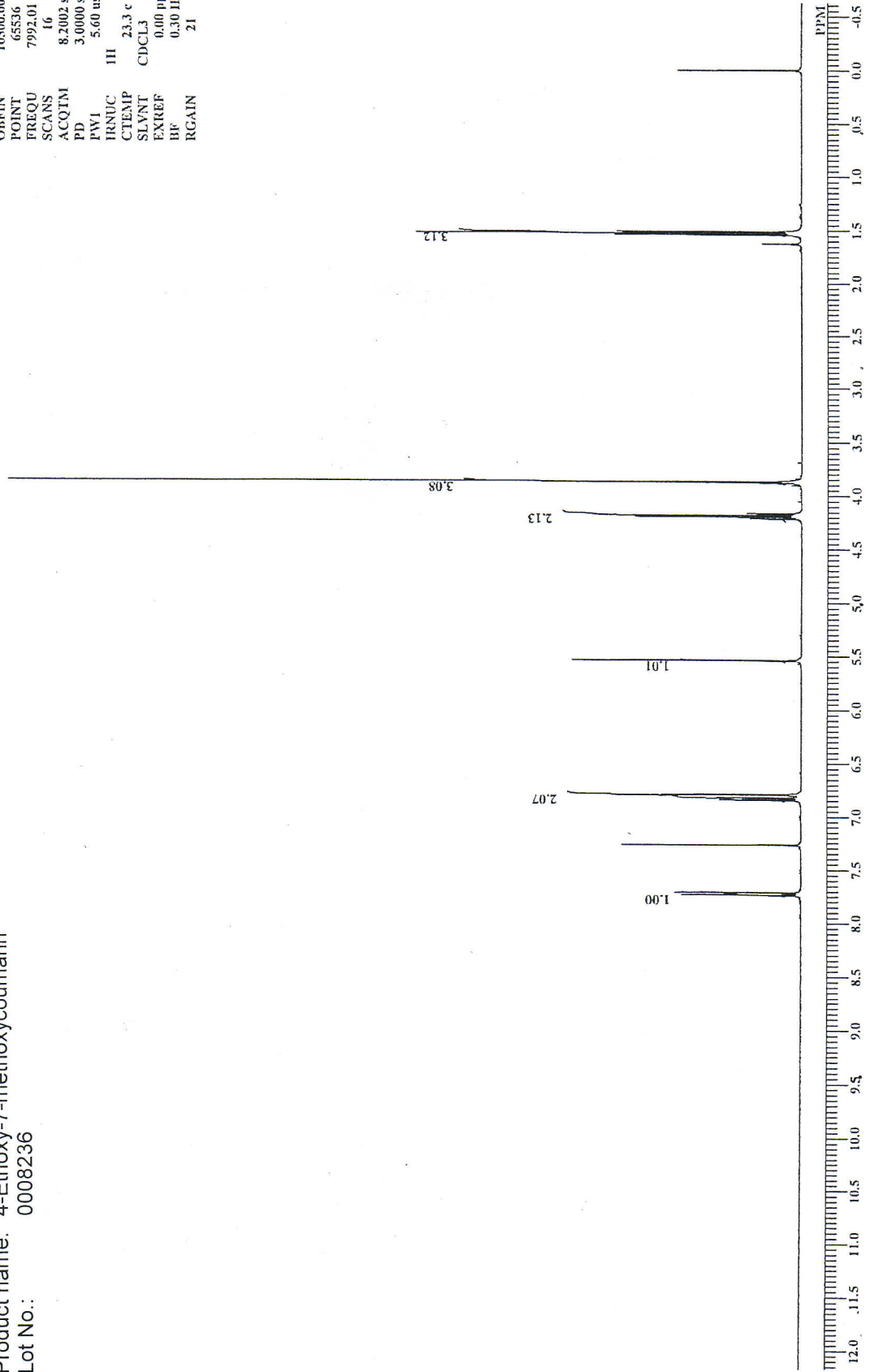


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121 STRYKER LANE
BLDG. 30, SUITE 1
HILLSBOROUGH, NJ 08844

ICC-9 1H NMR CDC13

Cat. No.: 19-331
Product name: 4-Ethoxy-7-methoxycoumarin
Lot No.: 0008236

DRILE ICC-9 H1als
COMNT ICC-9 1H NMR CDC13
DATIM Sun Dec 18 10:50:46 2011
OBNUC 1H
EXMOD NON
OBFRQ 399.65 MHz
OBSET 124.00 KHz
OBFIN 10500.00 Hz
P0INT 65536
FREQU 7992.01 Hz
SCANS 16
ACQTM 8.2002 sec
PD 3.0000 sec
PWI 5.60 usec
IRNUC 1H
CTEMP 23.3 c
SLVNT CDCL3
EXREF 0.00 ppm
BF 0.30 Hz
RGAIN 21





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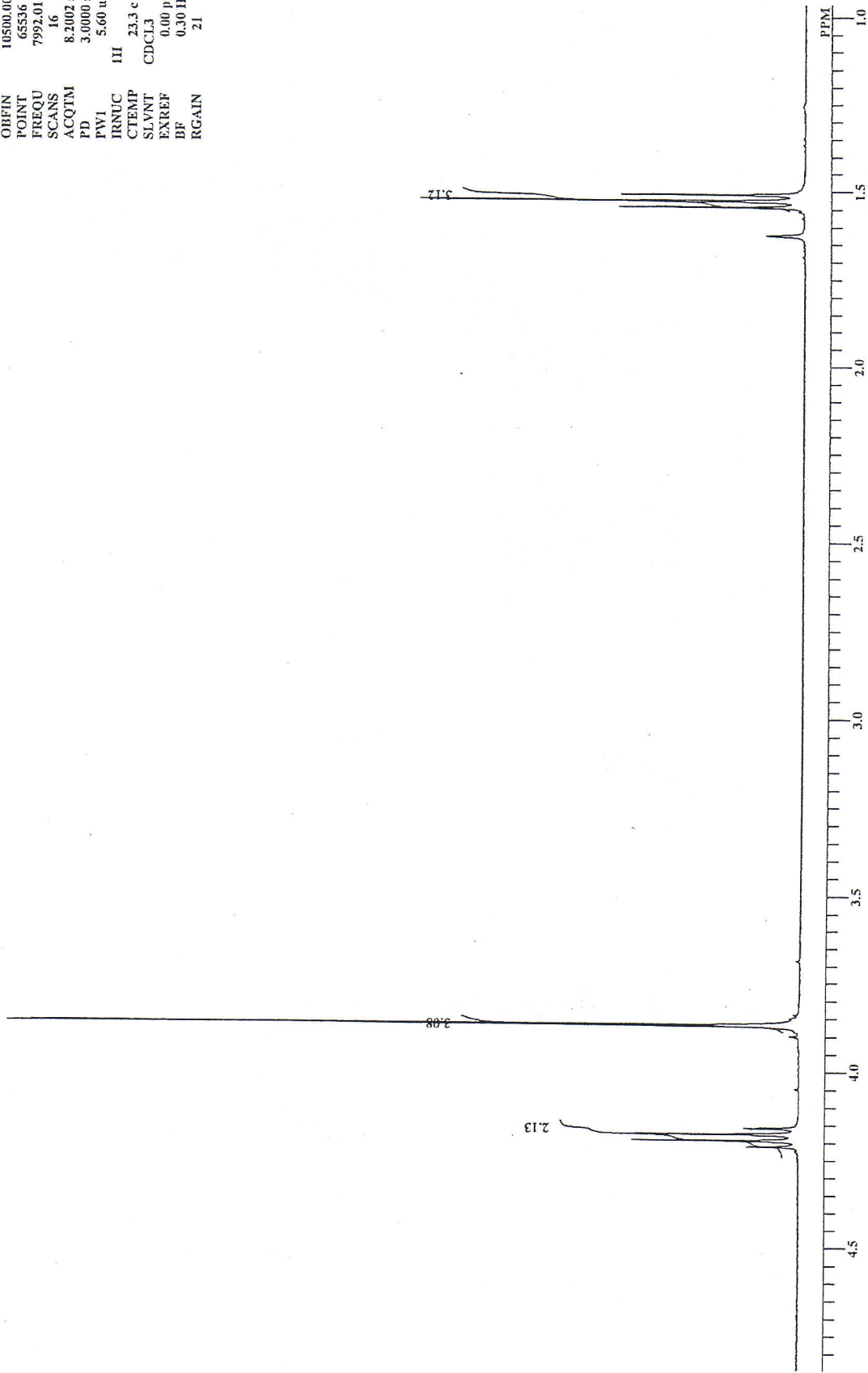
Cat. No.: 19-331

Product name: 4-Ethoxy-7-methoxycoumarin

Lot No.: 0008236

ICC-9 IH NMR CDC13

DFILE ICC-9 IH.als
COMINT ICC-9 IH NMR CDC13
DATIM Sun Dec 18 10:50:46 2011
1H
EXMOD NON
OBFRQ 399.65 MHz
OBSET 124.00 KHz
OBFIN 10500.00 Hz
POINT 65536
FREQU 7992.01 Hz
SCANS 16
PD 8.2002 sec
ACQTIM 3.0000 sec
PWI 5.60 usec
IRNUC 1H
CTEMP 23.3 c
SLVNT CDCL3
EXREF 0.00 ppm
BF 0.30 Hz
RGAIN 21





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HILLSBOROUGH, NJ 08844

DFILE ICC-9 1H.nls
COMNT ICC-9 1H NMR CDCB
DATIM Sun Dec 18 10:50:46 2011
OBNUC 1H
EXMOD NON
OBFRO 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 5.60 usec
IRNUC 1H
CTEMP 23.3 c
SLVNT CDCl3
EXREF 0.00 ppm
BF 0.30 Hz
RGAIN 21

ICC-9 1H NMR CDCB3

Cat. No.: 19-331
Product name: 4-Ethoxy-7-methoxycoumarin
Lot No.: 0008236

