Maxxam Analytics Inc

SUBMISSION CASE NARRATIVE
NDMA

MAXXAM L.I.M.S. No. A314211

PROJECT: Applied P&CH Laboratory NDMA Analysis

I. Receipt

Sample was received at Maxxam on April 25 2003.
Sample was received in good condition.

II. Holding Times

A. Sample preparation: all holding times were met.
B. Sample analysis: all holding times were met.

III. Method

The method followed was Maxxam's in-house method for NDMA analysis, Entitled "EXTRACTION & ANALYSIS OF NITROSAMINES AND NDMA BY HRMS" SOP # TO.1021.08.

IV. Preparation

Sample preparation proceeded normally. Sample was extracted on April 28, 2003.

V. Analysis

Analysis proceeded normally. Sample was analyzed on May 1, 2003.

A. Calibration: All criteria were met.

B. Mass Resolution: All criteria met.

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Maxxam Analytics Inc

C. Method Blank: All acceptance criteria were met for the method blank and no detects have been observed above the MDL.

D. Laboratory Control Spike: A LCS and LCSDUP were analyzed with all acceptance criteria met and they had a RPD of 5%.

E. Matrix spike/Matrix spike duplicate: MS and MSD were analyzed not analyzed with these samples.

F. Surrogate Standards: All samples and QC samples met surrogate Standard criteria

G. Samples: Sample analysis proceeded normally.

H. Glass blank: All acceptance criteria for the glass blank were met.

I certify that this data package is in compliance with the terms and conditions agreed to by the client and Maxxam Analytics Inc., both technically and for completeness, except for any conditions noted above. Release of the data contained in this hardcopy data package has been authorized by the HRMS Strategic Business Unit Operational Manager, as verified by the following signature.

AnnMarie Wright, B.Sc.
Laboratory Operations Manager

This report contains 88 pages.

SUMMARY OF SAMPLES SUBMITTED-NDMA

(YYYY/MM/DD)

SOTA SAMPLE NO.	*MAXXAM L.I.M.S. ID*	*DATE SAMPLED*	*DATE RECEIVED*	*DATE EXTRACTED*	*DATE ANALYZED*	*ASSOCIATED QC LABEL*
MW-4-1	A314211-997113	2003/04/21	2003/04/25	2003/04/28	2003/05/01	470707

Glossary of Definitions

NDMA	N-Nitrosodimethylamine
OPR	Ongoing Performance & Recovery Standard (Matrix spike)
PAR	Performance & Recovery Standard (Spiking Mixture)
IPR	Initial Performance & Recovery Standard (Matrix spike)
K-D	Kuderna-Danish concentrator; a device used to concentrate the analytes in a solvent
LIMS	Laboratory Information Management System
MISA	Municipal Industrial Strategy for Abatement
EPA	see USEPA
USEPA	United States Environmental Protection Agency
CEPA	Canadian Environmental Protection Agency

amp	ampere
cm	centimetre
g	gram
h	hour
ID	internal diameter
OD	outside diameter
In.	inch
L	litre
M	Molecular ion
min	minute
mL	mililitre
mm	millimetre
m/z	mass-to-charge ratio
N	Normal; gram molecular weight of solute divided by hydrogen equivalent of solute, per litre of solution
mg	milligram 10^{-3}g
µg	microgram 10^{-6}g
ng	nanogram 10^{-9}g
pg	picogram 10^{-12}g
fg	femtogram 10^{-15}g
ppm	parts per million (mg/L, mg/kg)
ppb	parts per billion (µg/L, µg/kg)
ppt	parts per trillion (ng/L, ng/kg)
ppq	parts per quadrillion (pg/L, pg/kg)
v/v	volume per unit volume
w/v	weight per unit volume
DCM	Dichloromethane (Methylene Chloride)
PFK	Perfluorokerosene
HIRES	High Resolution
GC	Gas Chromatography

MS	Mass Spectrometry
HRMS	High Resolution Mass Spectrometry

Acceptance Criteria
: Values used by the laboratory in order to determine that a process is in control.

Accuracy
: It is the degree of agreement of a measured value with the true or expected value of the quantity of concern.

Analyte
: A Nitrosodimethylamine and/or 1,4-Dioxane parameter tested by a method.

Blind Sample
: It is a sample submitted for analysis whose composition is known to the submitter but unknown to the analyst. A blind sample is used to test the proficiency of a measurement process.

Calibration Standard (CAL)
: Consist of a set of solutions containing known amounts of native & carbon-13-labelled NDMA and/or 1,4-Dioxane. These solutions are used to establish the relationship between the parameter's concentration & MS detector response over the expected range of sample concentration.

Calibration Verification Material
: Consists of a calibration standard solution of intermediate level concentration (e.g. CS3), used to assess whether the initial calibration is still valid.

Certified Reference Material
: It is a stable, homogenous, and well characterized reference material, one or more of whose property values are certified by repetitive analysis by several operators & different methodologies in one or more qualified laboratories of known precision & accuracy. This material is used to assess the accuracy of a measurement process.

CAS#
: Chemical Abstracts Compound Registry Number.

Control Sample
: It is a reference material of known composition that is analyzed concurrently with test samples to evaluate the accuracy and/or precision of a measurement process.

EDL
: Estimated detection limit or detection limit.

Glassware Proof Rinse

It is the composite final solvent rinse of each piece of glassware intended for use in processing a batch of samples. Proof rinse samples are analyzed before sample processing begins.

Instrument Detection Limit

It is the smallest concentration/amount of analyte, in a solution containing only the analyte(s) of interest, which produces an instrumental response that satisfies all analyte detection & identification criteria.

IS — Internal Standard, a deuterated or ^{13}C-labelled analyte that is added to a sample extract prior to instrument analysis.

Isomer — A member of a group of compounds that differ from each other only in terms of locations of a specified number of common substituent atoms, or groups of atoms, on the parent compound.

Method Blank — Laboratory control sample using reagents, purified water, soil or relevant matrix known to be free of contaminants.

Method Detection Limit (MDL)

It is the smallest test sample concentration/amount of analyte that produces an instrumental response that satisfies all analyte detection & identification criteria when the sample is processed & analyzed according to the requirements of a specific test method. Reported MDL values reflect the composite effect of sample-related variables as well as method-related variables.

MSDS — Material Safety Data Sheet

NIOSH — National Institute of Occupational Safety & Health

Precision — It is the degree of agreement between the data generated from repetitive measurements under specified conditions. It is generally reported as the standard deviation (SD) or relative standard deviation (RSD).

%D — Percent Difference.

Quality Assurance (QA)

It is a system of activities whose purpose is to provide the producer or user of a product with the assurance that the product meets a defined standard of quality. The system consists of two separate but related activities, quality control & quality assessment.

Quality Control (QC)

It is the overall system of activities whose purpose is to control the quality of a product so that it meets the needs of users.

Recovery Standards

They are selected compounds that are added to sample extracts immediately before instrumental analysis so that surrogate (internal standard) recoveries can be calculated.

RPD (%) Relative Percent Difference.

Relative Retention Factor (RRF)

It is the quotient of a target analyte response factor (instrument response per unit weight) divided by the response factor (RF) for its corresponding labelled surrogate. An RRF value remains constant over the range of concentration for which instrument response is linear.

RSD Relative Standard Deviation.

SDS Soxhlet/Dean-Stark extractor, an extraction device applied to the extraction of solid & semi-solid materials.

Spiked blank Laboratory control sample that has been fortified with native analytes of interest.

Stock Solution A solution containing an analyte that is prepared using a reference material traceable to EPA, the National Institute of Science & Technology (NIST), or a source that will attest to the purity & authenticity of the reference material.

Surrogate A compound whose composition and chemical properties are nearly identical to those of target analytes, but which is distinguishable from target analytes by some means of detection (i.e. MS). These include deuterated or ^{13}C-labelled analogues of the target analytes, which are added to the sample prior to extraction or clean-up steps.

Window Defining Mixture

It is a solution containing the earliest & latest eluting congeners within each homologous group of target analytes on a specified GC column.

SAMPLE DATA

MW-4-1

Lab Name	Maxxam Analytics Inc.				
Matrix (soil/water):	water			Lab Sample ID:	A314211-997113
				Project Name:	JPL
Sample wt/vol:	980	(g/mL)	mL	Lab File ID:	KR23450042
Level (low/med)	low			Date Received:	April 25, 2003
% Moisture	Not applicable	Decanted (Y/N):	N	Date Extracted:	April 28, 2003
				Lab Batch:	470707
Concentrated Extract Volume	1000	(uL)		Date Analyzed:	May 1, 2003
				Calib. Ref.:	20030430
Injection Volume	2	(uL)		Time Analyzed:	18:52:12
				Dilution Factor:	1
Acid Wash Cleanup (Y/N):	N	pH	Not analyzed		

CAS No.	Compound	Conc. (ug/L)	Qualifier	EDL (ug/L)	RL (ug/L)
62-75-9	NDMA	0.00200	U	0.000370	0.00200
	Surrogate	Recovery (%)	Acceptance Criteria (%)		
000	D6-NDMA	11	10-85		

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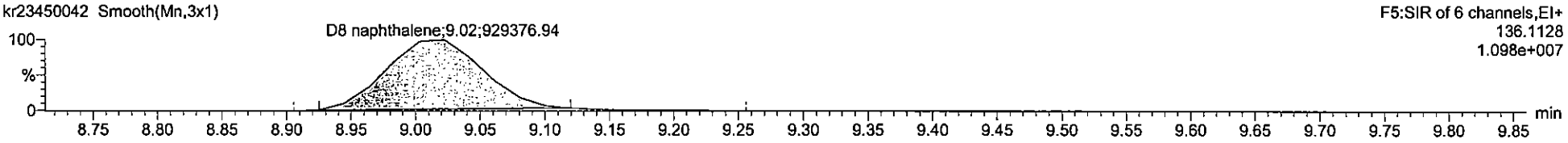
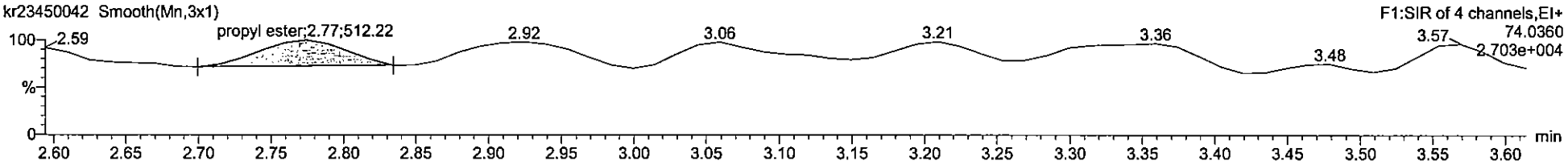
Calibration: C:\MASSLYNX\Default.pro\CURVEDB\ndmacali2_20030430.cdb, Time: Thu May 01 09:25:34 2003

Name: kr23450042.*, Date: 01-May-2003, Time: 18:52:12, Job: , Description: 470707,997113-01R,N,1,2

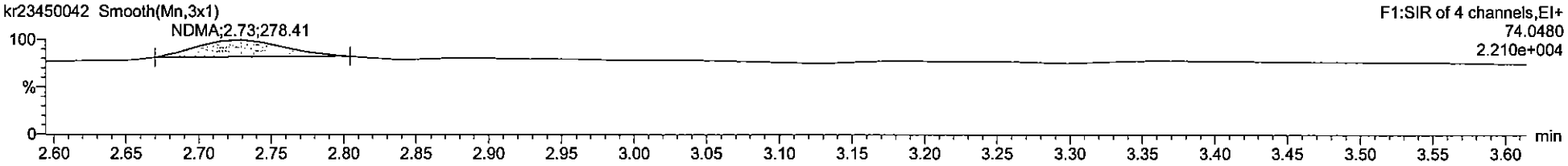
D8 naphthalene



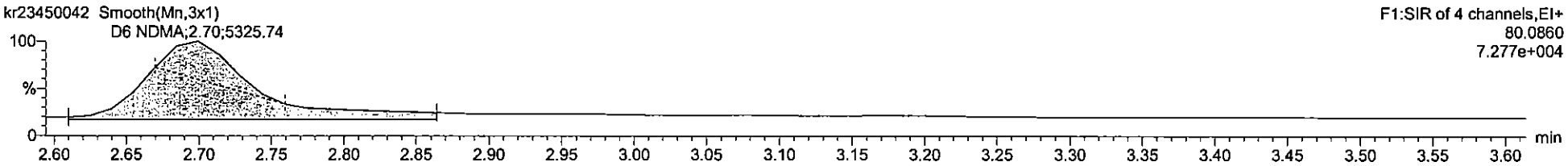
propyl ester



NDMA



D6 NDMA



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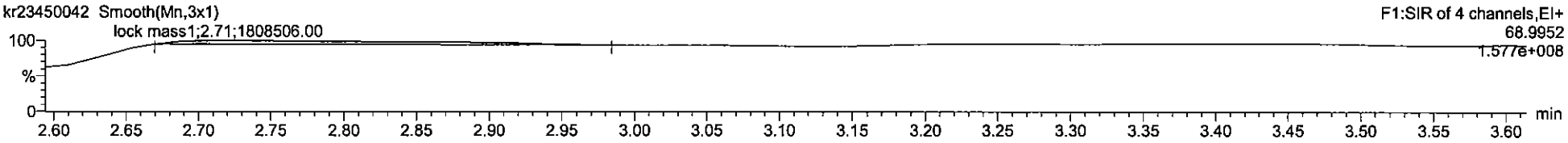
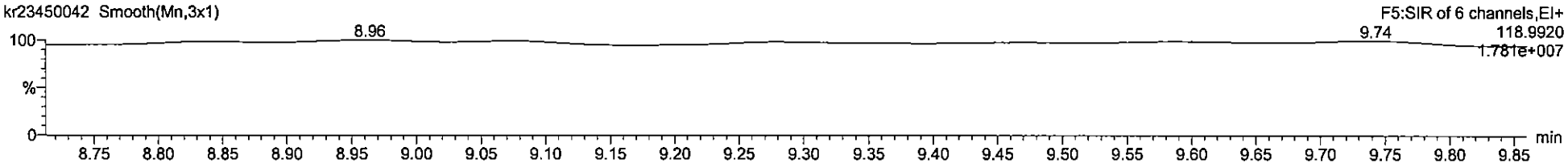
lock mass1



lock mass5



#	Compound Name	Trace	Abs Resp	RT	ng/L	%Rec	Mod Date	Divisor1	RRF Mean
1	NDMA	74.0480	278	2.73	~~0.31~~ ND		02-May-03	980	1.673
2	D6 NDMA	80.0860	5326	2.70	1033.04	10.54	02-May-03	1	0.139
3	D8 naphthalene	136.1128	929377	9.02	25000.00	100.00	02-May-03	1	1.000
4	propyl ester	74.0360	512	2.77	0.10	10.25	02-May-03	1	4996.306

EDL = 0.37 ug/L

ND

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LABORATORY BLANK

WATER LABORATORY METHOD BLANK

Lab Name	Maxxam Analytics Inc.				
Matrix (soil/water):	water			Lab Sample ID:	A314211-470707B
				Project Name:	JPL
Sample wt/vol:	1000	(g/mL)	mL	Lab File ID:	KR23450033
Level (low/med)	low			Date Received:	Not Applicable
% Moisture	Not applicable	Decanted	N	Date Extracted:	April 28, 2003
				Lab Batch:	470707
Concentrated Extract Volume	1000	(uL)		Date Analyzed:	May 1, 2003
				Calib. Ref.:	20030430
Injection Volume	2	(uL)		Time Analyzed:	16:02:59
				Dilution Factor:	1
Acid Wash Cleanup (Y/N):	N	pH	Not analyzed		

CAS No.	Compound	Conc. (ug/L)	Qualifier	EDL (ug/L)	RL (ug/L)
62-75-9	NDMA	0.00200	U	0.000370	0.00200
	Surrogate	Recovery (%)	Acceptance Criteria (%)		
000	D6-NDMA	13	10-85		

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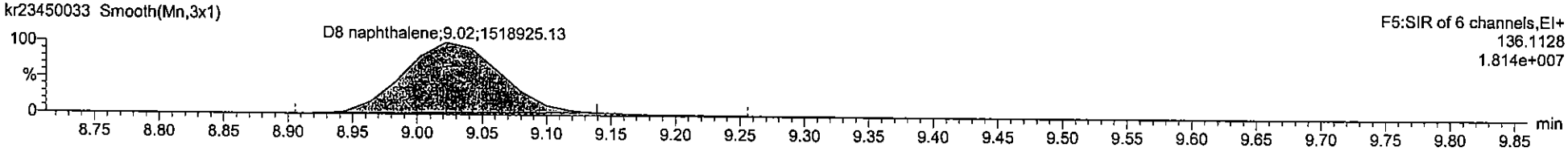
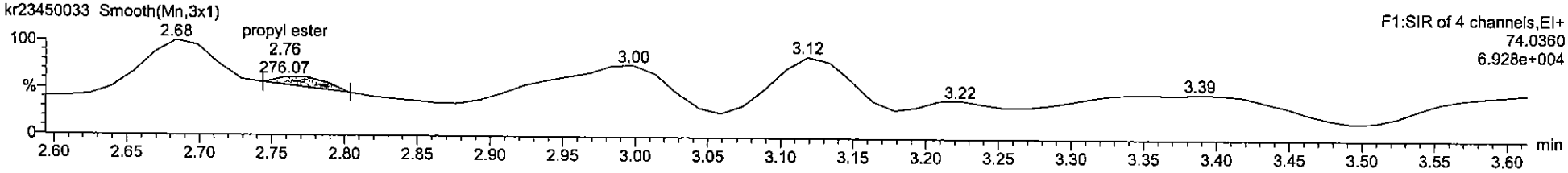
Calibration: C:\MASSLYNX\Default.pro\CURVEDB\ndmacali2_20030430.cdb, Time: Thu May 01 09:25:34 2003

Name: kr23450033.*, Date: 01-May-2003, Time: 16:02:59, Job: , Description: 470707,blank,N,1,2

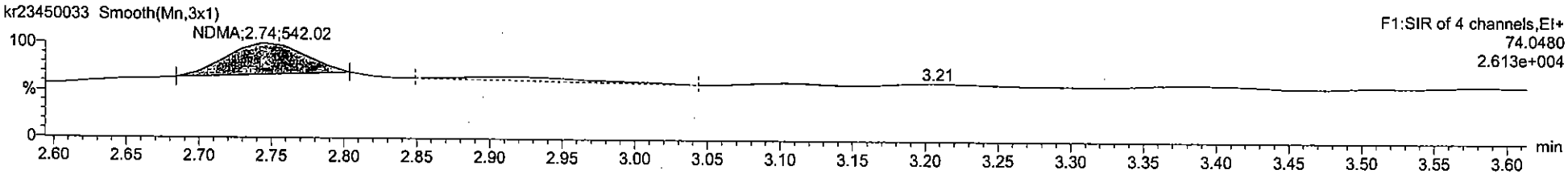
D8 naphthalene



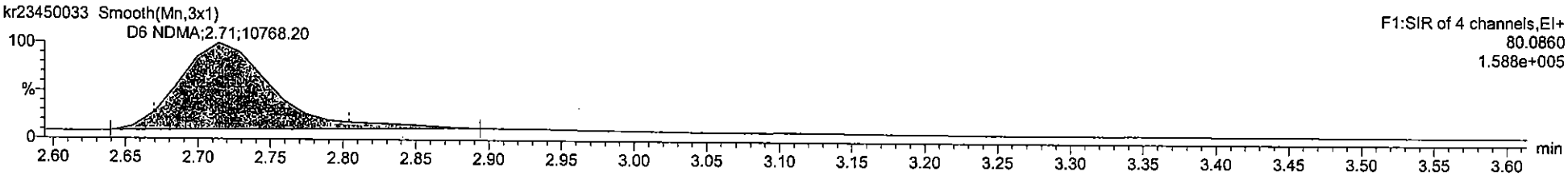
propyl ester



NDMA



D6 NDMA



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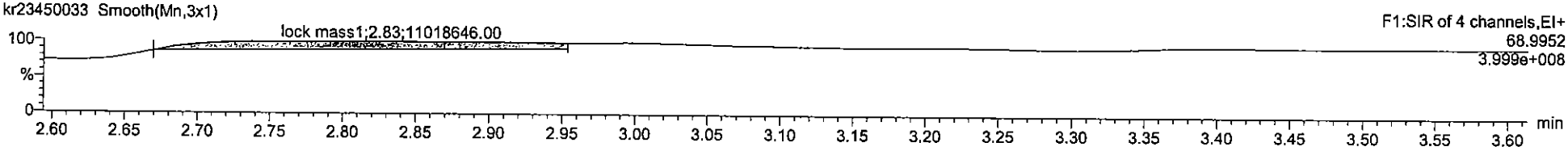
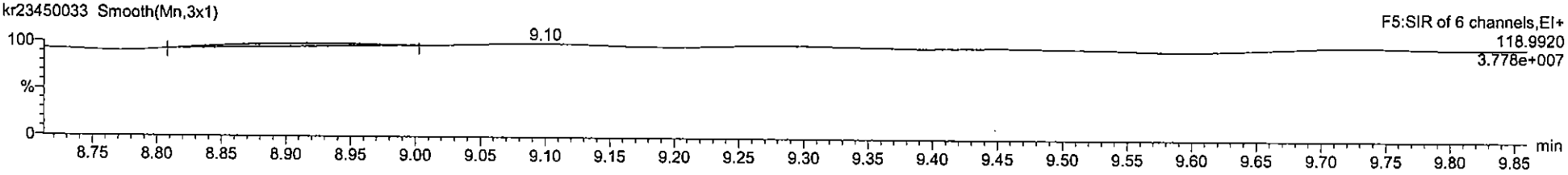
lock mass1

kr23450033 Smooth(Mn,3x1)



lock mass5

kr23450033 Smooth(Mn,3x1)



#	Compound Name	Trace	Abs Resp	RT	ng/L	%Rec	Mod Date	Divisor	RRF Mean
1	NDMA	74.0480	542	2.74	~~0.29~~ ND		02-May-03	1000	1.673
2	D6 NDMA	80.0860	10768	2.71	1278.01	13.04	02-May-03	1	0.139
3	D8 naphthalene	136.1128	1518925	9.02	25000.00	100.00	02-May-03	1	1.000
4	propyl ester	74.0360	276	2.76	0.06	5.53	02-May-03	1	4996.306

EDL = 0.37 ng/L

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LABORATORY CONTROL SAMPLE

WATER LABORATORY SPIKED BLANK

Lab Name	Maxxam Analytics Inc.				
Matrix (soil/water):	water			Lab Sample ID:	A314211-470707S
				Project Name:	JPL
Sample wt/vol:	1000	(g/mL)	mL	Lab File ID:	KR23450031
Level (low/med)	low			Date Received:	Not Applicable
% Moisture	Not applicable	Decanted (Y/N):	N	Date Extracted:	April 28, 2003
				Lab Batch:	470707
Concentrated Extract Volume	1000	(uL)		Date Analyzed:	May 1, 2003
				Calib. Ref.:	20030430
Injection Volume	2	(uL)		Time Analyzed:	15:30:14
				Dilution Factor:	1
Acid Wash Cleanup (Y/N):	N	pH	Not analyzed		

CAS No.	Compound	Extract Conc. (ug/L)	Spike Level (ug/L)	Recovery (%)	Acceptance Criteria (%)
62-75-9	NDMA	0.00560	0.00500	112	10-173

	Surrogate	Recovery (%)	Acceptance Criteria (%)
000	D6-NDMA	10	10-85

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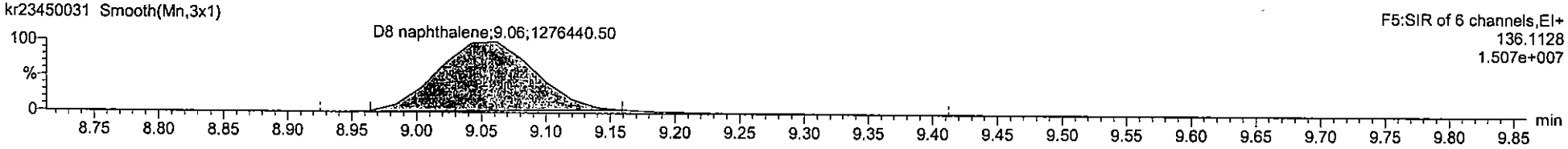
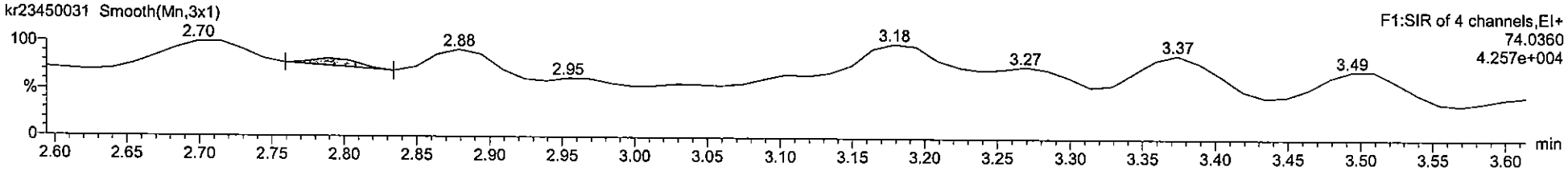
Calibration: C:\MASSLYNX\Default.pro\CURVEDB\ndmacali2_20030430.cdb, Time: Thu May 01 09:25:34 2003

Name: kr23450031.*, Date: 01-May-2003, Time: 15:30:14, Job: , Description: 470707,spike,N,1,2

D8 naphthalene



propyl ester



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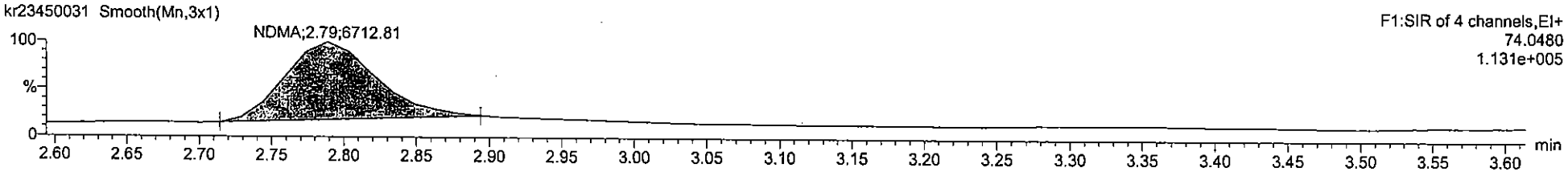
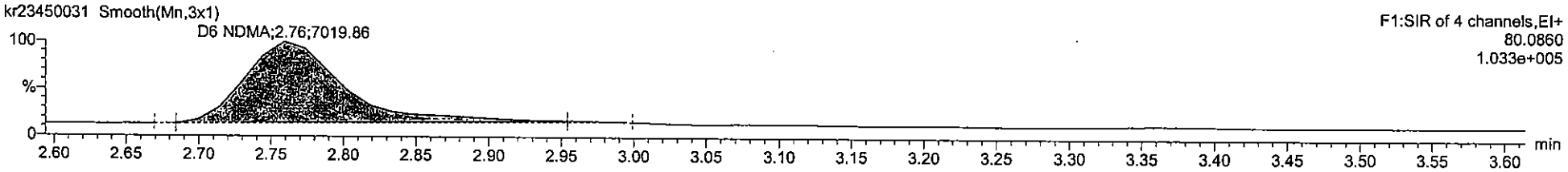


D6 NDMA



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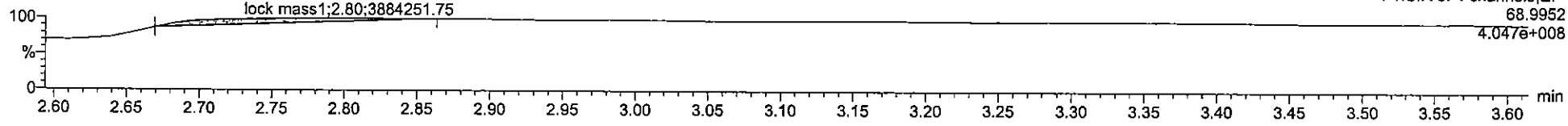
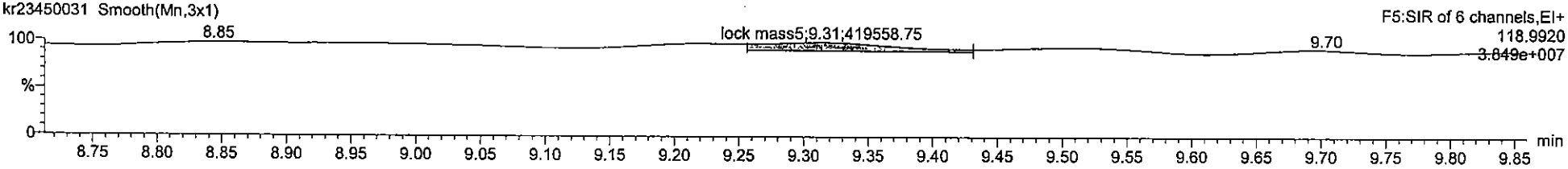
lock mass1

kr23450031 Smooth(Mn,3x1)



lock mass5

kr23450031 Smooth(Mn,3x1)



#	Compound Name	Trace	Abs Resp	RT	ng/L	%Rec	Mod Date	Divisor	RRF Mean
1	NDMA	74.0480	6713	2.79	5.60	112.02	02-May-03	1000	1.673
2	D6 NDMA	80.0860	7020	2.76	991.42	10.12	02-May-03	1	0.139
3	D8 naphthalene	136.1128	1276441	9.06	25000.00	100.00	02-May-03	1	1.000
4	propyl ester	74.0360	130	2.79	0.03	2.60	02-May-03	1	4996.306

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WATER LABORATORY SPIKED BLANK DUPLICATE

Lab Name	Maxxam Analytics Inc.				
Matrix (soil/water):	water			Lab Sample ID:	A314211-470707SD
				Project Name:	JPL
Sample wt/vol:	1000	(g/mL)	mL	Lab File ID:	KR23450032
Level (low/med)	low			Date Received:	Not Applicable
% Moisture	Not applicable	Decanted (Y/N):	N	Date Extracted:	April 28, 2003
				Lab Batch:	470707
Concentrated Extract Volume	1000	(uL)		Date Analyzed:	May 1, 2003
				Calib. Ref.:	20030430
Injection Volume	2	(uL)		Time Analyzed:	15:44:12
				Dilution Factor:	1
Acid Wash Cleanup (Y/N):	N	pH	Not analyzed		

CAS No.	Compound	LCS Extract Conc (ug/L)	Spike Level (ug/L)	Recovery (%)	%RPD LCS/LCSD	Acceptance Criteria (%)
62-75-9	NDMA	0.00534	0.00500	107	5	25

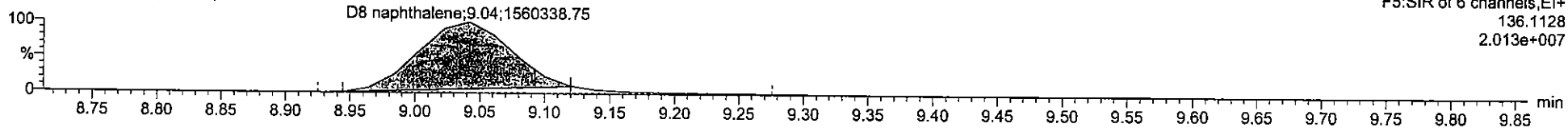
	Surrogate	Recovery (%)	Acceptance Criteria (%)
000	D6-NDMA	10	10-85

Dataset: C:\MASSLYNX\Default.pro\QuanlynxFiles\QC\Blks_Spks\20030428\spk_20030428_Rinj.qld, Time: Fri May 02 09:24:08 2003

Name: kr23450032.*, Date: 01-May-2003, Time: 15:44:12, Job: , Description: 470707,spike,D,1,2

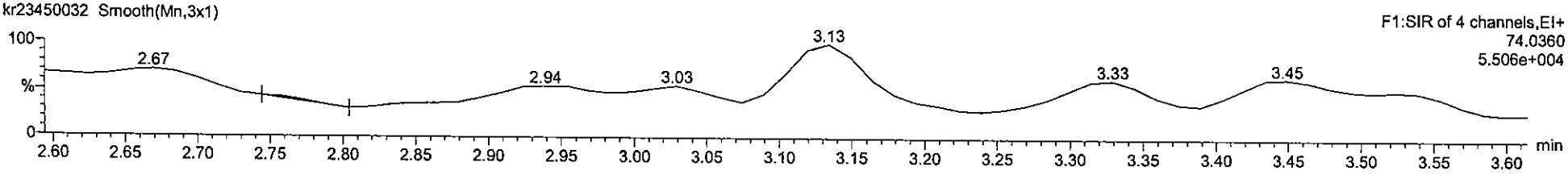
D8 naphthalene

kr23450032 Smooth(Mn,3x1)



propyl ester

kr23450032 Smooth(Mn,3x1)



NDMA

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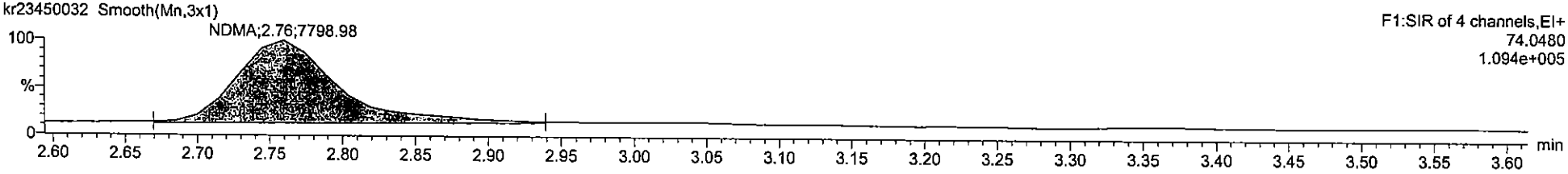
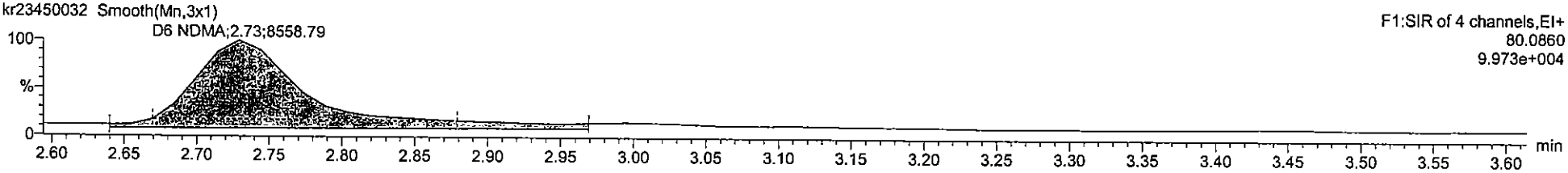


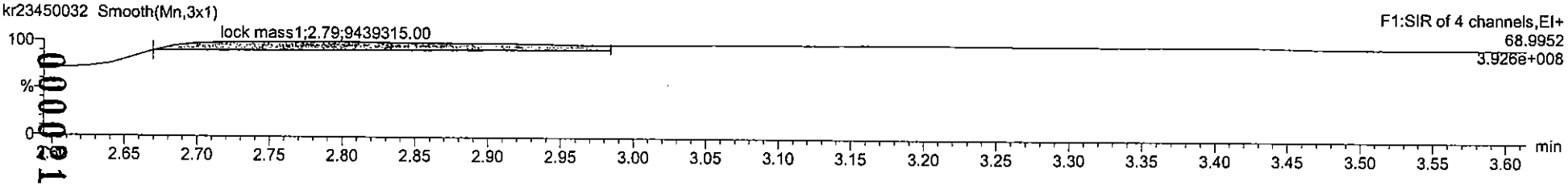
D6 NDMA

kr23450032 Smooth(Mn,3x1)



lock mass1

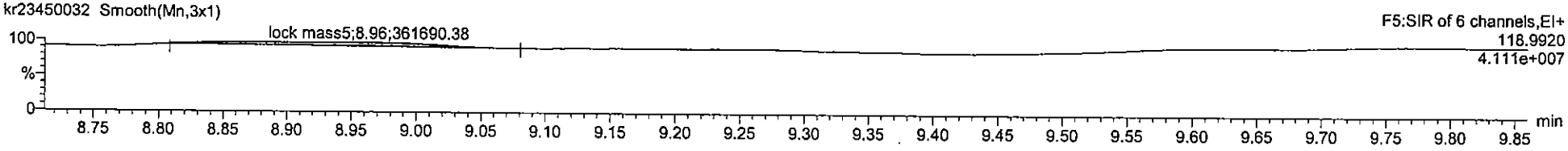
kr23450032 Smooth(Mn,3x1)



Dataset: C:\MASSLYNX\Default.pro\QuanlynxFiles\QC\Blks_Spks\20030428\spk_20030428_Rinj.qld, Time: Fri May 02 09:24:08 2003

lock mass5

kr23450032 Smooth(Mn,3x1)



#	Compound Name	Trace	Abs Resp	RT	Conc/L	%Rec	Mod Date	Divisor	RRF Mean
1	NDMA	74.0480	7799	2.76	5.34	106.75	02-May-03	1000	1.673
2	D6 NDMA	80.0860	8559	2.73	988.83	10.09	02-May-03	1	0.139
3	D8 naphthalene	136.1128	1560339	9.04	25000.00	100.00	02-May-03	1	1.000
4	propyl ester	74.0360	31	2.74	0.01	0.63	02-May-03	1	4996.306

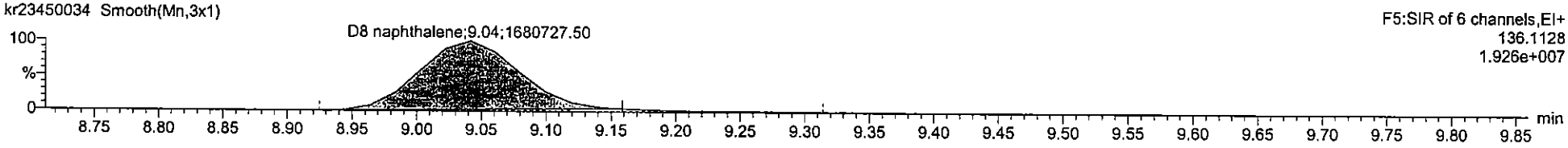
220000

GLASS BLANK

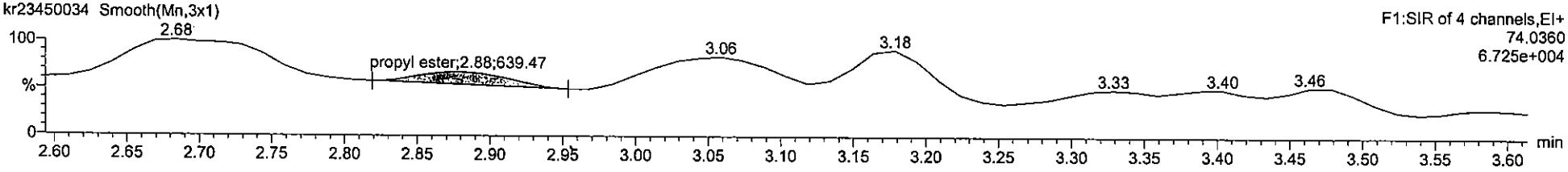
Dataset: C:\MASSLYNX\Default.pro\QuanlynxFiles\QC\Blks_Spks\20030428\blks_20030428_Rinj.qld, Time: Fri May 02 09:43:05 2003

Name: kr23450034.*, Date: 01-May-2003, Time: 16:21:47, Job: , Description: glass blank (20030428)

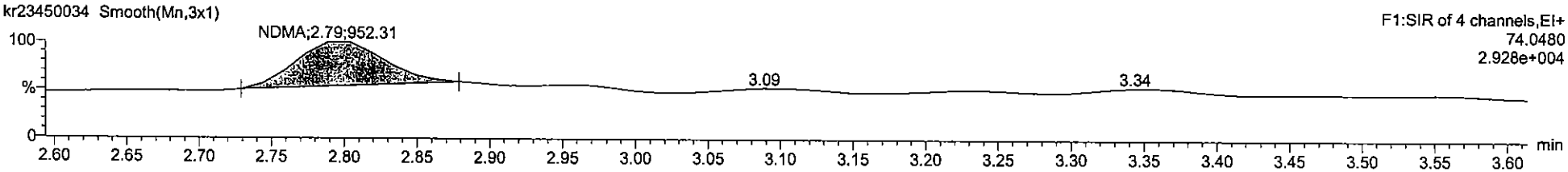
D8 naphthalene



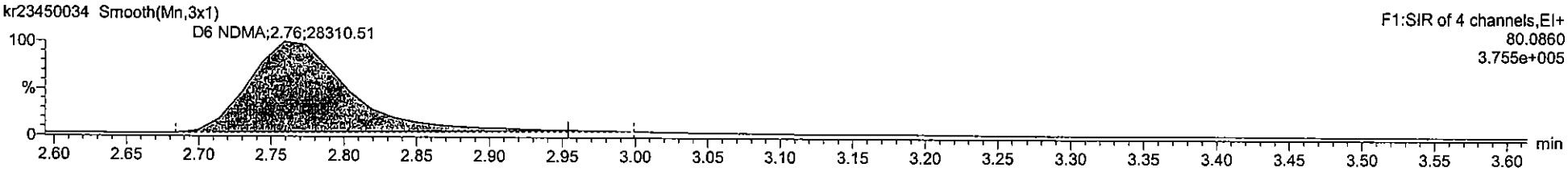
propyl ester



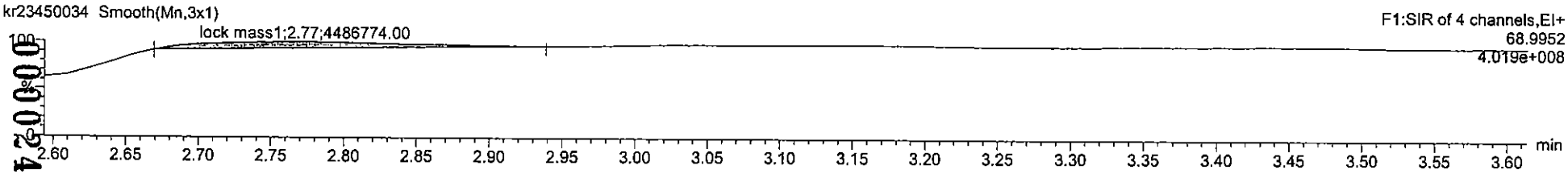
NDMA



D6 NDMA



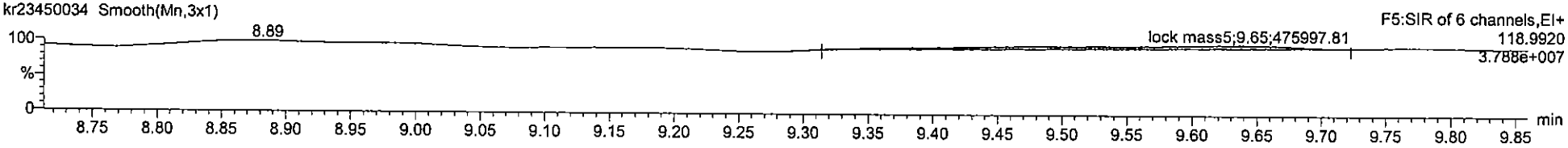
lock mass1



Dataset: C:\MASSLYNX\Default.pro\QuanlynxFiles\QC\Blks_Spks\20030428\blks_20030428_Rinj.qld, Time: Fri May 02 09:43:05 2003

lock mass5

kr23450034 Smooth(Mn,3x1)



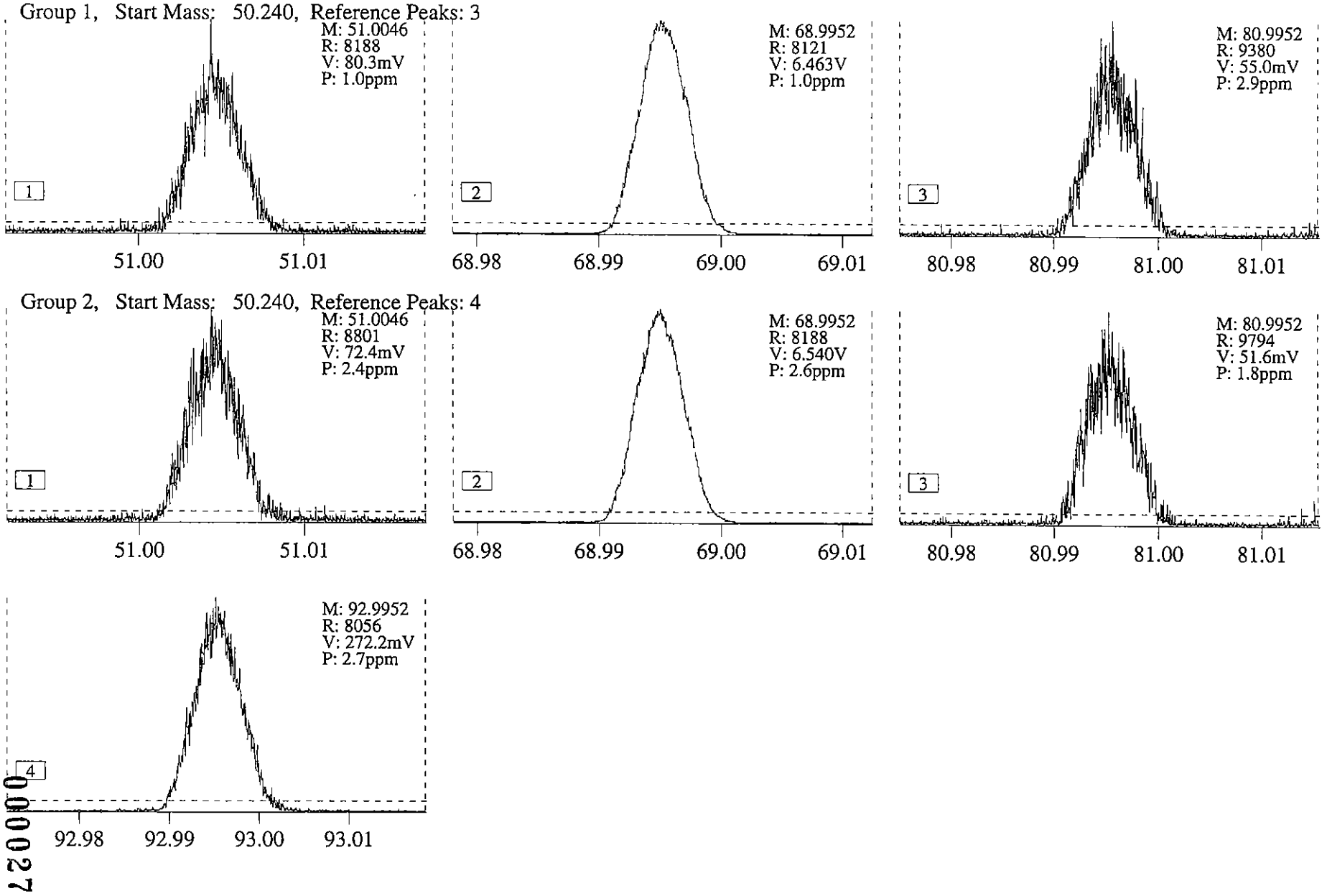
#	Compound Name	Trace	Abs Resp	RT	ng/L	%Rec	Mod Date	Divisor	RRF Mean
1	NDMA	74.0480	952	2.79	~~0.20~~ ND		02-May-03	1000	1.673
2	D6 NDMA	80.0860	28311	2.76	3036.54	30.99	02-May-03	1	0.139
3	D8 naphthalene	136.1128	1680728	9.04	25000.00	100.00	02-May-03	1	1.000
4	propyl ester	74.0360	639	2.88	0.13	12.80	02-May-03	1	4996.306

EDL = 0.37 ng/L

SD

MASS RESOLUTION CALIBRATION

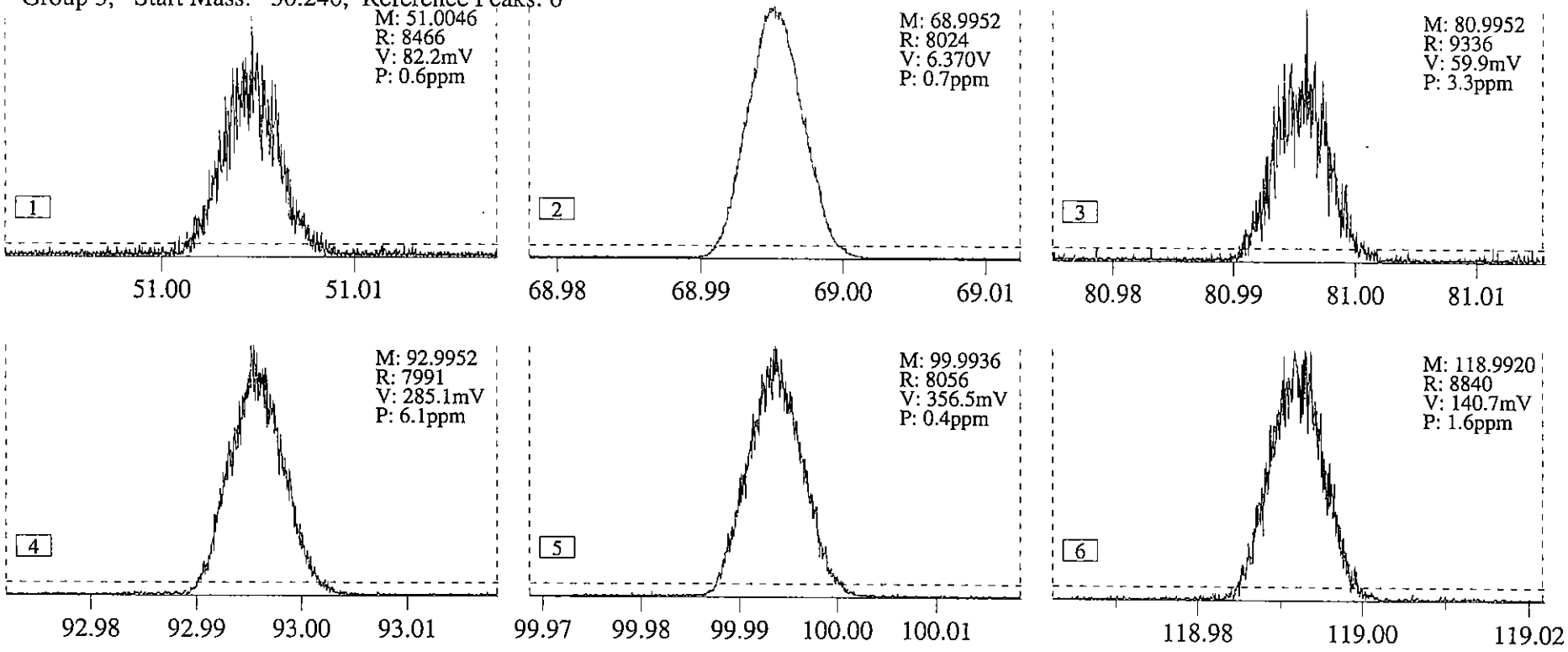
S.I.M. Calibration 30-Apr-2003 17:54, Run: kr23440031, Expt: nitros200 Normalised Plot Sweep: 500 ppm, Threshold: 0.00mV, Tolerance: 500 ppm



000027

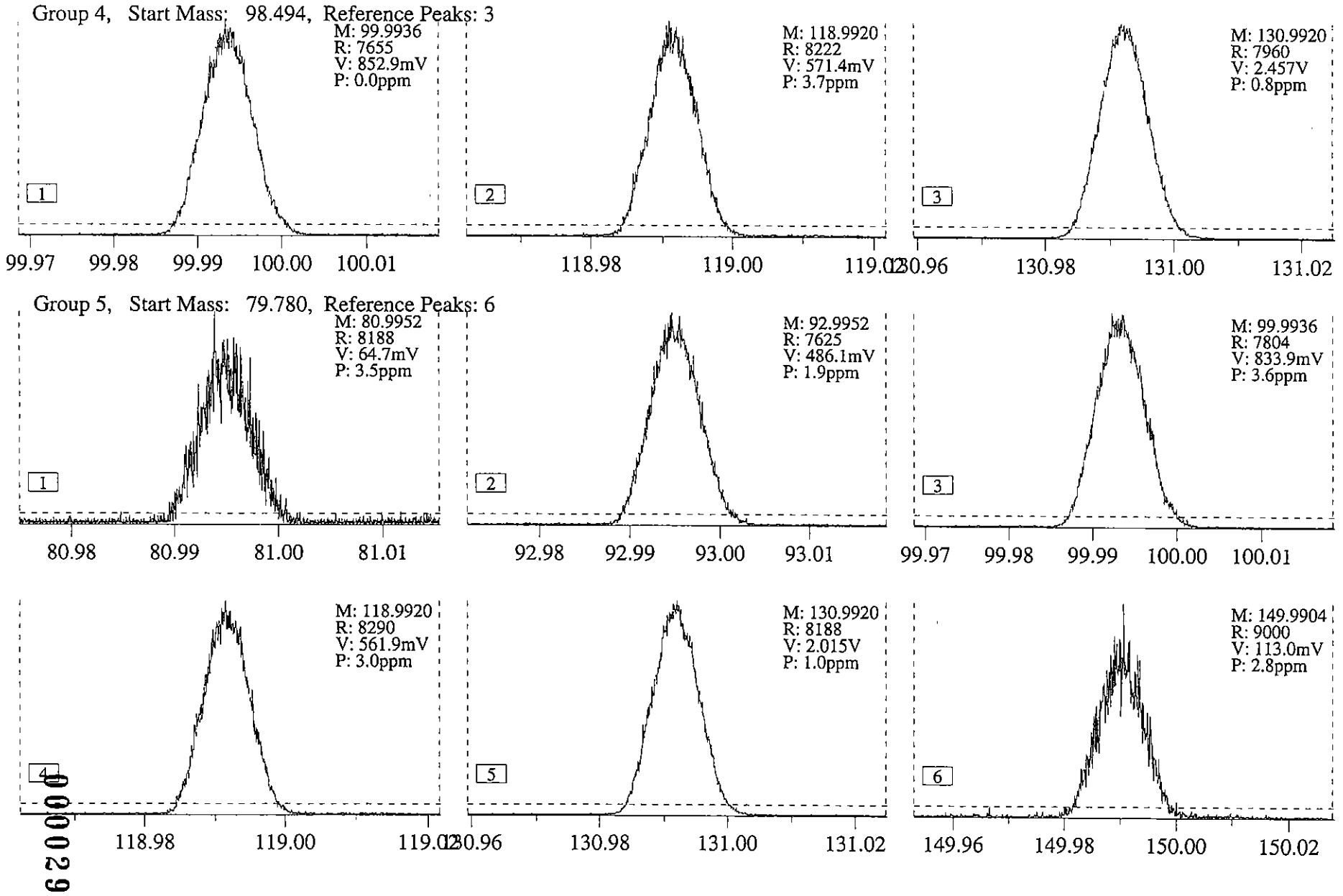
S.I.M. Calibration 30-Apr-2003 17:54, Run: kr23440031, Expt: nitros200 Normalised Plot Sweep: 500 ppm, Threshold: 0.00mV, Tolerance: 500 ppm

Group 3, Start Mass: 50.240, Reference Peaks: 6



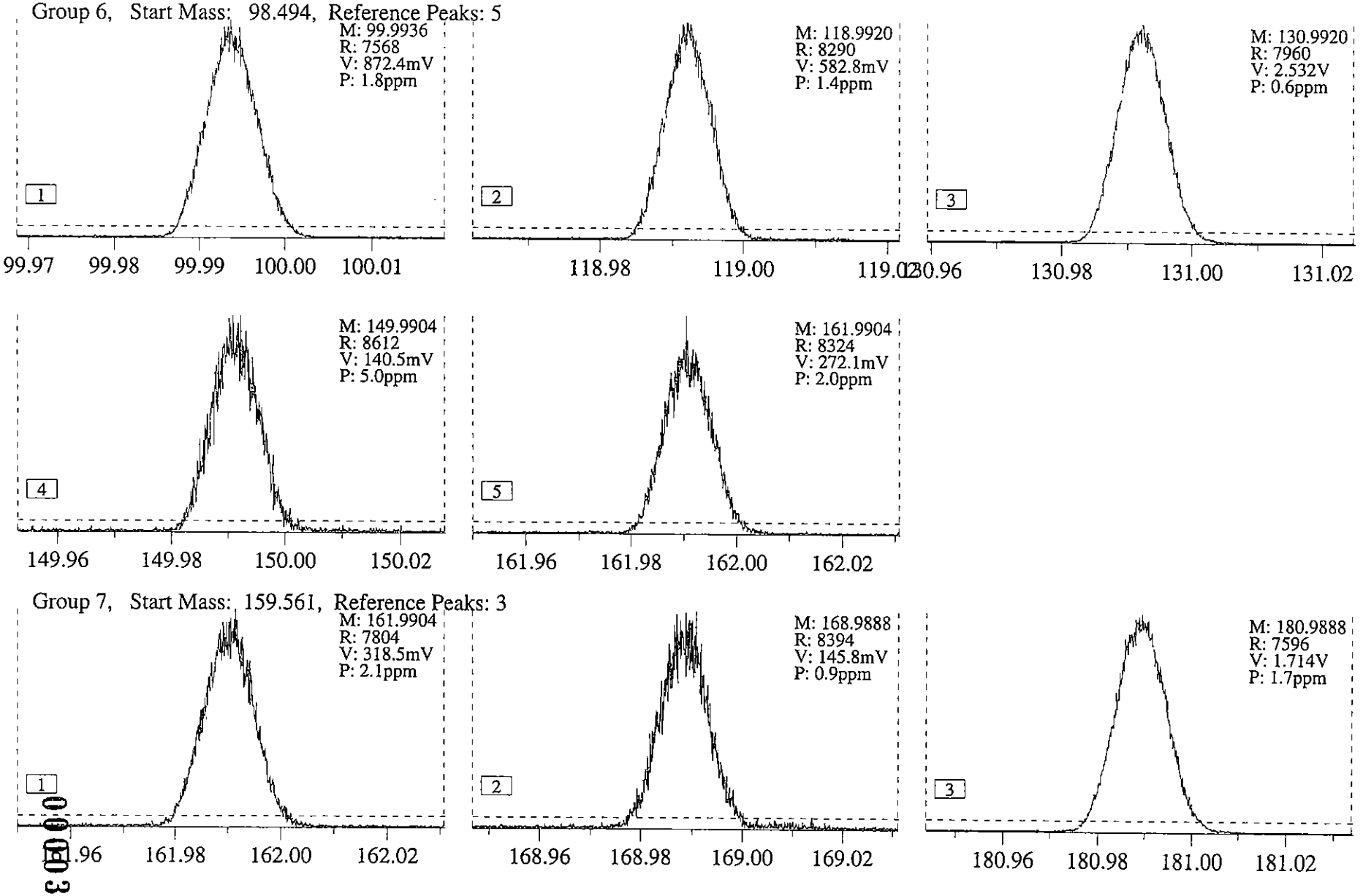
820000

S.I.M. Calibration 30-Apr-2003 17:54, Run: kr23440031, Expt: nitros200 Normalised Plot Sweep: 500 ppm, Threshold: 0.00mV, Tolerance: 500 ppm



S.I.M. Calibration 30-Apr-2003 17:54, Run: kr23440031, Expt: nitros200 Normalised Plot Sweep: 500 ppm, Threshold: 0.00mV, Tolerance: 500 ppm

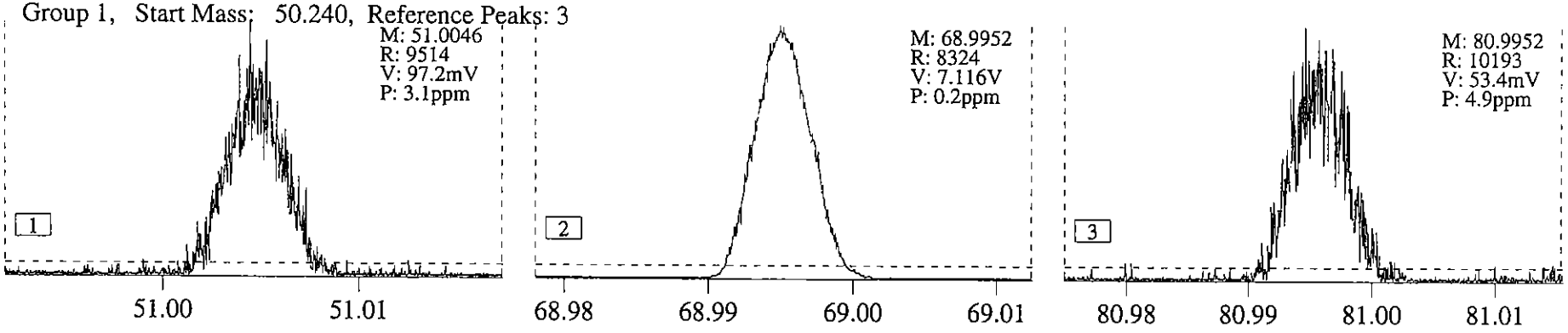
Group 6, Start Mass: 98.494, Reference Peaks: 5



Group 7, Start Mass: 159.561, Reference Peaks: 3

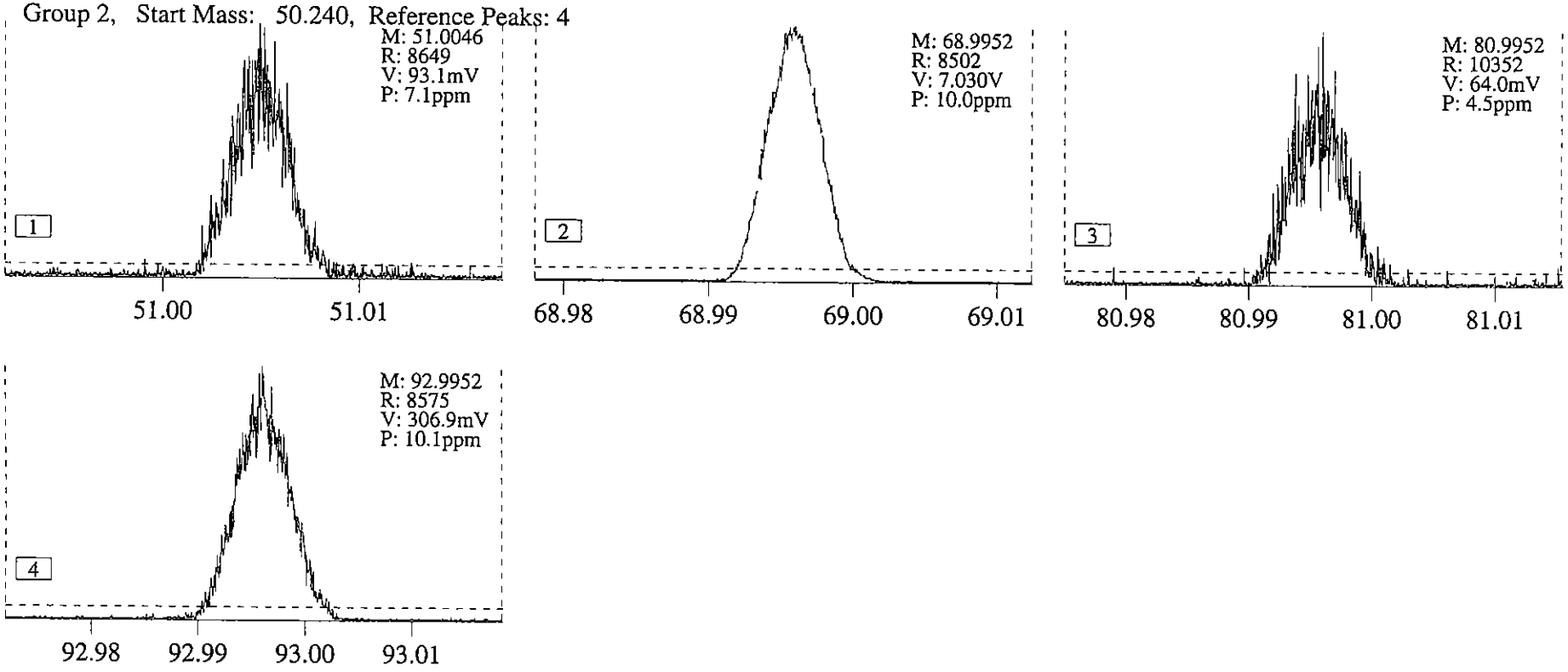
0030

S.I.M. Calibration 01-May-2003 10:17, Run: kr23450012, Expt: nitros200 Normalised Plot Sweep: 500 ppm, Threshold: 0.00mV, Tolerance: 500 ppm

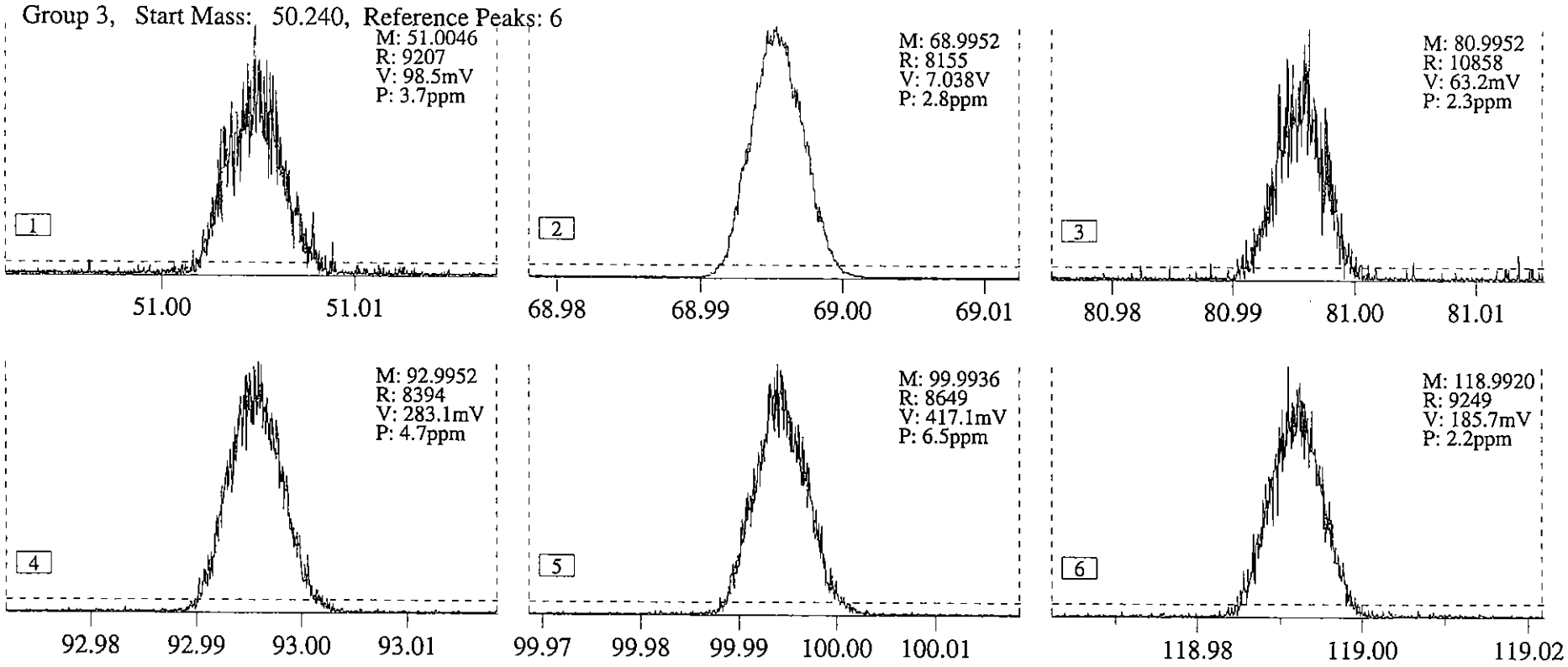


S.I.M. Calibration 01-May-2003 10:17, Run: kr23450012, Expt: nitros200 Normalised Plot Sweep: 500 ppm, Threshold: 0.00mV, Tolerance: 500 ppm

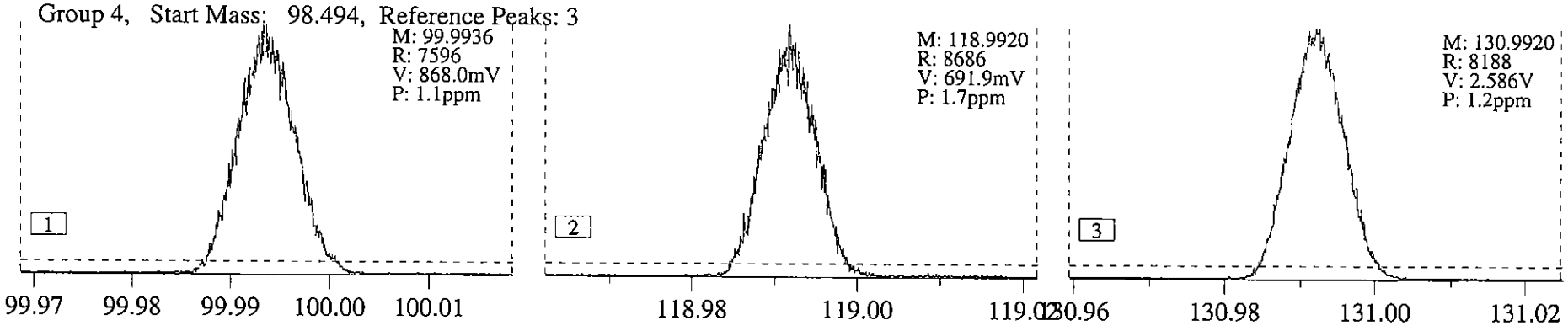
Group 2, Start Mass: 50.240, Reference Peaks: 4



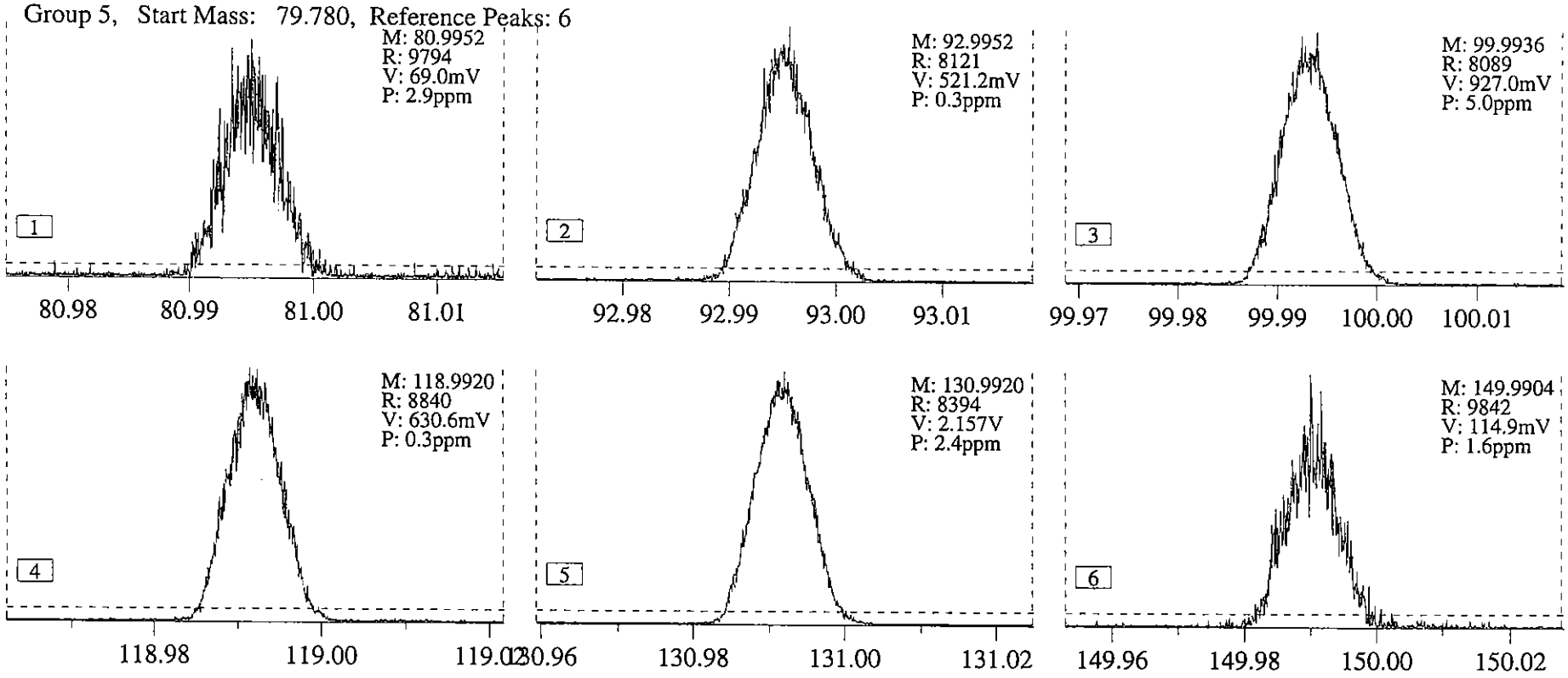
S.I.M. Calibration 01-May-2003 10:17, Run: kr23450012, Expt: nitros200 Normalised Plot Sweep: 500 ppm, Threshold: 0.00mV, Tolerance: 500 ppm



S.I.M. Calibration 01-May-2003 10:17, Run: kr23450012, Expt: nitros200 Normalised Plot Sweep: 500 ppm, Threshold: 0.00mV, Tolerance: 500 ppm

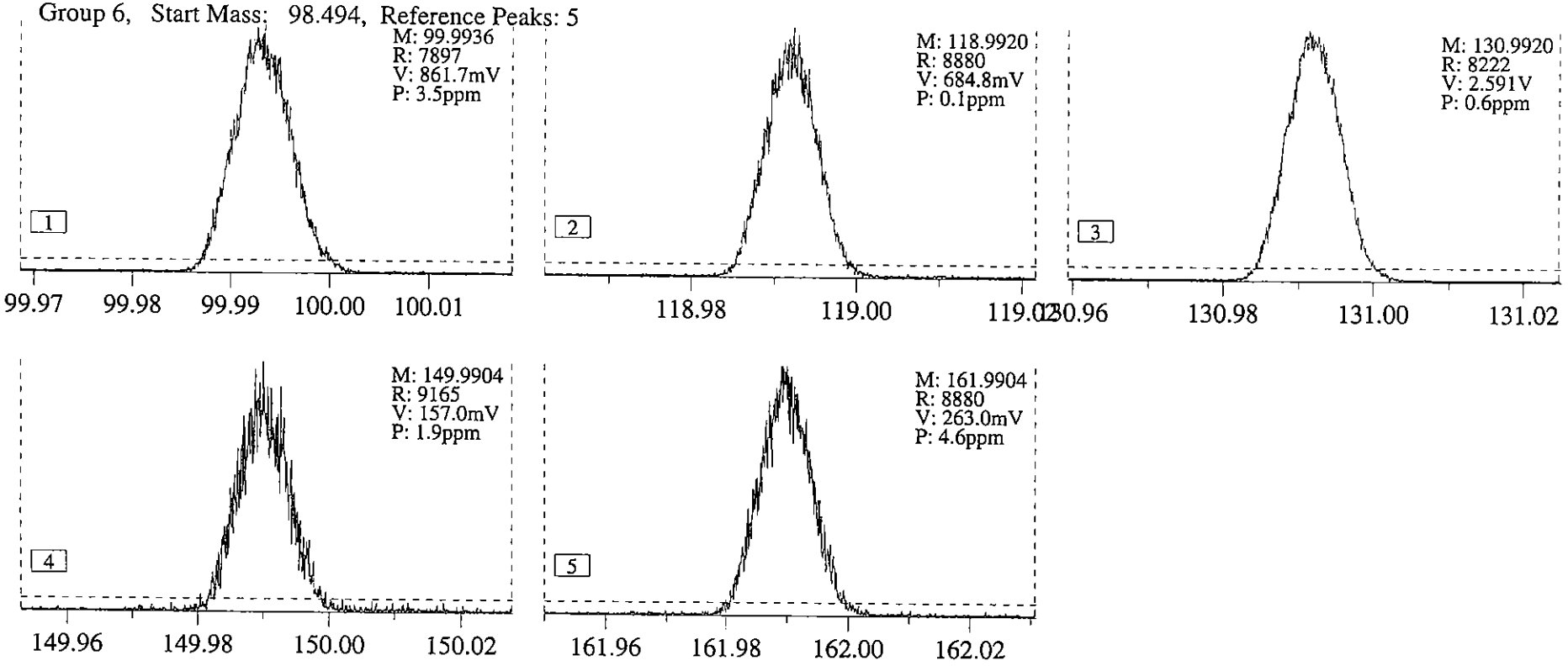


S.I.M. Calibration 01-May-2003 10:17, Run: kr23450012, Expt: nitros200 Normalised Plot Sweep: 500 ppm, Threshold: 0.00mV, Tolerance: 500 ppm

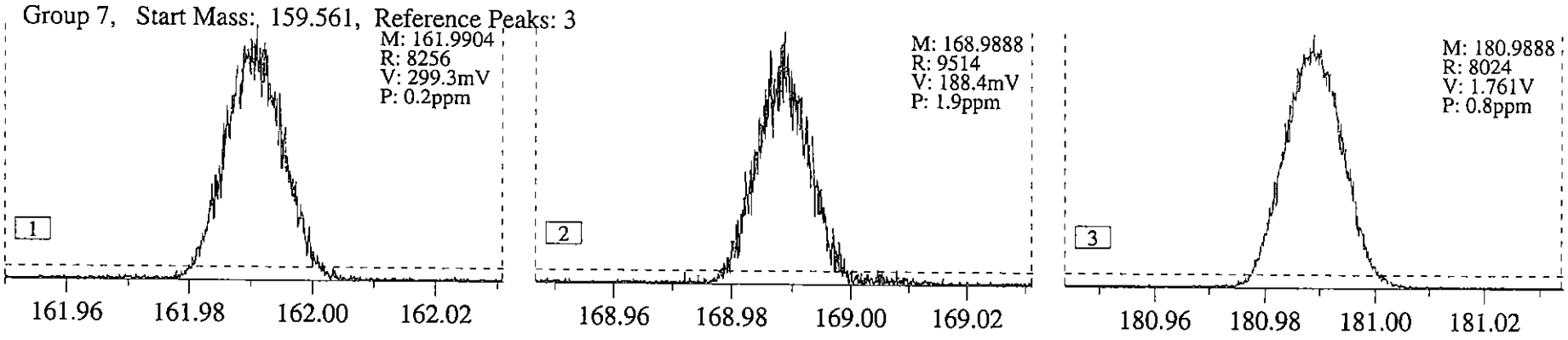


S.I.M. Calibration 01-May-2003 10:17, Run: kr23450012, Expt: nitros200 Normalised Plot Sweep: 500 ppm, Threshold: 0.00mV, Tolerance: 500 ppm

Group 6, Start Mass: 98.494, Reference Peaks: 5



S.I.M. Calibration 01-May-2003 10:17, Run: kr23450012, Expt: nitros200 Normalised Plot Sweep: 500 ppm, Threshold: 0.00mV, Tolerance: 500 ppm



INITIAL CALIBRATION

INITIAL CALIBRATION

Lab Name: Maxxam Analytics Inc.

Instrument: Kratos HRGC/HRMS Calibration Date: 2003/04/30

LAB FILE ID.	KR23440033	CS1
	KR23440034	CS2
	KR23440035	CS3
	KR23440036	CS4
	KR23440037	CS5
	KR23440038	CS6

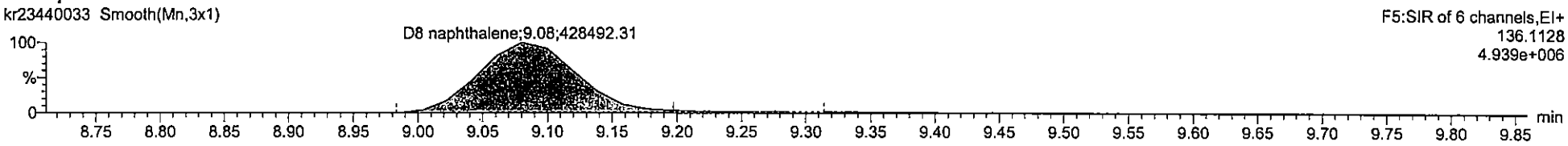
Compound	RRF CS1 (5.00ng/mL)	RRF CS2 (50.0ng/mL)	RRF CS3 (80.00ng/mL)	RRF CS4 (200.0ng/mL)	RRF CS5 (1000ng/mL)	RRF CS6 (2000ng/mL)	AVERAGE RRF	%RSD	Max %RSD
NDMA	1.57	1.73	1.69	1.66	1.62	1.77	1.67	4	25
D6 NDMA	0.138	0.127	0.138	0.135	0.147	0.146	0.139	5	25

Dataset: C:\MASSLYNX\Default.pro\QuanlynxFiles\QC\Calibration\20030430\ndmacali2_20030430.qld, Time: Thu May 01 09:25:34 2003

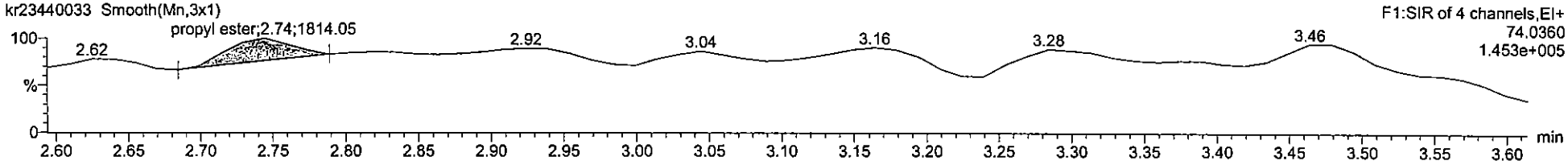
Method: C:\MASSLYNX\Default.pro\METHDB\nitros_ET.mdb, Time: Tue Mar 11 10:16:54 2003
Calibration: Untitled, Time: Thu May 01 09:25:34 2003

Name: kr23440033.*, Date: 30-Apr-2003, Time: 18:40:02, Job: , Description: 5.0 ng/ml 70-202NDMW-1238

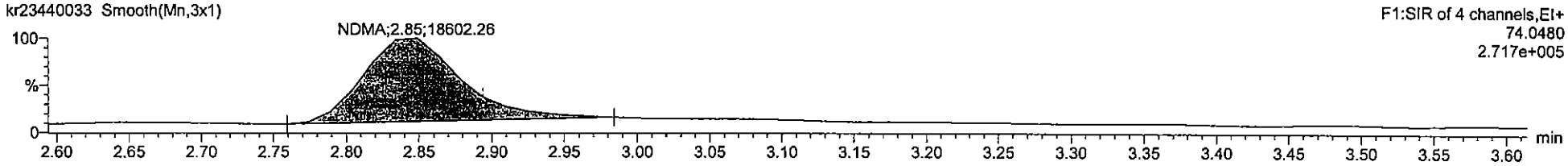
D8 naphthalene



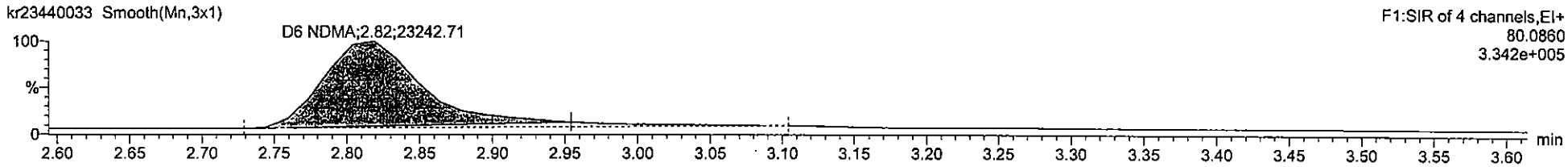
propyl ester



NDMA



D6 NDMA

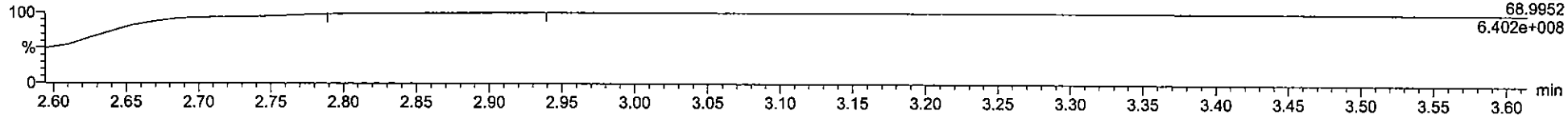


Dataset: C:\MASSLYNX\Default.pro\QuanlynxFiles\QC\Calibration\20030430\ndmacali2_20030430.qld, Time: Thu May 01 09:25:34 2003

lock mass1

kr23440033 Smooth(Mn,3x1)

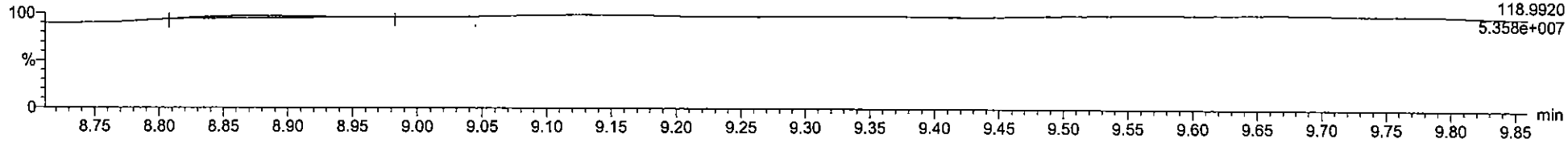
F1:SIR of 4 channels,EI+
68.9952
6.402e+008



lock mass5

kr23440033 Smooth(Mn,3x1)

F5:SIR of 6 channels,EI+
118.9920
5.358e+007



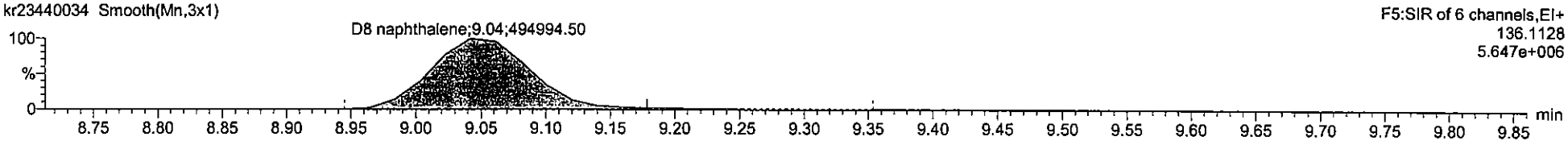
#	Compound Name	Trace	Abs Resp	RT	Ind Lvl	%Rec	%Dev	Mod Date	RRF
1	NDMA	74.0480	18602	2.85	4688	93.76	-6.24	01-May-03	1.569
2	D6 NDMA	80.0860	23243	2.82	9779	99.78	-0.22	01-May-03	0.138
3	D8 naphthalene	136.1128	428492	9.08	25000	100.00	0.00	01-May-03	1.000
4	propyl ester	74.0360	1814	2.74	0	36.31	-63.69	01-May-03	1814....

Dataset: C:\MASSLYNX\Default.pro\QuanlynxFiles\QC\Calibration\20030430\ndmacali2_20030430.qld, Time: Thu May 01 09:25:34 2003

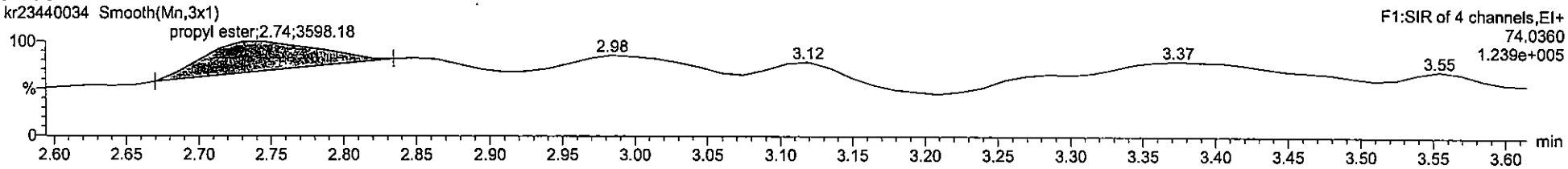
000042

Name: kr23440034.*, Date: 30-Apr-2003, Time: 18:54:08, Job: , Description: 50 ng/ml,70-202NDMW-1239

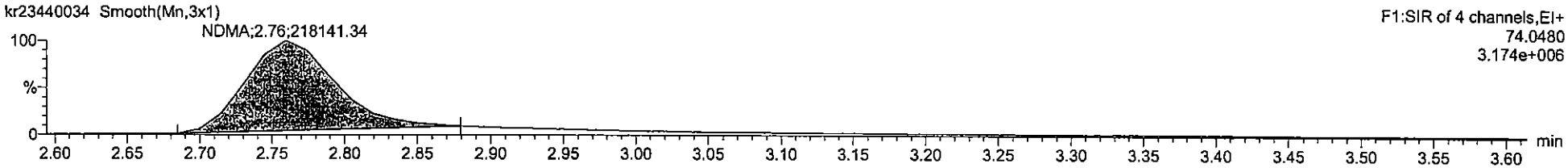
D8 naphthalene



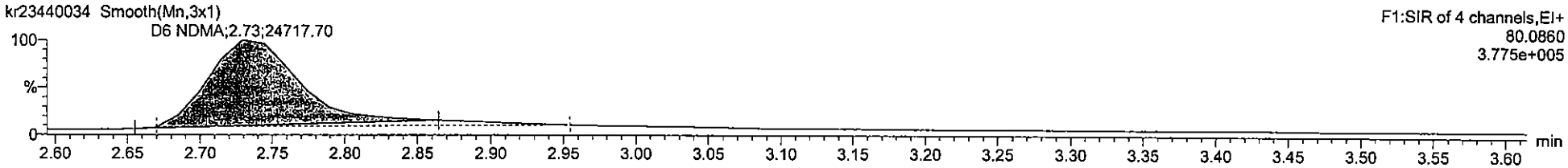
propyl ester



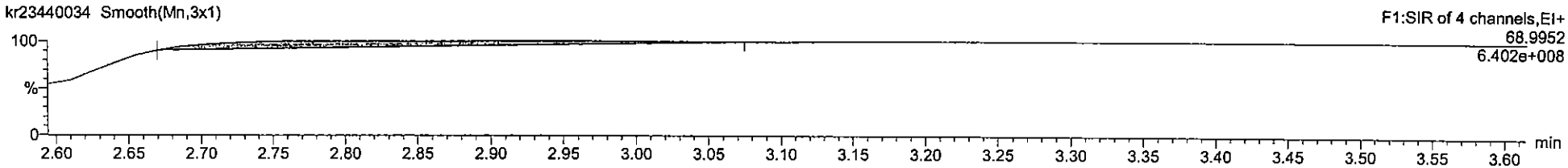
NDMA



D6 NDMA



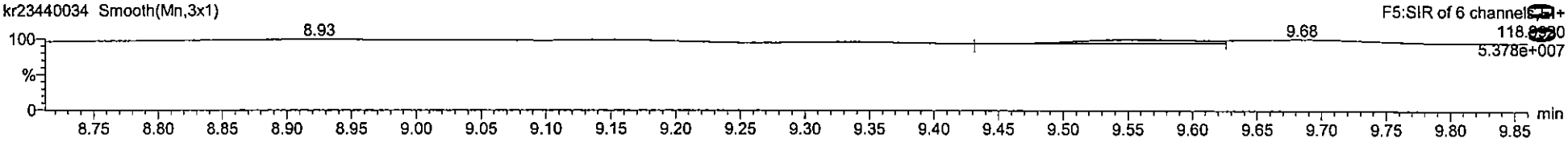
lock mass1



Dataset: C:\MASSLYNX\Default.pro\QuanlynxFiles\QC\Calibration\20030430\ndmacali2_20030430.qld, Time: Thu May 01 09:25:34 2003

lock mass5

kr23440034 Smooth(Mn,3x1)



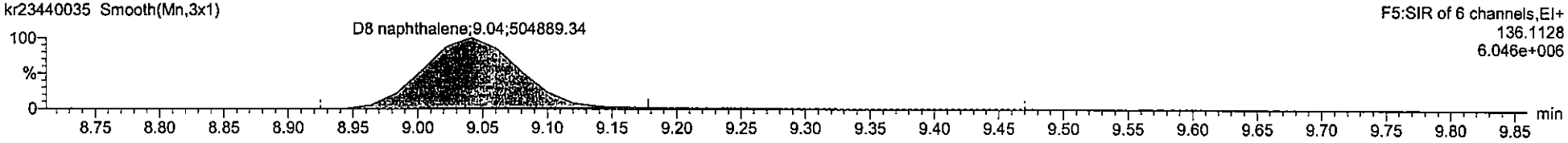
#	Compound Name	Trace	Abs Resp	RT	Std Conc	%Rec	%Dev	Mod Date	RRF
1	NDMA	74.0480	218141	2.76	51692	103.38	3.38	01-May-03	1.730
2	D6 NDMA	80.0860	24718	2.73	9002	91.86	-8.14	01-May-03	0.127
3	D8 naphthalene	136.1128	494995	9.04	25000	100.00	0.00	01-May-03	1.000
4	propyl ester	74.0360	3598	2.74	1	72.02	-27.98		3598....

Dataset: C:\MASSLYNX\Default.pro\QuanlynxFiles\QC\Calibration\20030430\ndmacali2_20030430.qld, Time: Thu May 01 09:25:34 2003

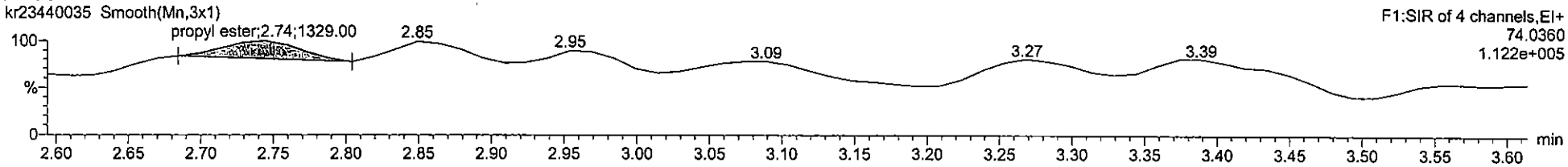
000047

Name: kr23440035.*, Date: 30-Apr-2003, Time: 19:12:56, Job: , Description: 80 ng/ml 70-202NDMW-1240

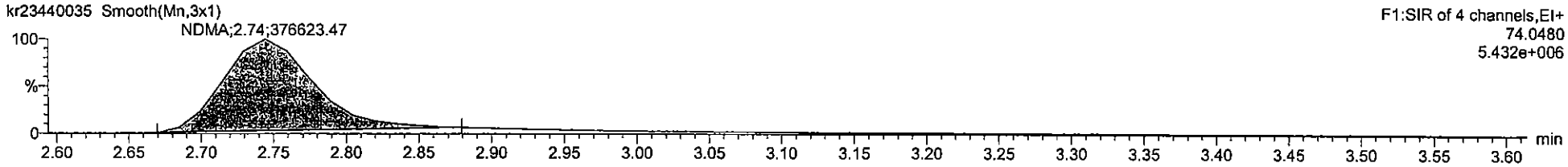
D8 naphthalene



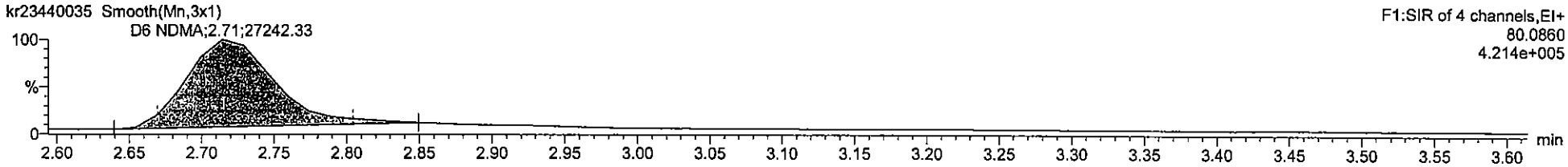
propyl ester



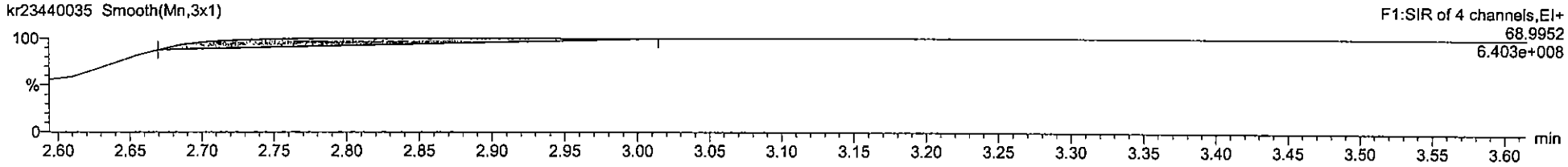
NDMA



D6 NDMA



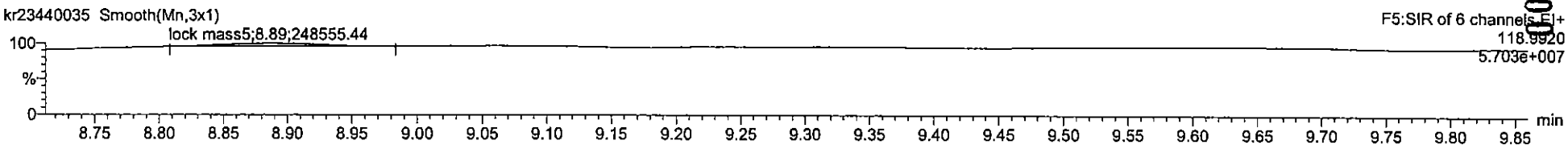
lock mass1



Dataset: C:\MASSLYNX\Default.pro\QuanlynxFiles\QC\Calibration\20030430\ndmacali2_20030430.qld, Time: Thu May 01 09:25:34 2003

0000045

lock mass5



#	Compound Name	Mass Trace	Abs Resp	RT	ng/L	%Rec	%Dev	Mod Date	RRF
1	NDMA	74.0480	376623	2.74	80977	101.22	1.22	01-May-03	1.694
2	D6 NDMA	80.0860	27242	2.71	9727	99.25	-0.75	01-May-03	0.138
3	D8 naphthalene	136.1128	504889	9.04	25000	100.00	0.00	01-May-03	1.000
4	propyl ester	74.0360	1329	2.74	0	26.60	-73.40	01-May-03	1329....

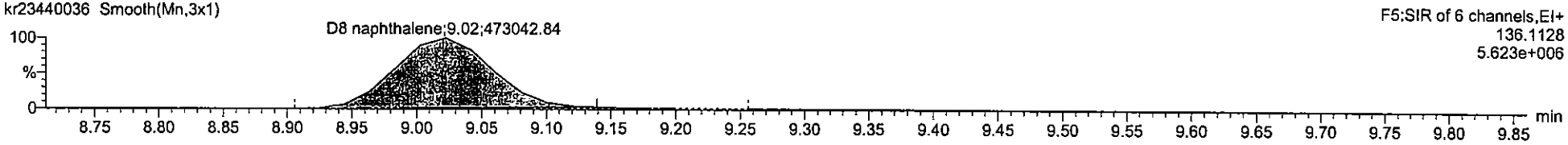
Dataset: C:\MASSLYNX\Default.pro\QuanlynxFiles\QC\Calibration\20030430\ndmacali2_20030430.qld, Time: Thu May 01 09:25:34 2003

000046

Name: kr23440036.*, Date: 30-Apr-2003, Time: 19:31:59, Job: , Description: 200ng/ml70-202NDMW-1241

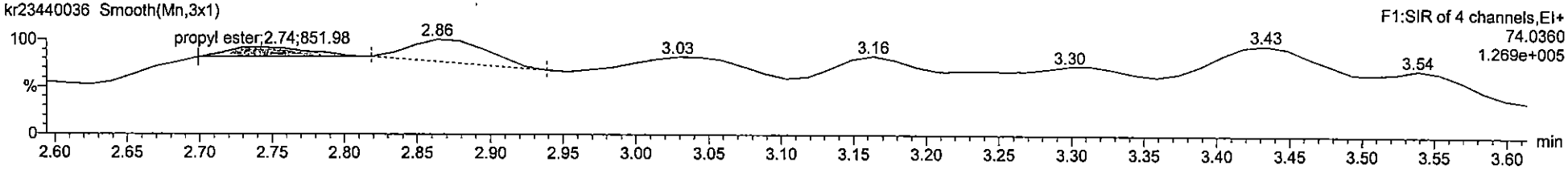
D8 naphthalene

kr23440036 Smooth(Mn,3x1)



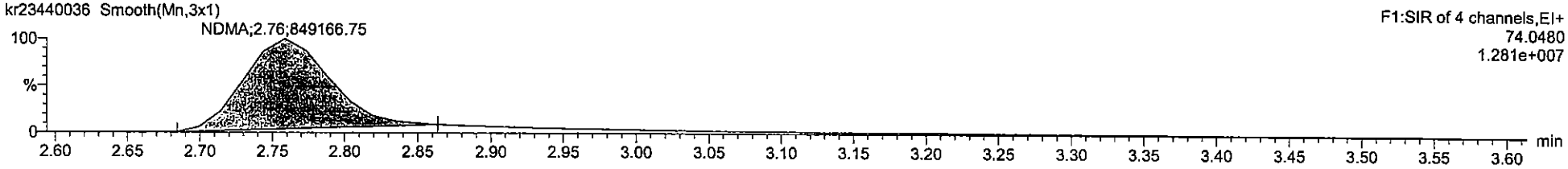
propyl ester

kr23440036 Smooth(Mn,3x1)



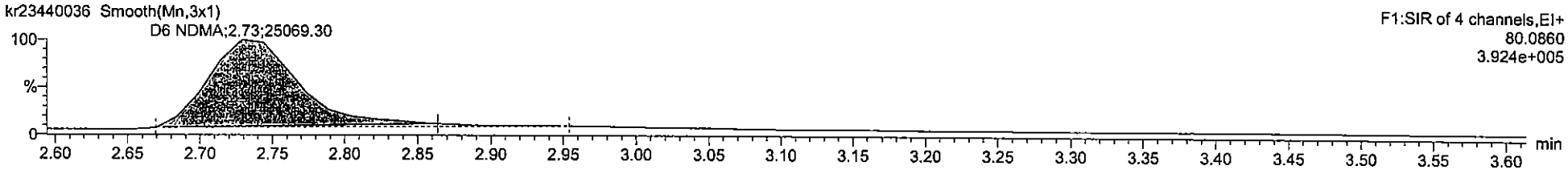
NDMA

kr23440036 Smooth(Mn,3x1)



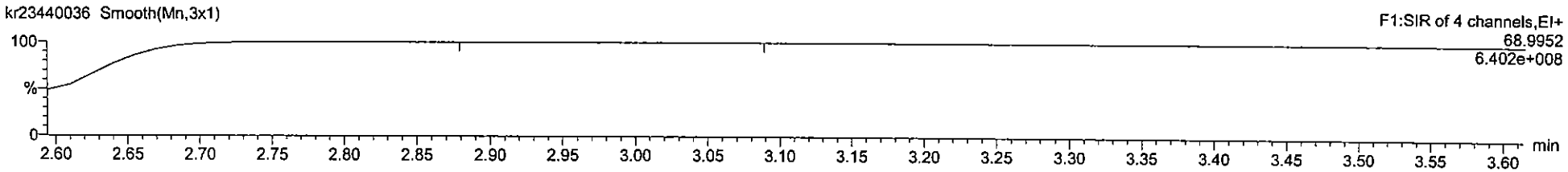
D6 NDMA

kr23440036 Smooth(Mn,3x1)



lock mass1

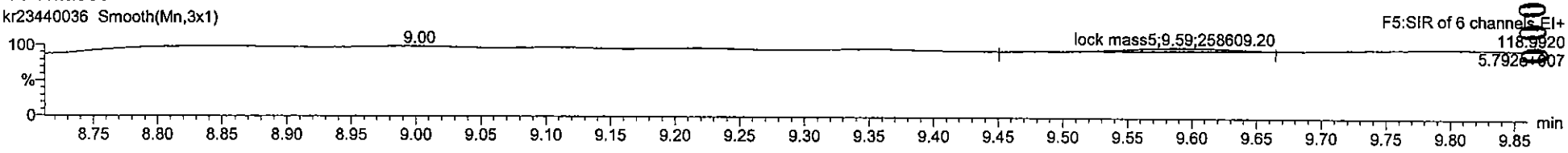
kr23440036 Smooth(Mn,3x1)



Dataset: C:\MASSLYNX\Default.pro\QuanlynxFiles\QC\Calibration\20030430\ndmacali2_20030430.qld, Time: Thu May 01 09:25:34 2003

lock mass5

kr23440036 Smooth(Mn,3x1)



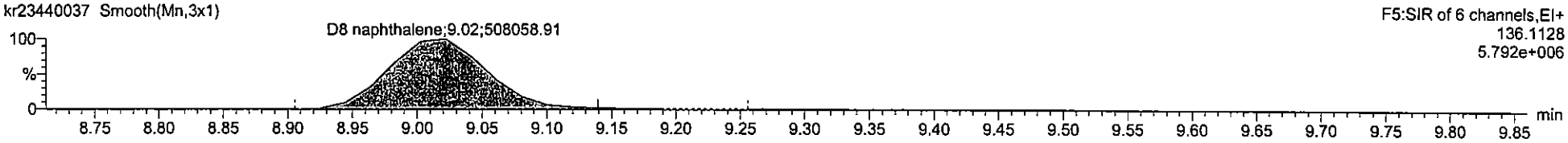
#	Compound Name	Trace (D)	Abs Resp	RT	ng/L	%Rec	%D6V	Mod Date	RRF
1	NDMA	74.0480	849167	2.76	198402	99.20	-0.80	01-May-03	1.660
2	D6 NDMA	80.0860	25069	2.73	9554	97.49	-2.51	01-May-03	0.135
3	D8 naphthalene	136.1128	473043	9.02	25000	100.00	0.00	01-May-03	1.000
4	propyl ester	74.0360	852	2.74	0	17.05	-82.95	01-May-03	851.979

Dataset: C:\MASSLYNX\Default.pro\QuanlynxFiles\QC\Calibration\20030430\ndmacali2_20030430.qld, Time: Thu May 01 09:25:34 2003

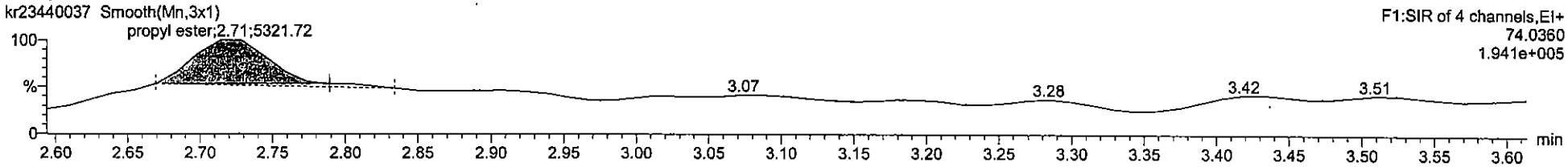
000048

Name: kr23440037.*, Date: 30-Apr-2003, Time: 19:50:55, Job: , Description: 1000ng/ml,70-202NDMW-1242

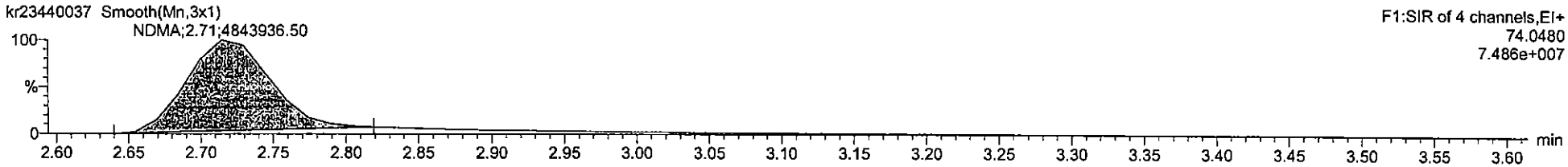
D8 naphthalene



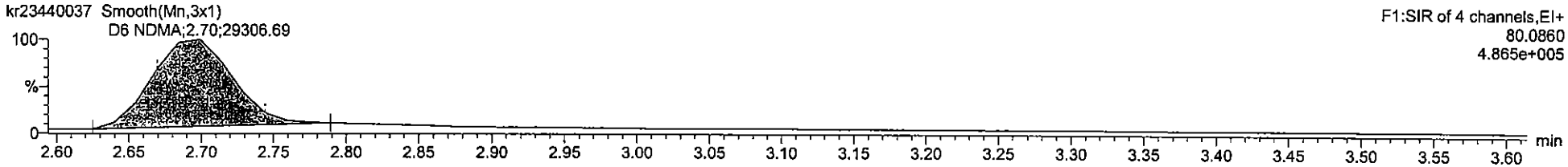
propyl ester



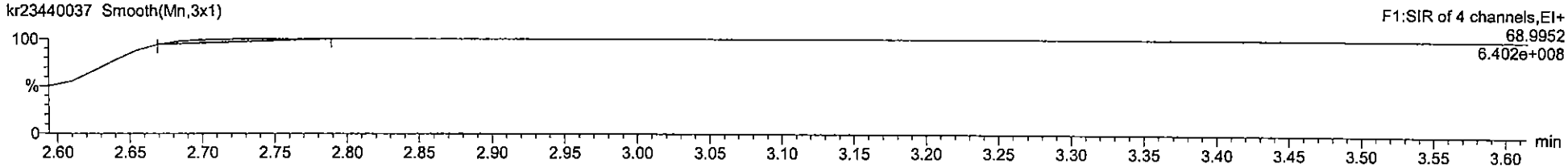
NDMA



D6 NDMA



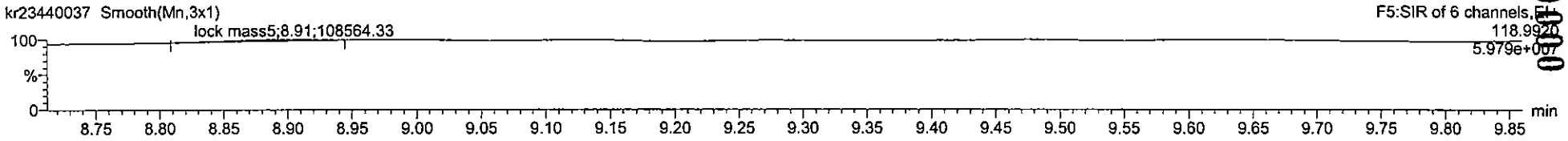
lock mass1



Dataset: C:\MASSLYNX\Default.pro\QuanlynxFiles\QC\Calibration\20030430\ndmacali2_20030430.qld, Time: Thu May 01 09:25:34 2003

0040049

lock mass5

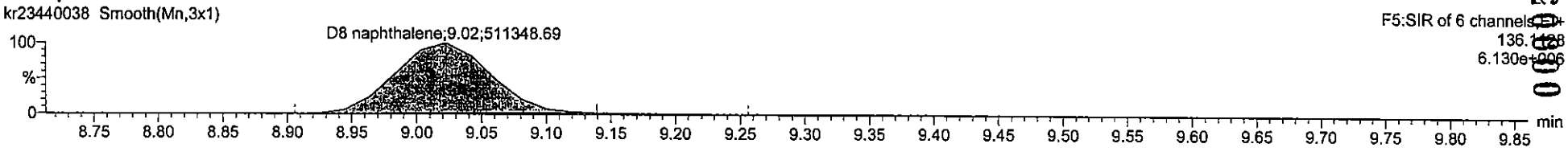


#	Compound Name	Trace	Abs Resp	RT	ng/mL	%Req	%Dev	Mod Date	RRF
1	NDMA	74.0480	4843937	2.71	968117	96.81	-3.19	01-May-03	1.620
2	D6 NDMA	80.0860	29307	2.70	10399	106.11	6.11	01-May-03	0.147
3	D8 naphthalene	136.1128	508059	9.02	25000	100.00	0.00	01-May-03	1.000
4	propyl ester	74.0360	5322	2.71	1	106.51	6.51	01-May-03	5321....

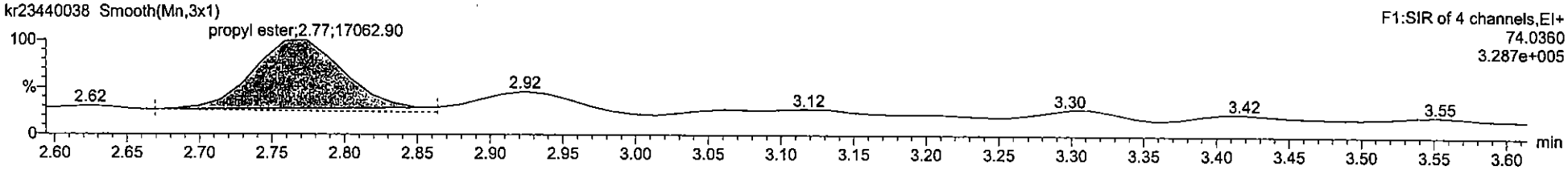
Dataset: C:\MASSLYNX\Default.pro\QuanlynxFiles\QC\Calibration\20030430\ndmacali2_20030430.qld, Time: Thu May 01 09:25:34 2003

Name: kr23440038.*, Date: 30-Apr-2003, Time: 20:09:49, Job: , Description: 2000ng/ml,70-202NDMW-1243

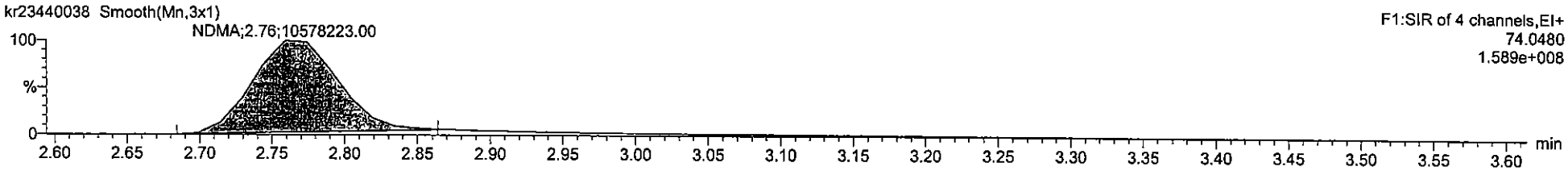
D8 naphthalene



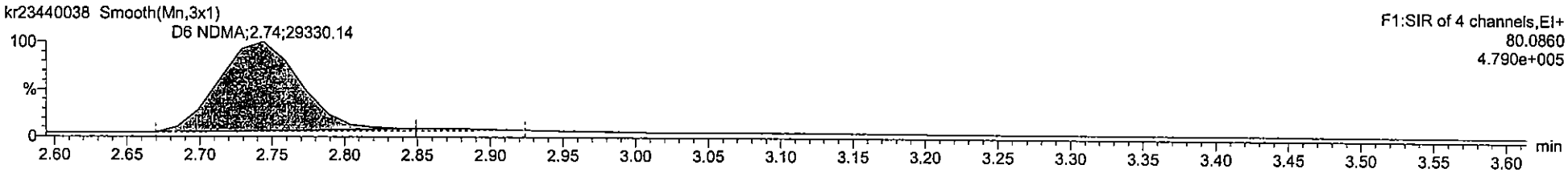
propyl ester



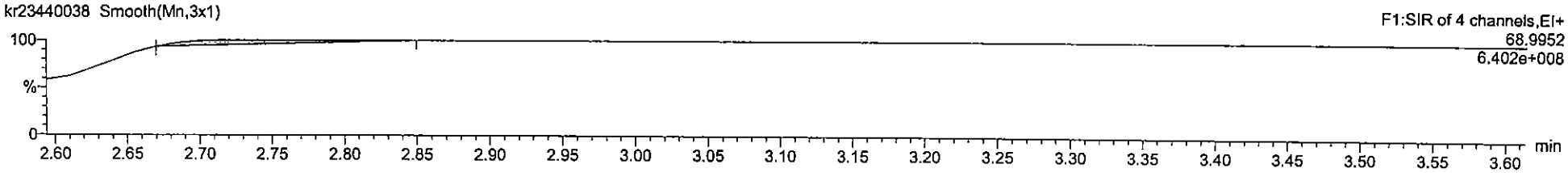
NDMA



D6 NDMA



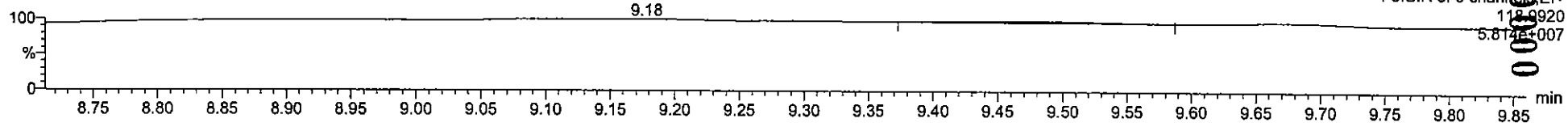
lock mass1



Dataset: C:\MASSLYNX\Default.pro\QuanlynxFiles\QC\Calibration\20030430\ndmacali2_20030430.qld, Time: Thu May 01 09:25:34 2003

lock mass5

kr23440038 Smooth(Mn,3x1)



#	Compound Name	Trace	Abs Resp	RT	Id/Lib	%Rec	%Dev	Mod Date	RRF
1	NDMA	74.0480	10578223	2.76	2112490	105.62	5.62	01-May-03	1.767
2	D6 NDMA	80.0860	29330	2.74	10340	105.51	5.51	01-May-03	0.146
3	D8 naphthalene	136.1128	511349	9.02	25000	100.00	0.00	01-May-03	1.000
4	propyl ester	74.0360	17063	2.77	3	341.51	241.51	01-May-03	17062...

SECOND SOURCE CALIBRATION CHECK

SECOND SOURCE CALIBRATION CHECK

Lab Name: Maxxam Analytics Inc.

Instrument: Kratos HRGC/HRMS Calibration Date: 2003/05/01

LAB FILE ID. KR23450014

Compound	REPORTED CONC. (ug/L)	ACTUAL CONC. (ug/L)	%D	% D LIMIT
NDMA	7.99	10.87	20	25

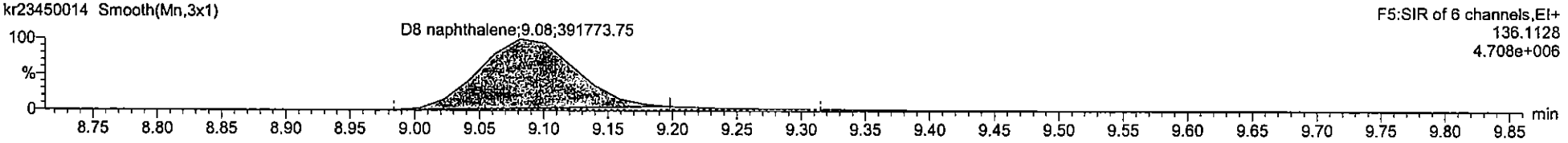
Compound	%RECOVERY
D6-NDMA	103

Dataset: C:\MASSLYNX\Default.pro\QuanlynxFiles\QC\Calibration\20030501\2ndsource_20030501.qld, Time: Thu May 01 11:22:25 2003

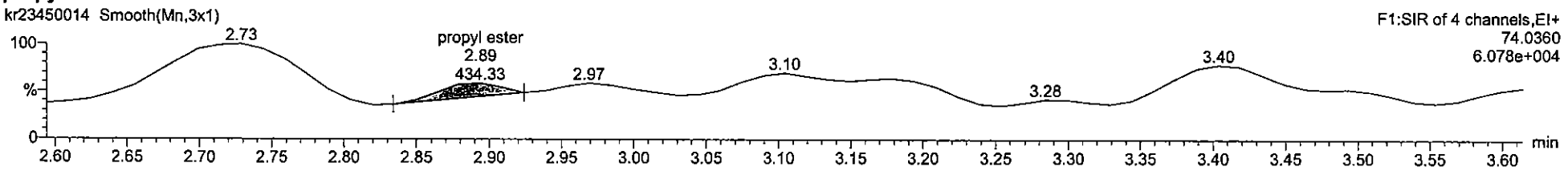
Method: C:\MASSLYNX\Default.pro\METHDB\nitros_ET.mdb, Time: Tue Mar 11 10:16:54 2003
Calibration: C:\MASSLYNX\Default.pro\CURVEDB\ndmacali2_20030430.cdb, Time: Thu May 01 09:25:34 2003

Name: kr23450014.*, Date: 01-May-2003, Time: 10:43:53, Job: , Description: 10.0ng/ml 70-202NDMW-1244

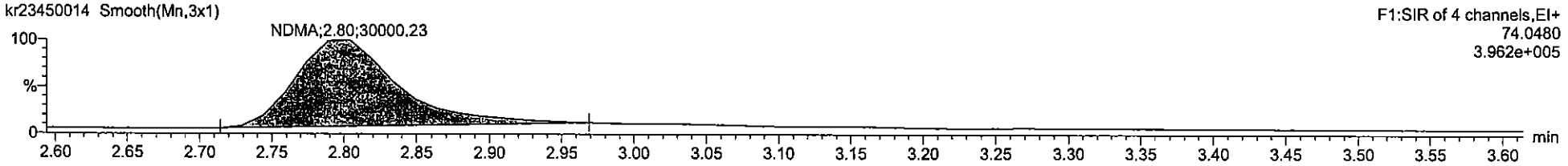
D8 naphthalene



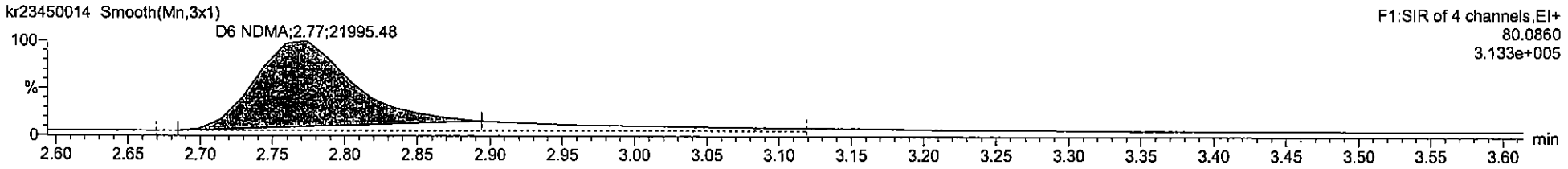
propyl ester



NDMA



D6 NDMA

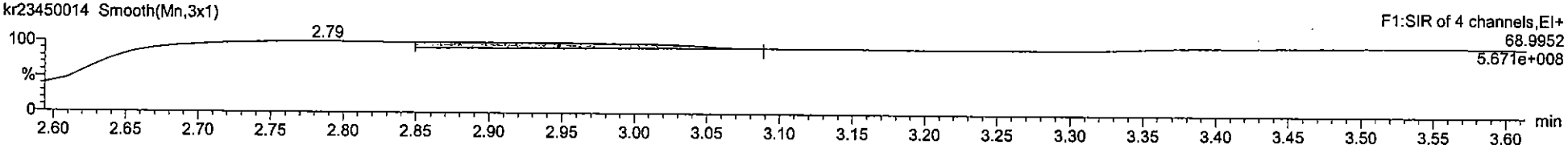


000034

Dataset: C:\MASSLYNX\Default.pro\QuanlynxFiles\QC\Calibration\20030501\2ndsource_20030501.qld, Time: Thu May 01 11:22:25 2003

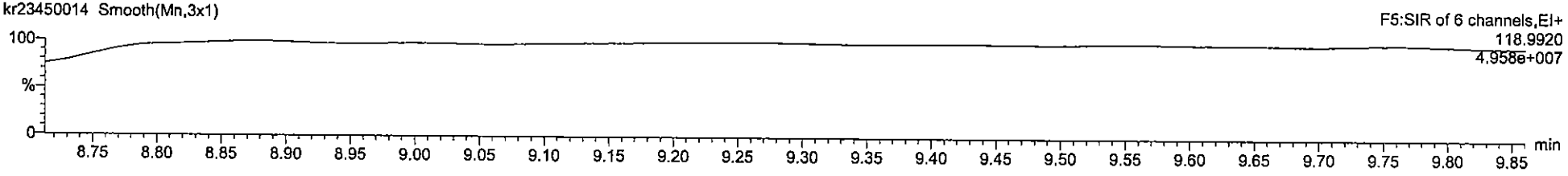
lock mass1

kr23450014 Smooth(Mn,3x1)



lock mass5

kr23450014 Smooth(Mn,3x1)



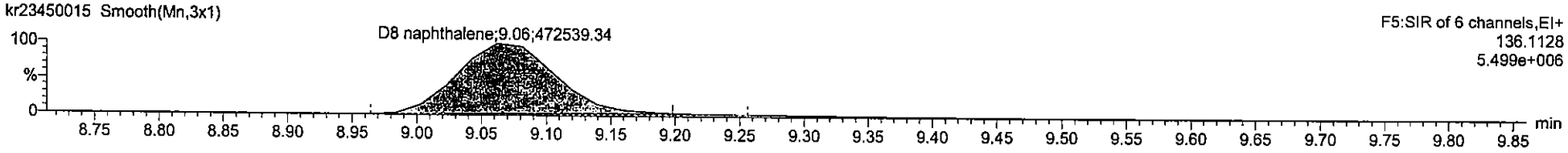
#	Compound Name	Trace	Abs Resp	RT	ng/L	%Rec	%Dev	Mod Date	RRF
1	NDMA	74.0480	30000	2.80	7989	79.89	-20.11	01-May-03	1.337
2	D6 NDMA	80.0860	21995	2.77	10121	103.28	3.28	01-May-03	0.143
3	D8 naphthalene	136.1128	391774	9.08	25000	100.00	0.00	01-May-03	1.000
4	propyl ester	74.0360	434	2.89	0	8.69	-91.31	01-May-03	434.330

Dataset: C:\MASSLYNX\Default.pro\QuanlynxFiles\QC\Calibration\20030501\Threshold_20030501.qld, Time: Thu May 01 11:28:12 2003

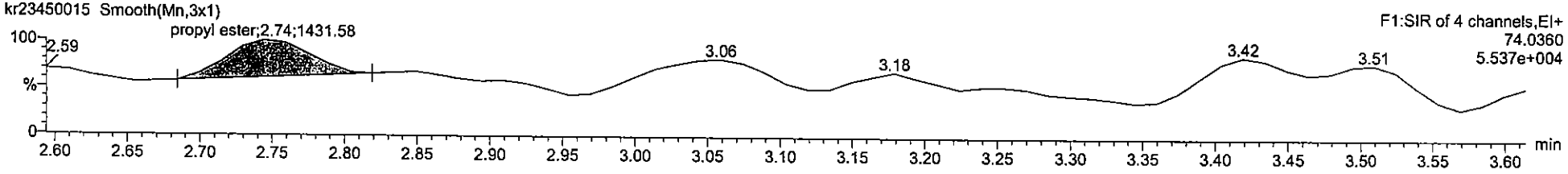
Method: C:\MASSLYNX\Default.pro\METHDB\nitros_ET.mdb, Time: Tue Mar 11 10:16:54 2003
Calibration: C:\MASSLYNX\Default.pro\CURVEDB\ndmacali2_20030430.cdb, Time: Thu May 01 09:25:34 2003

Name: kr23450015.*, Date: 01-May-2003, Time: 11:01:34, Job: , Description: 1.0ng/ml 70-202NDMW-1245

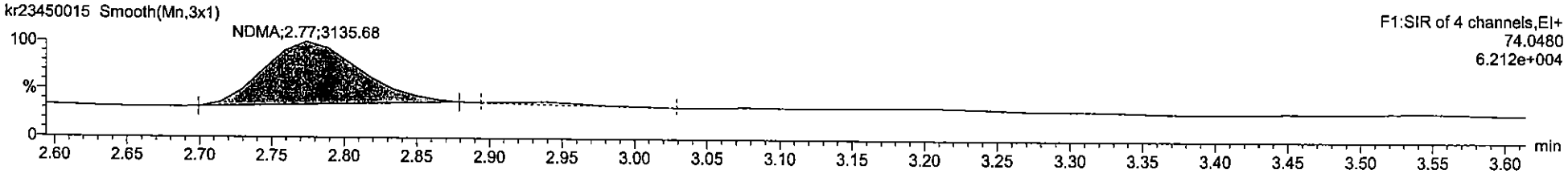
D8 naphthalene



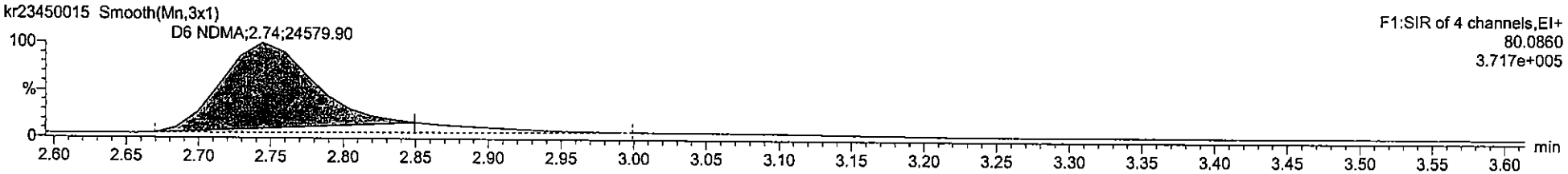
propyl ester



NDMA



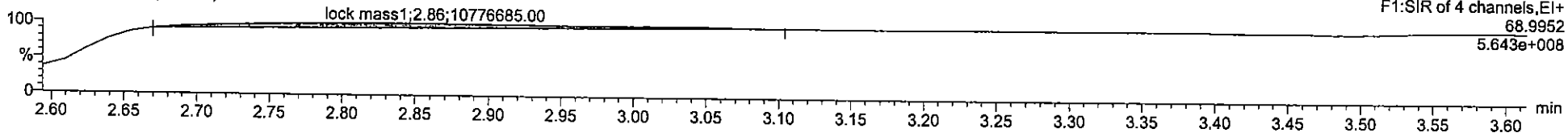
D6 NDMA



Dataset: C:\MASSLYNX\Default.pro\QuanlynxFiles\QC\Calibration\20030501\Threshold_20030501.qld, Time: Thu May 01 11:28:12 2003

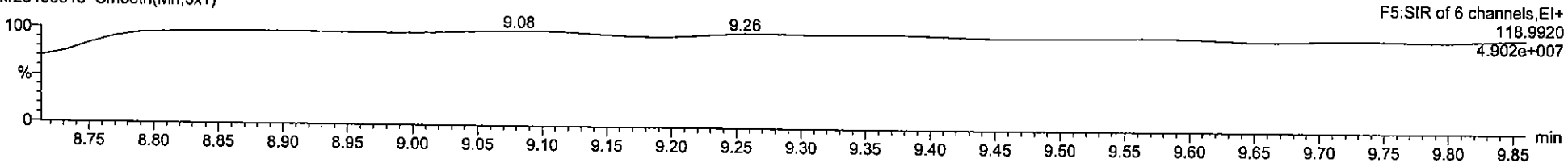
lock mass1

kr23450015 Smooth(Mn,3x1)

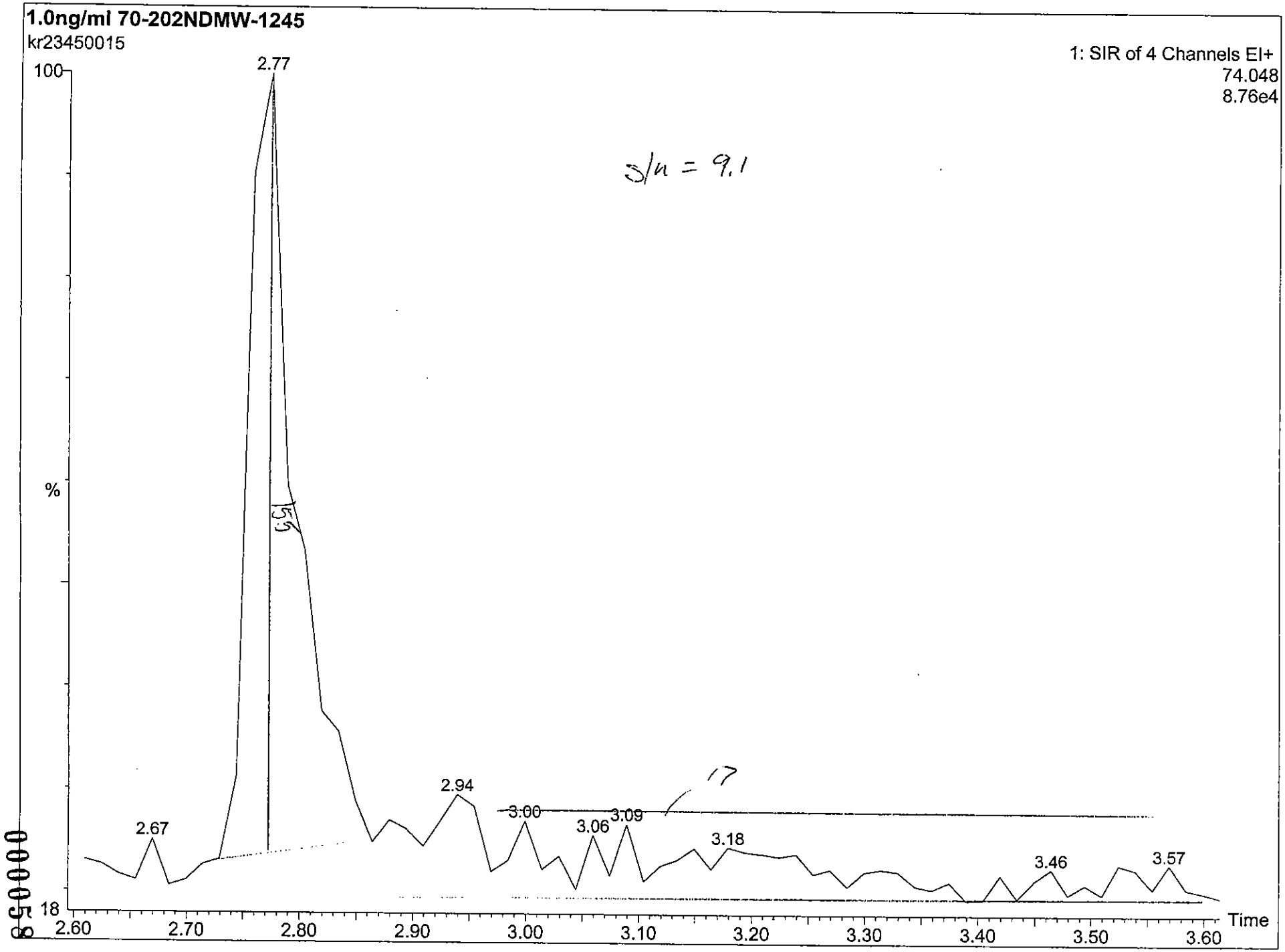


lock mass5

kr23450015 Smooth(Mn,3x1)



#	Compound Name	Surface	Abs Resp	RT	ng/L	%Rec	Mod Date	Divisor	RRF Mean
1	NDMA	74.0480	3136	2.77	747.22		01-May-03	1	1.673
2	D6 NDMA	80.0860	24580	2.74	9377.16	95.69	01-May-03	1	0.139
3	D8 naphthalene	136.1128	472539	9.06	25000.00	100.00	01-May-03	1	1.000
4	propyl ester	74.0360	1432	2.74	0.29	28.65	01-May-03	1	4996.306


1.0ng/ml 70-202NDMW-1245
kr23450015
1: SIR of 4 Channels EI+
74.048
8.76e4
100
%
18
2.77
2.67
2.94
3.00
3.06
3.09
3.18
3.46
3.57
S/n = 9.1
17
2.60
2.70
2.80
2.90
3.00
3.10
3.20
3.30
3.40
3.50
3.60
Time

CONTINUING CALIBRATION

CONTINUING CALIBRATION CHECK

Lab Name: Maxxam Analytics Inc.

Instrument: Kratos HRGC/HRMS Calibration Date: 2003/05/01 Time: 10:21:31

LAB FILE ID. KR23450013 CS4

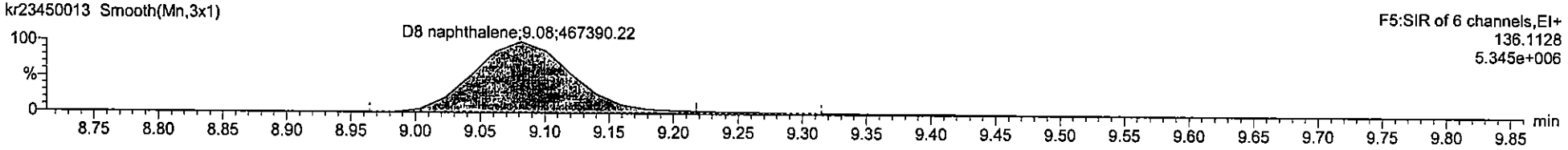
Compound	AVERAGE RRF	RRF CS4	%D	% D LIMIT
NDMA	1.67	1.38	18	25
D6-NDMA	0.139	0.162	17	25

Dataset: C:\MASSLYNX\Default.pro\QuanlynxFiles\QC\Calibration\20030501\ndmaconcalb_20030501.qld, Time: Thu May 01 10:50:29 2003

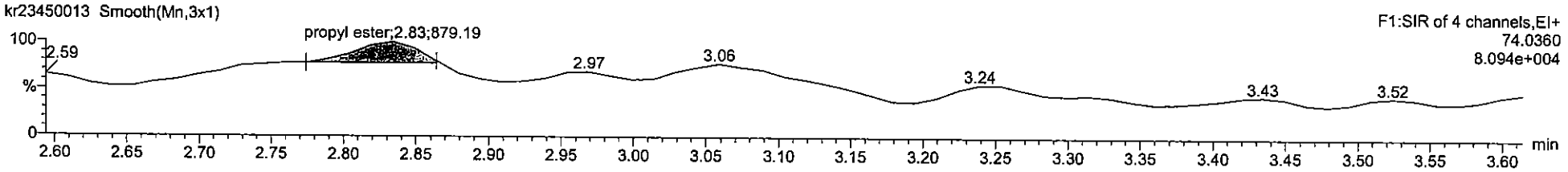
Method: C:\MASSLYNX\Default.pro\METHDB\nitros_ET.mdb, Time: Tue Mar 11 10:16:54 2003
Calibration: C:\MASSLYNX\Default.pro\CURVEDB\ndmacali2_20030430.cdb, Time: Thu May 01 09:25:34 2003

Name: kr23450013.*, Date: 01-May-2003, Time: 10:21:31, Job: , Description: 200ng/ml 70-202NDMW-1241

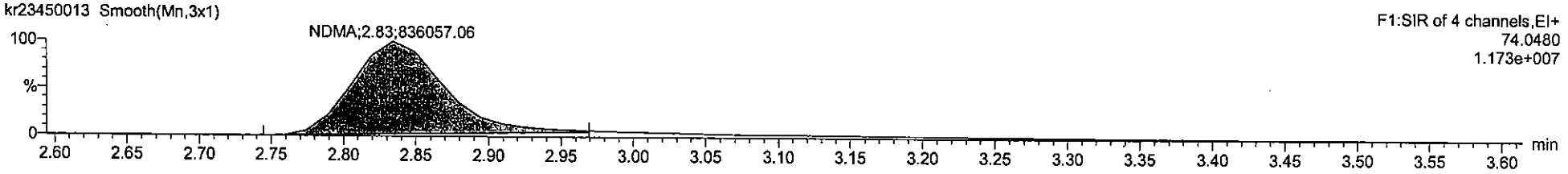
D8 naphthalene



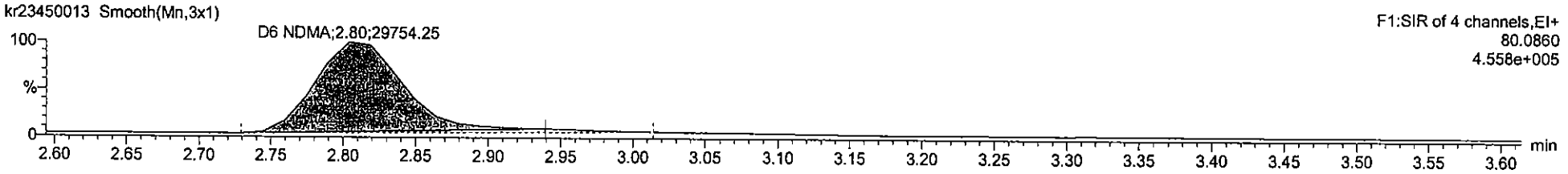
propyl ester



NDMA



D6 NDMA

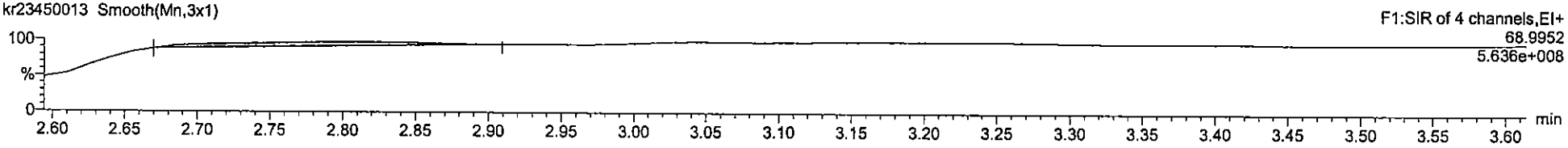


190600

Dataset: C:\MASSLYNX\Default.pro\QuanlynxFiles\QC\Calibration\20030501\ndmaconcalb_20030501.qld, Time: Thu May 01 10:50:29 2003

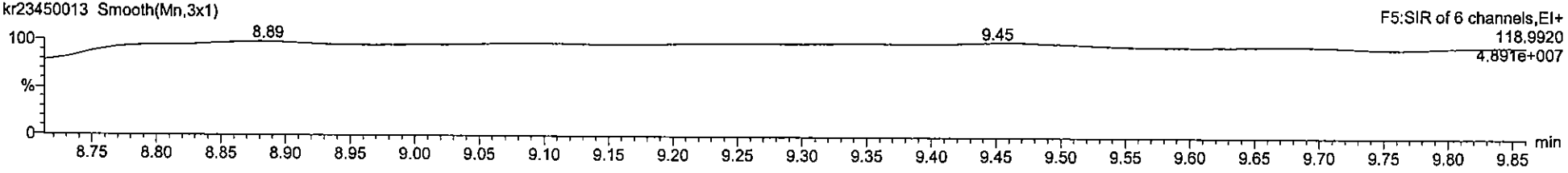
lock mass1

kr23450013 Smooth(Mn,3x1)



lock mass5

kr23450013 Smooth(Mn,3x1)



#	Compound Name	Trace	Abs Resp	RT	ng/L	%Rec	%Dev	Mod Date	RRF
1	NDMA	74.0480	836057	2.83	164582	82.29	-17.71	01-May-03	1.377
2	D6 NDMA	80.0860	29754	2.80	11476	117.10	17.10	01-May-03	0.162
3	D8 naphthalene	136.1128	467390	9.08	25000	100.00	0.00	01-May-03	1.000
4	propyl ester	74.0360	879	2.83	0	17.60	-82.40	01-May-03	879.188

CONTINUING CALIBRATION CHECK

Lab Name: Maxxam Analytics Inc.

Instrument: Kratos HRGC/HRMS Calibration Date: 2003/05/01 Time: 13:29:08

LAB FILE ID. KR23450023 CS4

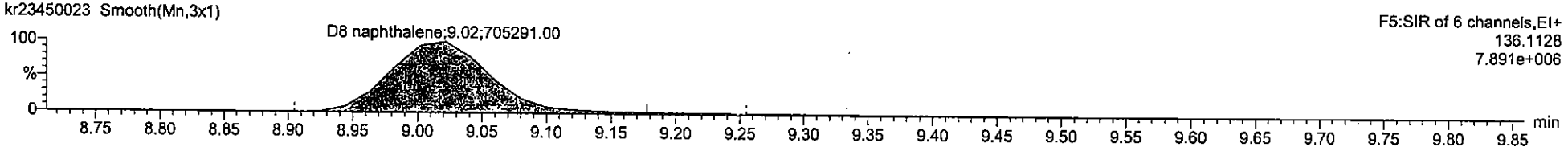
Compound	AVERAGE RRF	RRF CS4	%D	% D LIMIT
NDMA	1.67	1.42	15	25
D6-NDMA	0.139	0.159	15	25

Dataset: C:\MASSLYNX\Default.pro\QuanlynxFiles\QC\Calibration\20030501\ndmaconcalc_20030501.qld, Time: Thu May 01 14:09:38 2003

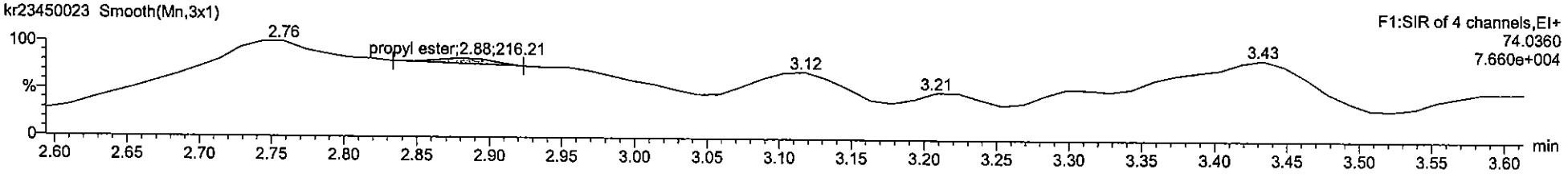
Method: C:\MASSLYNX\Default.pro\METHDB\nitros_ET.mdb, Time: Tue Mar 11 10:16:54 2003
Calibration: C:\MASSLYNX\Default.pro\CURVEDB\ndmacali2_20030430.cdb, Time: Thu May 01 09:25:34 2003

Name: kr23450023.*, Date: 01-May-2003, Time: 13:29:08, Job: , Description: 200ng/ml,70-202NDMW-1241

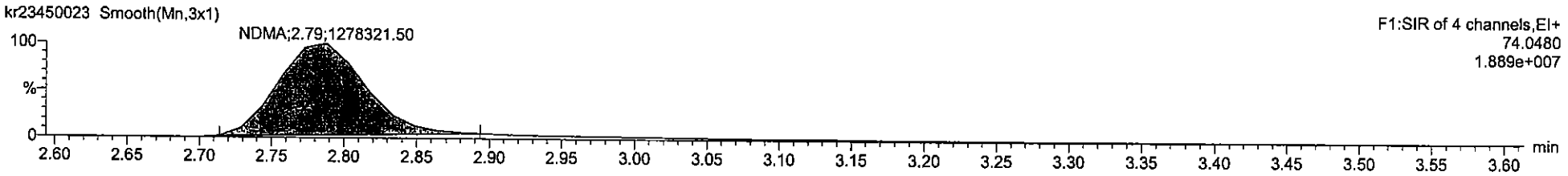
D8 naphthalene



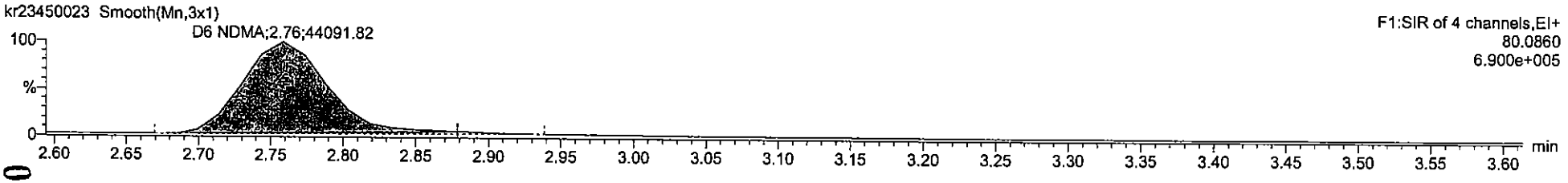
propyl ester



NDMA



D6 NDMA

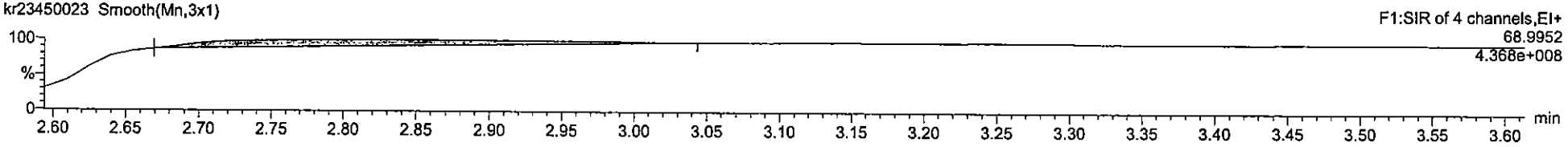


000064

Dataset: C:\MASSLYNX\Default.pro\QuanlynxFiles\QC\Calibration\20030501\ndmaconcalc_20030501.qld, Time: Thu May 01 14:09:38 2003

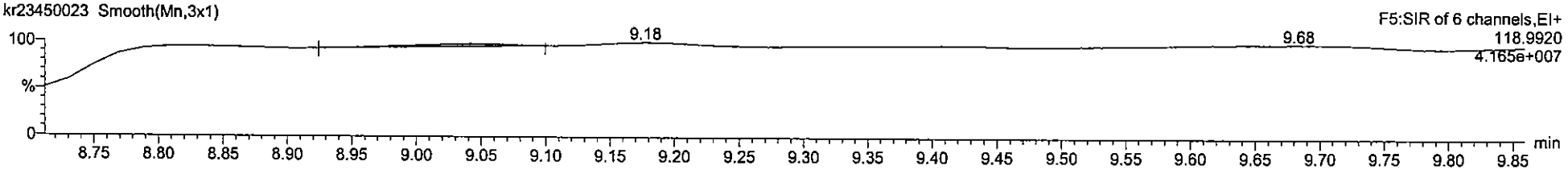
lock mass1

kr23450023 Smooth(Mn,3x1)



lock mass5

kr23450023 Smooth(Mn,3x1)



#	Compound Name	Trace	Abs Resp	RT	ng/L	%Rec	%Dev	Mod Date	RRF
1	NDMA	74.0480	1278322	2.79	169816	84.91	-15.09	01-May-03	1.421
2	D6 NDMA	80.0860	44092	2.76	11270	115.00	15.00	01-May-03	0.159
3	D8 naphthalene	136.1128	705291	9.02	25000	100.00	0.00	01-May-03	1.000
4	propyl ester	74.0360	216	2.88	0	4.33	-95.67	01-May-03	216.210

CONTINUING CALIBRATION CHECK

Lab Name: Maxxam Analytics Inc.

Instrument: Kratos HRGC/HRMS Calibration Date: 2003/05/01 Time: 14:25:47

LAB FILE ID. KR23450026 CS4

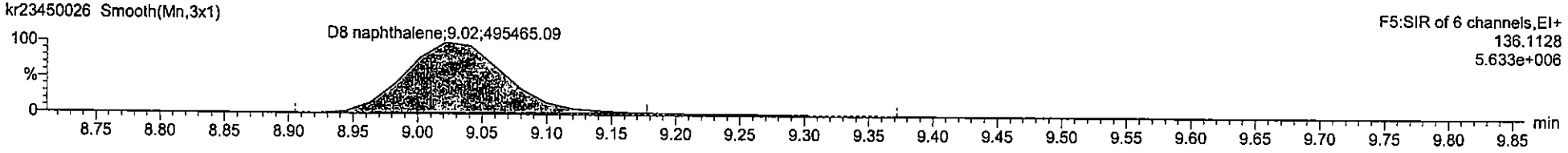
Compound	AVERAGE RRF	RRF CS4	%D	% D LIMIT
NDMA	1.67	1.50	11	25
D6-NDMA	0.139	0.148	7	25

Dataset: C:\MASSLYNX\Default.pro\QuanlynxFiles\QC\Calibration\20030501\ndmaconcald_20030501.qld, Time: Thu May 01 15:37:07 2003

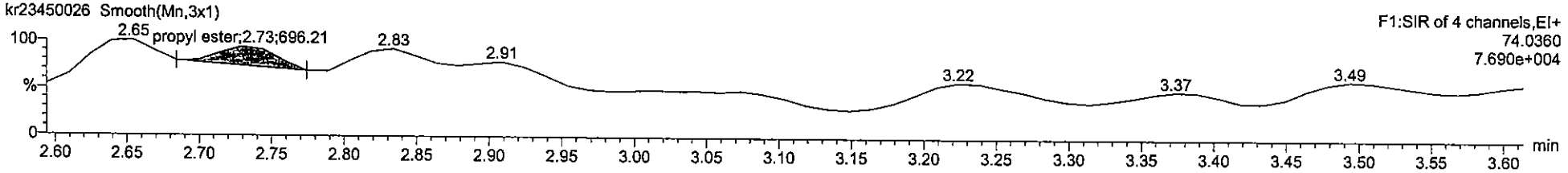
Method: C:\MASSLYNX\Default.pro\METHDB\nitros_ET.mdb, Time: Tue Mar 11 10:16:54 2003
Calibration: C:\MASSLYNX\Default.pro\CURVEDB\ndmacali2_20030430.cdb, Time: Thu May 01 09:25:34 2003

Name: kr23450026.*, Date: 01-May-2003, Time: 14:25:47, Job: , Description: 200ng/ml,70-202NDMW-1241

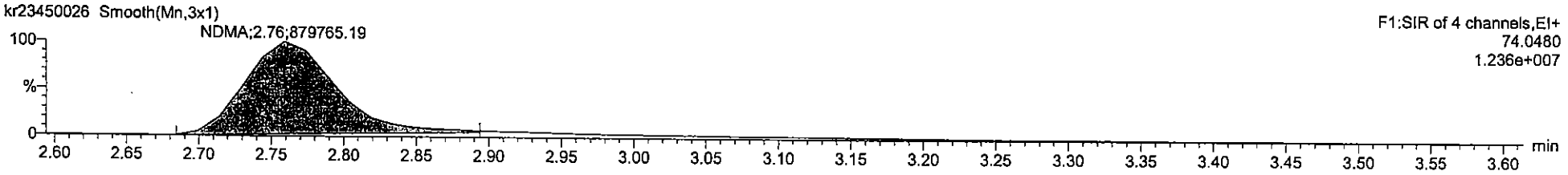
D8 naphthalene



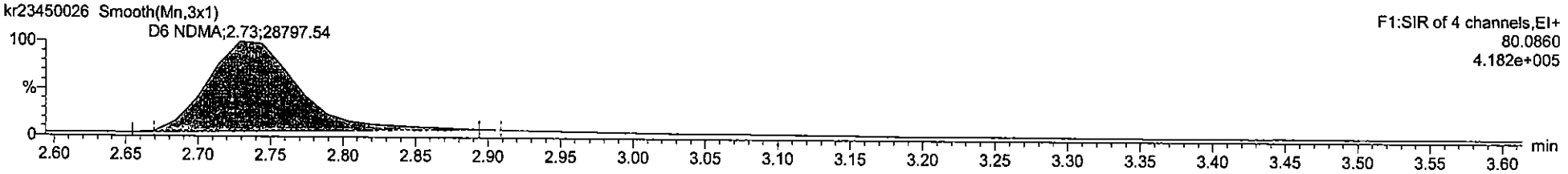
propyl ester



NDMA



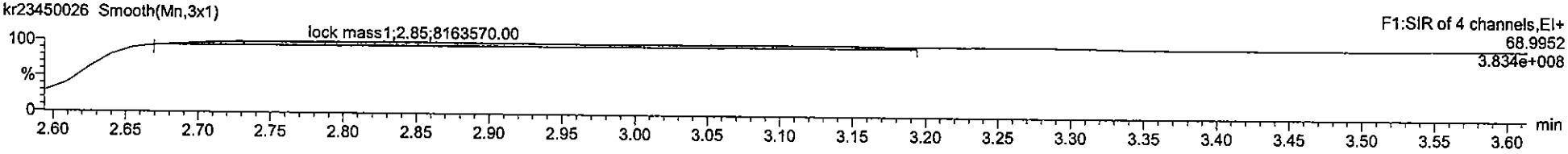
D6 NDMA



Dataset: C:\MASSLYNX\Default.pro\QuanlynxFiles\QC\Calibration\20030501\ndmaconcald_20030501.qld, Time: Thu May 01 15:37:07 2003

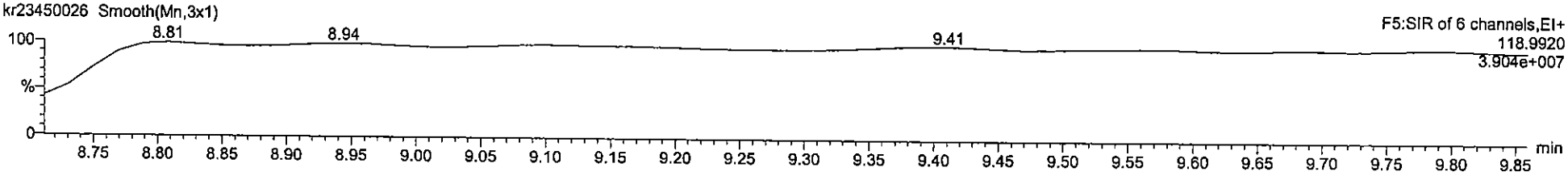
lock mass1

kr23450026 Smooth(Mn,3x1)



lock mass5

kr23450026 Smooth(Mn,3x1)



#	Compound Name	Trace %	Abs Resp	RT	ng/mL	%Rec	%Dev	Mod Date	RRF
1	NDMA	74.0480	879765	2.76	178940	89.47	-10.53	01-May-03	1.497
2	D6 NDMA	80.0860	28798	2.73	10478	106.92	6.92	01-May-03	0.148
3	D8 naphthalene	136.1128	495465	9.02	25000	100.00	0.00	01-May-03	1.000
4	propyl ester	74.0360	696	2.73	0	13.93	-86.07	01-May-03	696.205

890000

CONTINUING CALIBRATION CHECK

Lab Name: Maxxam Analytics Inc.

Instrument: Kratos HRGC/HRMS Calibration Date: 2003/05/01 Time: 19:29:56

LAB FILE ID. KR23450044 CS4

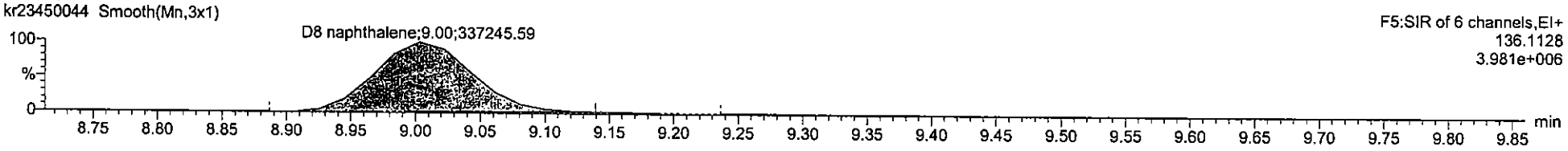
Compound	AVERAGE RRF	RRF CS4	%D	% D LIMIT
NDMA	1.67	1.70	1	25
D6-NDMA	0.139	0.128	8	25

Dataset: C:\MASSLYNX\Default.pro\QuanlynxFiles\QC\Calibration\20030501\ndmaconcale_20030501.qld, Time: Fri May 02 08:10:43 2003

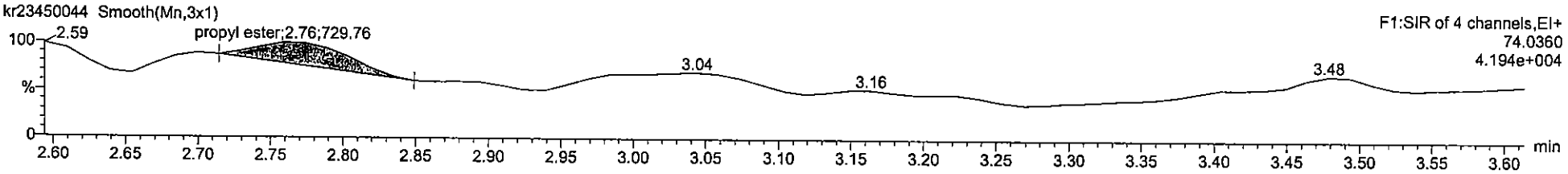
Method: C:\MASSLYNX\Default.pro\METHDB\nitros_ET.mdb, Time: Tue Mar 11 10:16:54 2003
Calibration: C:\MASSLYNX\Default.pro\CURVEDB\ndmacali2_20030430.cdb, Time: Thu May 01 09:25:34 2003

Name: kr23450044.*, Date: 01-May-2003, Time: 19:29:56, Job: , Description: 200ng/ml,70-202NDMW-1241

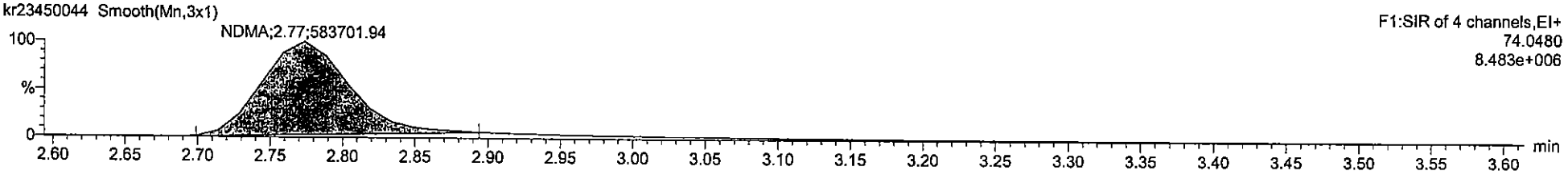
D8 naphthalene



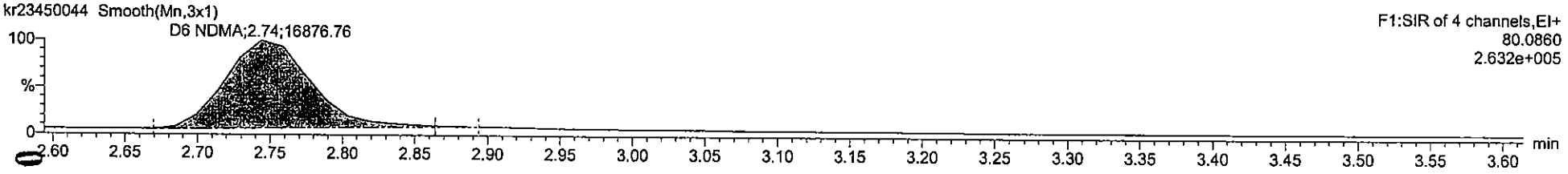
propyl ester



NDMA



D6 NDMA

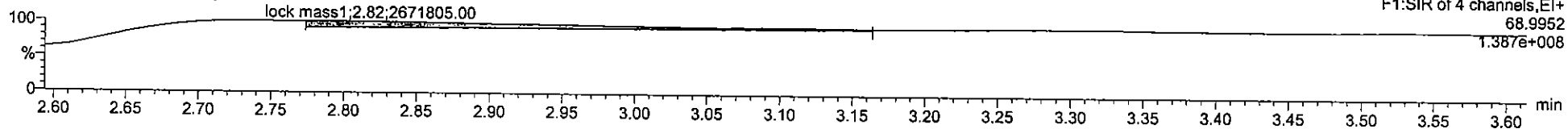


000070

Dataset: C:\MASSLYNX\Default.pro\QuanlynxFiles\QC\Calibration\20030501\ndmaconcale_20030501.qld, Time: Fri May 02 08:10:43 2003

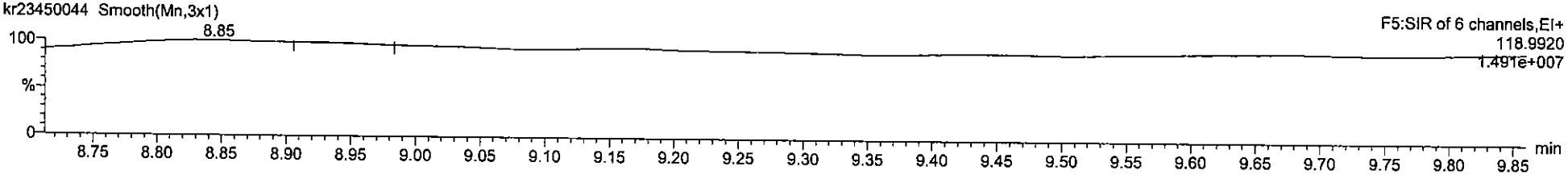
lock mass1

kr23450044 Smooth(Mn,3x1)



lock mass5

kr23450044 Smooth(Mn,3x1)



#	Compound Name	Trace	Abs Resp	RT	ng/L	%Rec	%Dev	Mod Date	RRF
1	NDMA	74.0480	583702	2.77	202581	101.29	1.29	02-May-03	1.695
2	D6 NDMA	80.0860	16877	2.74	9021	92.05	-7.95	02-May-03	0.128
3	D8 naphthalene	136.1128	337246	9.00	25000	100.00	0.00	02-May-03	1.000
4	propyl ester	74.0360	730	2.76	0	14.61	-85.39		729.758

SAMPLE PREPARATION RECORDS

cont Worksheet #470159

					IV	FV	SF	FB	Rotovap	Int Std.	Comments
A313990	995998	(W-NOHA-L) ND4A		100uL 70-200NOHL-125	500	1mL	21	L20	2	5uL: ~~70-182NAPR-23~~	cent. ext. int. bright yellow outer: ext.
	995999						24	L25	3		ext. light yellow/brown
	996000						18	L53	2		cent extract ext. light yellow
	996001						10	L16	1		extract cloudy light yellow
Sampled 2003-04-18 AT. wt 200.042	996002						14	L22	3		cent. extract clear ~~light~~ in ext.
	Yl. Blk				—		—	GB2	1		

2003-04-28 10:00 ext st. KE, DK, RR

Worksheet #470707

Spike	4707075	(W-NOHA-L) NOMA	100uL 70-200NOHN-44	100uL 70-200NOHL-126	1000	1mL	14	DW22	3	5uL: 70-182NAPR-21
Spike Dup.	4707075D						10	DW2	2	
Blank	470707B						21	DW4	1	
A313972	995927				970		24	230	3	
A313975	995936				940		19	221	2	
↓	995938				1010		18	208	1	
A314001	996031				490		8	458	1	
	996039				490		29	454	3	
	996040				490		4	228	2	
	996041				490		20	421	1	
A314211	997113				980		12	451	3	
	Yl. Blk				—		—	GB3	2	

Worksheet # 470708

Spike	4707075	(NOHA-LIG) NOMA	100uL 70-200NOHN-44	100uL 70-200NOHL-126	1000	1mL	14	DW22	3	5uL: 70-182NAPR-23
Spike Dup.	4707075D						10	DW2	2	
Blank	470707B						21	DW4	1	
A313116	992362				990		13	231	2	extract - light yellow
A313152	991929				1070		1	457	1	extract - light yellow
	991930				1070		6	454	2	
	991933				1000		22	406	3	
	Yl. Blk				—		—	GB3	2	

INSTRUMENT LOG

Kr 2344	26	200 ng/mL 70-202 NDMW-1241	Kr	fail (Run out of PFK - valve closed); Lost signal
	27-31	Mass resolution / Accuracy for nitros	Kr	
	32	200 ng/mL 70-202 NDMW-1241	Kr	fail
	33	5.0 ng/mL 70-202 NDMW-1238	Kr	
	34	50 ng/mL 70-202 NDMW-1239	Kr	✓
	35	80 ng/mL 70-202 NDMW-1240	Kr	✓
	36	200 ng/mL 70-202 NDMW-1241	Kr	✓
	37	1000 ng/mL 70-202 NDMW-1242	Kr	✓
	38	2000 ng/mL 70-202 NDMW-1243	Kr	✓
	39	dcm blank	Kr	✓
2x	40	10.0 ng/mL 70-202 NDMW-1244	Kr	✓
	41	1.0 ng/mL 70-202 NDMW-1245	Kr	✓
	42	471449 spike, N, 1, 2	Kr	Autosampler is not responding. Data not aquired
	43	spike 0, 1, 2	Kr	Reinject
	44	blank N, 1, 2	Kr	1
	45	glass blank (2003/04/30)	Kr	
	46	471449 999393-01R, N, 1, 2	Kr	
	47	999394-01R, N, 1, 2	Kr	
	48	999395-01R, N, 1, 2	Kr	
	49	200 ng/mL 70-202 NDMW-1241	Kr	
	50	471449 998429-01R, N, 1, 2	Kr	
	51	998931-01R, N, 1, 2	Kr	
	52	200 ng/mL 70-202 NDMW-1241	Kr	
	53	~~end run of~~ no file	Kr	

Kr 2003/05/01

2003/05/01

Kr2345	01-04	Mass resolution / Accuracy for nitros	VC	
	05	No file		
VC calibration	06	200 ng/mL 70-202 NSMW-1241	VC	fail (Tune focus on the wrong ions)
	07	10 ng/mL 70-202 NSMW-1244	VC	↓
	08	1.0 ng/mL 70-202 NSMW-1245	VC	
	09-12	Mass resolution / Accuracy for nitros	VC	
	13	200 ng/mL 70-202 NSMW-1241	VC	✓
	14	10 ng/mL 70-202 NSMW-1244	VC	✓
	15	1.0 ng/mL 70-202 NSMW-1245	VC	
	16	471449, spike, N, 1, 2	VC	
	17	↓ spike, D, 1, 2	VC	
	18	↓ blank, N, 1, 2	VC	
	19	glass blank (2003/04/30)	VC	
	20	471449 999393-01R, N, 1, 2	VC	A314635
	21	↓ 999394-01R, N, 1, 2	VC	↓
	22	↓ 999395-01R, N, 1, 2	VC	A314636
	23	200 ng/mL 70-202 NSMW-1241	VC	✓
	24	471449 998429-01R, N, 1, 2	VC	A314443
	25	↓ 998931-01R, N, 1, 2	VC	A314536
	26	200 ng/mL 70-202 NSMW-1241	VC	✓
	27	no file	VC	
	28-30	Mass resolution / Accuracy for nitros	VC	
	31	470707, spike, N, 1, 2	VC	
	32	↓ spike, D, 1, 2	VC	
	33	↓ blank, N, 1, 2	VC	
	34	glass blank (2003/04/28)	VC	
	35	470707, 995927-01R, N, 1, 2	VC	A313972
	36	↓ 995936-01R, N, 1, 2	VC	A313975

Kr234537	470707, 995938-01R, N, 1, 2	Kr	A313975
38	996031-01R, N, 1, 2	Kr	A314001
39	996039-01R, N, 1, 2	Kr	↓
40	996040-01R, N, 1, 2	Kr	
41	996041-01R, N, 1, 2	Kr	
42	997113-01R, N, 1, 2	Kr	A314211
43	471450, 997216-03R, N, 1, 2	Kr	
44	200 ng/mL 70-202NDMW-1241	Kr	✓
45	470159 spike, N, 1, 2	Kr	
46	spike D, 1, 2	Kr	
47	blank, N, 1, 2	Kr	
48	glass blank (20030425)	Kr	
49	470159 995995-01R, N, 1, 2 dil 1/10	Kr	A313990
50	995996-01R, N, 1, 2 dil 1/10	Kr	↓
51	995997-01R, N, 1, 2 dil 1/10	Kr	
52	995998-01R, N, 1, 2 dil 1/10	Kr	
53	995999-01R, N, 1, 2 dil 1/10	Kr	
54	996000-01R, N, 1, 2 dil 1/10	Kr	
55	996001-01R, N, 1, 2 dil 1/10	Kr	
56	996002-01R, N, 1, 2	Kr	
57	200 ng/mL 70-202NDMW-1241	Kr	✓
58	no file		
	2003/05/02		
Kr2346	01-06 Mass resolution / Accuracy for nitros	Kr	✓
	07 200 ng/mL 70-202NDMW-1241		
	08 10 ng/mL 70-202NDMW-1244		fail

STANDARDS PREPARATION RECORDS

Date	Lot #	Amt used	Initial conc	Final Vol-conc	Solvent	Use
2002/11/11	70-116NDMIN-28	100µL	20,000 ng/µL	1mL	DCM	Nitrosamine working standards
	70-160NDMIN-35	100µL	100 ng/mL			Nitrosamines second source std
	70-162NDMW-1041	100µL	10.0 ng/mL			Threshold nitrosamines
2002/11/12	13LCS0602	100µL	200 ng/mL	10 mL	Acetone	DP surrogate
2002/11/13	70-146NDMN-33	100µL	50 ng/mL	1mL	DCM	NITROSAMINES WORKING STDS
	70-146NDMIN-29	25µL	2000 ng/mL			
		40µL				
		100µL				
	70-116NDMIN-28	50µL	20,000 ng/mL			
		100µL				
	70-160NDMIN-35	100µL	100 ng/mL			NITROSAMINES 2ND SOURCE
	70-162NDMW-1041	100µL	10.00 ng/mL			NITROSAMINES THRESHOLD
2002/11/14	70-82NDMSL-03	100µL	98 µg/mL	10mL	MeOH	d_6-NDHA surrogate
2002/11/14	CIL d_6-NDMA I1-5647	100µL	neat 98% 1mg/mL	10mL	MeOH	d_6 NDMA stock solution
2002/11/14	70-162NDMSL-04	100µL	9.8 ng/mL	10mL	MeOH	NDMA d_6 Working Std.
2002/11/14	70-80NDMSN-02	1mL	200 ng/mL	10mL	MeOH	Nitrosamines Intermediate # 1
2002/11/14	70-162NDMIN-36	1mL	20,000 ng/mL	10mL	MeOH	Nitrosamines Intermediate # 2
2002/11/15	70-162NDMSL-04	100 µL	9.8 ng/mL	10ml	MeOH	d_6 ndma surr
2002/11/14	70-162NDMW-37	100µl	2000 ng/mL	1mL	DCM	Nitrosamines Working Stds

Code	Final conc	Expiry	Comments	Initials
70-162 NDMW-1041	2000.0 ng/mL	2002/12/11	use 100µL 70-156NDML-102 50µL 70-146NARP-20	JK
1042	10.0 ng/mL			
1043	1.0 ng/mL			
70-162162L-172	2 ng/mL	2003/05/12	use 1.0 mL	dp
70-162162L-173				
70-162162L-174				
70-162162L-175				
70-162162L-176				
70-162162L-177				
70-162NDMW-1035	5.00 ng/mL	2002/	In each put 5µL 70-146NARP-20 100µL 70-156NDML-102	LD
-1036	50.0 ng/mL			
-1037	80.0 ng/mL			
-1038	200 ng/mL			
-1039	1000 ng/mL			
-1040	2000 ng/mL			
-1041	10.00 ng/mL			
-1042	1.00 ng/mL			
70-162NDML-107	98 ng/mL	2002/11/23	use 100µL	KS
70-162NDMSL-04	9.8 ng/mL	2003/11/14	stock solution	OK
70-162NDML-110	98 ng/mL	2003/05/14	use 100µL for waters use 1.0mL for 2011	OK
70-162NDMIN-36	20,000 ng/mL	2003/02/28	intermediate # 1	OK
70-162NDMIN-37	2000 ng/mL	2003/02/28	intermediate # 2	OK
70-162NDML-111	98 ng/mL	2003/02/15	use 100 µL	SL
70-162NDML-112	↓	↓	↓	↓
70-162NDMW-1043	200 ng/mL	2002/12/14	use 5µl 70-146NARP-20 100µl 70-162NDML-110	OK

Date	Lot #	Aliquot used	Initial conc	Final vol	Solvent	Use
2003/01/31	70-174 NDMN-34	100µL	50.0ng/µL	1mL	DCM	Nitrosamines working std
2003/02/03	70-162NDMIN-37	100µL	2000 ng/mL	1mL	DCM	Nitrosamines working std
↓	70-160NDMIN-35	↓	100.0ng/mL	↓	↓	2nd source nitrosamines
↓	70-182 NDMW-1156	↓	10.0 ng/mL	↓	↓	Thirdsource nitrosamines
2003/02/03	70-162NDMSL-04	100.00µL	9.8 µg/mL	10mL	MeOH	NDMA d6 surrogate
2003/02/03	70-162NDMN-37	100 µL	2000 ng/mL	1mL	DCM	Nitrosamines Working std
2003/02/04	13LCS0602	100µL	100/200 ng/mL	10mL	Acetone	D/F surrog
↓	↓	↓	↓	↓	↓	↓
2003/02/04	13LCS0602	100µL	100/200 ng/mL	10mL	Acet.	D/F surr
↓	↓	↓	↓	↓	↓	↓
2003/02/04	70-160NDMIN-35	100µL	100.0ng/mL	1mL	DCM	2nd source nitrosamines
↓	70-182 NDMW-1160	100µL	10.0ng/mL	↓	↓	Threshold nitrosamines
2003-02-05	lot Ultra 1212	50mL	1000µg/mL	10mL	DCM	NDMA Int. Std.
↓	Naphthalene-d8 Solution IST-288 Lot No. R-1212 ULTRA SCIENTIFIC Exp. Date 11/2004 North Kingstown, RI 401-294-6400 1 mL Store cold dry				↓	NDN D8
2003/02/05	70-174 NDMN-34	100 µL	50.0 ng/mL	1mL	DCM	Nitrosamines working std
	70-162 NDMIN-37	25 µL	2000 ng/mL			
	↓	40 µL	↓			
		100 µL				

Code	Final conc	Expiry Date	Comments	Initial
70-182NDMW-1154	5.0 ng/mL	~~2003/02/28~~ 2003/04/05 vc 2003/02/21	added 5µL 70-174NNRP-20 100µL 70-174NDM-111	vc
70-182NDMW-1155	200 ng/mL	2003/03/03	added 5µL 70-174NNRP-20 100µL 70-174NDM-111	vc
1156	10 ng/mL	↓	↓	↓
1157	1.0 ng/mL	↓	↓	↓
70-182 NDML-~~112~~ 120	98 ng/mL	2003/05/03		vc
70-182 NDMW-1158	200 ng/mL	200 3/03/03	added 5µL 70-174NNRP-20 100µL 70-182NDML-~~112~~ 120 2003/02/06	vc
70-182161L-237	1/2 ng/mL	2003/02/04		DK
70-182161L-238	↓	↓		↓
70-182161L-239				
70-182161L-240				
70-182161L-241				
70-182161L-242				
70-182161L-243				
70-182161L-244	↓	↓		↓
70-182161L-245	1/2 ng/mL	2003/02/04		sa
70-182161L-246	↓	↓		↓
70-182161L-247				
70-182 NDMW-1159	10 ng/mL	2003/03/04	added 4 each 5µL 70-174NNRP-20 100µL 70-182NDML-~~112~~ 120 2003/02/06	vc
-1160	1.00 ng/mL	↓	↓	↓
70-182NNPR-23	5 ng/mL	2003-05-05	use 5mL	KA
Naphthalene solution opened 2003-02-05. (Store in amber vial				
70-182 NDMW-1161	5.00 ng/mL	2003/03/05	added 4 each 5µL 70-174NNRP-20 100µL 70-182NDML-~~112~~ 120 2003/02/06	vc
1162	50.00	↓	↓	↓
1163	80.00			
1164	200.00	↓	↓	↓

DATE	LOT #	AMOUNT USED	INITIAL CONC	FINAL VOLUME	SOLVENT	USE
2003/02/17	13LCS0602	100µL	100/200 ng/mL	10 mL	ACETONE	B/E SURROGATE
2003/02/17	70-174NDMIN-37	100 µL	2000 ng/mL	1 mL	DCM	NITROSAMINES WORKING std
2003/02/17	70-146NARP-20	500µL	5000 ng/mL	10mL	DCM	NITROSAMINES INTERNAL STD DILUTE
2003/02/18	70-176GEMN-10	10 µL	500 ng/mL	1mL	DCM	GEOSMIN/MIB WORKING std.
		50 µL				
		10 µL				
	70-142GDMIN-03	25 µL	5000 ng/mL			
		50 µL				
2003/02/18	70-174NDMN-34	100 µL	50 ng/mL	1mL	DCM	NITROSAMINES WORKING
	70-162NDMIN-37	25 µL	2000 ng/mL			
		40 µL				
		100 µL				
	70-162NDMIN-36	50 µL	20,000 ng/mL			
		100 µL				2nd source nitrosamines
	70-184NDMIN-39	100 µL	100 ng/mL			Threshold nitrosamines
	70-184NDMW-1190	100 µL	10 ng/mL			
2003/02/20	13CS50602	1.0 mL	40 ng/mL	5 mL	Hexane	1613 DF Cleanup Std.
2003/02/20	13LCS0602	100µL	100/200 ng/mL	10 mL	Acetone	D/F-NDMA/NDPA
2003/02/26	ULTRA SCIENTIFIC US-113 N	1 mL	2000 µg/mL	10 mL	MeOH	NITROSAMINES STOCK STD
	70-188NDMSN-03	1 mL	200 µg/mL	10 mL	MeOH	INTERMEDIATE #1 NITROSAMINES

CODE	FINAL CONC.	EXPIRY DATE	COMMENTS	INITIALS
70-188161L-250	N2 ng/mL	2003/08/17		VH
70-188161L-251				
70-188161L-252				
70-188NDMW-1183	200 ng/mL	2003/02/28	added: 5µL 70-174NARP-20 100µL 70-182NDML-120	HE
70-188NARR24	250 ng/mL	2003/05/03 (27) (02/03/02/17)	- use 5mL in F.V. = 50µL - use 3mL in F.V. = 30µL	LD
70-188GEMW-152	5.0 ng/mL	2003/02/26	add to each: 100µL 70-176GEML-14 5µL 70-186101R-07	DE
153	25.0			
154	50.0			
155	125.0			
156	250.0			
70-188NDMW-1184	5.0 ng/mL	2003/02/28	added: 70-174NARP-20 5µL 100µL 70-182NDML-120	HE
1185	50 ng/mL			
1186	80 ng/mL			
1187	200 ng/mL			
1188	1000 ng/mL			
1189	2000 ng/mL			
1190	10 ng/mL			
1191	1.00 ng/mL			
70-188161L-05	0.008 ng/mL	2003/08/20	use 25µl / extract.	OK
70-188161L-253	1/2 ng/mL	2003/08/20		VH
70-188161L-254				
70-188161L-255				
70-188161L-256				
70-188161L-257				
70-188161L-258				
70-188NDMSN-03	200 µg/mL	2004/02/26	STOCK NITROSAMINES	HE
70-188NDM-IN-40	20,000 mg/mL	2003/08/26	INTERM. #1 NITROS	

Date	Lot #	Amt used	Initial conc.	Final Vol.	Solvent	Use
2003/02/26	70-188NDMIN-40	1mL	20000ng/mL	10mL	MeOH	Nitrosamines intermediate # 2
	70-190NDMIN-41	250µL	2000 ug/mL	10mL	MeOH	Nitrosamines daily spike (LAB)
	70-190NDMIN-41	250µL	2000 ng/mL	10mL	MeOH	Nitrobenzene working spike
	70-190-NDMIN-42	100µL	50 ug/mL	10mL	DCM	Nitrosamines method spike
	70-190-NDMIN-43	100µL	↓	↓	↓	↓
2003/02/26	13LCS0602	100µl	100/200 mg/ml	10ml	ACETONE	D/F-SURROGATE
2003/02/27	70-190NDMIN-41	100µL	2000 ng/mL	1mL	DCM	Nitrosamines working std
	70-184NDMIN-39	100µL	100 ng/mL	1mL	DCM	2nd source working std nitros.
	70-190NDMW-1195	100µL	100 ng/mL	1mL	DCM	Threshold nitrosamines
2003/02/27	MCPS0898	100ul	100mg/ml	10ml	Acetone	Chlorophenols Surr.
2003/02/27	MCBS0199	100ul	100mg/ml	10ml	Acetone	Chlorobenzenes Surr.
2003/02/27	CPS9708	100ul	100mg/ml	10ml	MeOH	Chlorophenols Spike
2003/02/27	CBS9708	100ul	100mg/ml	10ml	MeOH	Chlorobenzenes Spike
↓	MAX-SOL-4	↓	↓	↓	↓	↓
2003/03/03	EPA1612STOCK lot DSTK0602	250µL	400/2000/4000 ng/mL	10mL	Acetone	D/F Spike intermediate
2003/03/03	70-19016IN-02	1mL	10/50/100	10ml	Acetone	D/F spike daily
2003/03/05	68ALCS0900	50µL	1µg/mL	25ml	Acetone	PCB - surrogate daily

Code	Final conc	Expiry Date	Comments	Ini
70-190NDMIN-41	2000 ng/mL	2003/08/26	INTERM. #2 NITROS	HE
70-190NDMN-43	50 ug/mL	2003/05/26	DAILY NITROS LAB SPIKE	
70-190NDMN-42	50 ug/mL	2003/05/26	DAILY NITROS WORKING SPIKE	
70-190NDMW-1192	5.00 ug/mL	2003/03/26	added: 5µL 70-17VNARF-20 100µL 70-182NDML-120	
70-190NDMW-1193	↓	↓	Method spike to first RECO stalls	↓
70-190161L-259	1/2 ng/ml	2003/08/26		DK
-260				
-261				
-262				
-263				
-264				
-265				
-266				
-267				
-268				
-269				
70-190NDMW-1194	200 ng/mL	2003/03/27	added in each: 5µL 70-17VNARF-20 100µL 70-182NDML-120	HE
70-190NDMW-1195	10 ng/mL	↓	↓	
70-190NDMW-1196	1.0 ng/ml	↓	↓	
70-190CPHL-12	2ng/mL	2003/08/27		OK
70-190CHBL-12	2ng/mL	2003/08/27		OK
70-190CPHN-1207	2ng/mL	2003/08/27		OK
70-190CHBN-07	2ng/mL	2003/08/27		DK
↓	↓	↓		↓
70-19016IN-02	10/50/100 ng/mL	2003/03/03		VK
70-19016IN-13	1/5/10 ng/mL	2003/09/03	use 100µL	VK
70-190-PCB-20	2 ng/mL	2003/09/05	use 200µL	SL

DATE	LOT #	AMT USED	INITIAL CONC.	FINAL VOL	SOLVENT	USE	CODE	FINAL CONC.	EXPIRY DATE	COMMENTS	INIT
2003/03/24	18LC50602	100µl	100/200 ng/µl	10 ml	ACETONE	D/F-Surrogate	70-200162L-285	1/2 ng/µl	2003/09/25	D/F- Surrogate	DJC
↓	↓	↓	↓	↓	↓	↓	-286	↓	↓	↓	↓
2003/03/28	BPMS0401	1 mL	2.0 µg/mL	10 mL	ACETONE	PCB NATIVE STOCK SOL.	70-200PCBNS-03	0.2 µg/mL	2004/03/28	use 50µL for soil, 2.5gm ALSO 500µL for Interm.	DJC
2003/03/28	70-200PCBNI-03	500µL	0.2 µg/mL	10 mL	ACETONE	INTERM. PCB SPIKE	70-200PCBNI-03	10 ng/mL	2004/03/28	use 100µL for TISSUE	
2003/03/28	70-200PCBNI-03	100µL	10 ng/mL	10 mL	ACETONE	PCB TISSUE SPIKE	70-200PCBN-27	0.1 ng/mL	2003/09/28	use 1.0 mL for TISSUE	
								2003/03/28 SL 0.2 ng/mL			
2003.03.28		1mL	~~10 ng/mL~~	~~10 mL~~	MEOH	GEO daily surr.		1 µg/mL	~~2003.06.28~~	mac 100µL	KSL
2003.03.28		2 mL	VOID 2003.03.28 KSL 200/500 ng/mL	10 mL	MEOH	GEC daily Synth.		500 ng/mL	VOID 2003.03.28 KSL 2003.06.28 KSL	mac 100µL	↓
2003/04/01	70-190NDMIN-41	100 µL	2000 ng/mL	1mL	DCM	Nitrosamines Working std	70-200NDMW-126	200 ng/mL	2003/05/01	added mac in each: 5mL 70-198NAPR-26 100µL 70-198NDML-125	MC
	70-184NDMIN-39	↓	100 ng/mL			2nd source Threshold	1217	10.0 ng/mL			
↓	70-200NDMW-127	100 µL	10 ng/mL	↓	↓	↓	1218	1.00 ng/mL	↓	↓	↓
2003.04.04	70-162NDNSL-04	100µL	9.8 ng/mL	10mL	MEOH	NDNA D6 surr.	70-200NUHL-125	98 ng/mL	2003.07.04	mac 100µL	KSL
↓	↓	↓	↓	↓	↓	↓	70-200NDHL-126	↓	↓	↓	↓
2003/04/08	70-190NDMN-42	100µL	50 ng/mL	1mL	DCM	Nitrosamines Working std	70-200NDMW-1219	5.0 ng/mL	2003/05/08	added mac in each: 5mL 70-198NAPR-26 100µL 70-198NDML-125	MC
	70-190NDMIN-41	100 µL	2000 ng/mL				70-200NDMW-1220	200 ng/mL			
	70-184NDMIN-39	100 µL	100 ng/mL			2nd source Threshold	70-200NDMW-1221	10.0 ng/mL			
↓	70-200NDMW-122	100 µL	10.0 ng/mL	↓	↓	↓	70-200NDMW-1222	1.0 ng/mL	↓	↓	↓
2003.04.11	70-190NDMIN-41	250mL	2000 ng/mL	10mL	MEOH	NDNA daily sync.	70-200NDHN-44	50 ng/mL	2003.07.11	mac 100mL (1mL for soils)	KSL
~~2003.04.11~~	70-172DANIL-13	~~1.0 mL~~	VOID 126.15 ng/mL	2003.04.11 KSL 10mL	MEOH	~~d5-NNO daily surr.~~	70-200DANIL-17	~~12.68 ng/mL~~	~~2003.07.11~~ VOID	2003.04.11 KSL ~~mac 100mL~~	~~KSL~~
2003/04/15	70-190NDMIN-41	100 µL	2000 ng/mL	1mL	DCM	Nitrosamines Working std	70-200NDMW-1223	200 ng/mL	2003/05/15	added in each: 5mL 70-198NAPR-26 100µL 70-198NDML-125	MC
	70-184NDMIN-39	100µL	2000 ng/mL	↓	↓	2nd source Threshold	1224	10.0 ng/mL	↓	↓	↓
	70-200NDMW-126	100 µL	2000 ng/mL				1225	1.0 ng/mL			
2003/04/15	13LC50602	100 µL	100/200 ng/mL	10mL	Acetone	D/F-SURROGATE	70-200162L-287	1/2 ng/mL	2003/10/15	D/F - SURROGATE	VI
↓	↓	↓	↓	↓	↓	↓	70-200162L-288	↓	↓	↓	↓
							70-200162L-289				
							70-200162L-290				

Date	Lot #	Amount used	Initial Conc.	Final Vol.	Solvent	Use	Code	Final Conc.	Expiry Date	Comments	Init.
2003/04/15	70-172NAPR-14	50µL	200ug/mL	10mL	DCM	2nd Source	——	1000ug/L	——		H.h
	70-180DANL-16	1.0mL	12.68ug/mL	↓	↓	for	——	1268ug/L	——		↓
	70-172DAN2I-02	150µL	100ug/mL			1,4 Dioxanes	70-202DANZ-05	1500ug/L	2003/06/15		
2003/04/17	70-200PCBN-03	100µL	10ng/mL	10mL	ACETONE	PCB-TISSUE SPIKE DAILY	70-202PCBN-28	0.1 ng/mL	2003/10/17	use 1.0mL FOR TISSUE	VI
							70-202PCBN-29				
							70-202PCBN-30				
							70-202PCBN-31				
2003/04/22	70-190NDMN-42	100 µL	50 ng/mL	1mL	DCM	Working std nitrosamines	70-202NDMW-1226	50 ng/mL	2003/05/22	in each added: 5µL 70-198 NAPR-26, 70-198NDML-125 → 100µL	VC
	70-190NDMIN-41	25 µL	2000 ng/mL				1227	50.0 ug/mL			
		40 µL					1228	80.0 ug/mL			
		100 µL					1229	200 ng/mL			
	70-188NDMIN-40	50µL	20,000 ng/mL				1230	1000 ng/mL			
	↓	100µL	↓				1231	2000 ng/mL			
	70-184NDMIN-39	100µL	100 ng/mL			2nd source nitrosamines	1232	10.0 ng/mL			
	70-202NDMW-1232	100µL	10 ug/mL			Threshold nitrosamines	1233	1.0 ng/mL			
2003/04/28	70-190NDMN-42	100 µL	50 ng/mL	1mL	DCM	Nitrosamines working std	70-202NDMW-1234	5.0 ng/mL	2003/05/28	in each added: 5µL 70-198 NAPR-26, 100µL 70-198 NDML-125	VC
	70-184NDMIN-39	100µL	100 ng/mL			2nd source nitrosamines	1235	10.0 ng/mL			
	70-202NDMW-1235	100µL	10.0 ng/mL			Threshold nitrosamines	1236	1.00 ng/mL			
	70-190NDMIN-41	100µL	2000 ng/mL			Nitrosamines WITKing std	1237	200 ng/mL			
2003/04/22	70-190NDMN-42	100µL	50 ng/mL	1mL	DCM	Nitrosamines working std	70-202NDMW-1238	5.0 ng/mL	2003/05/26	in each added: 5µL 70-198 NAPR-26, 100µL 70-198 NDML-125	VC
	70-190NDMIN-41	25 µL	2000 ng/mL				1239	50			
		40 µL					1240	80			
		100 µL					1241	200			
	70-188NDMIN-40	50 µL	20,000 ug/mL				1242	1000			
	↓	100µL	↓				1243	2000			
	70-184NDMIN-39	100µL	100 ug/mL			2nd source nitrosamines	1244	10.0	2003/05/06		
	70-202NDMW-1244	100 µL	10 ng/mL			Threshold nitrosamines	1245	1.00			

CHAIN OF CUSTODY DOCUMENTATION

Report Name: Entry

Job #: A314211

Client: APPLIED P & CH LABORATORY
13769 MAGNOLIA AVE
CHINO CA
USA 91710-7018

Inv Attn: Kenny Chan

Printed: 2003/04/25 Version 1
Reception Date: 2003/04/25
Reception Time: 17:03
Login Date: 2003/04/25
REQUIRED DATE: 2003/05/16
Quote Number: A20018

Report: same

Attention: Kenny Chan
Phone: (909) 590 - 1828Ext: 263
Fax: (909) 902 - 1661

P.O. Number:
Project Number: JPL

Client Number: 9417
Rpt Address #:

Project Coordinator: AGY

Q.C. Samples: No

Maxxam Number	Client Sample ID	Cont's	Store Code	Recd. OK	Sampling Date	Matrix	Test Codes
997113-01R	MW-4-1	2-1LAG	WWI-512	Yes	2003/04/21	LIQ	W-NDMA-L

Remarks: EPA 1625. LEVEL 4 5

Quote Remarks:
EPA Level 4 reporting (15% surcharge).
For Extract & Hold samples, charge U$175

000086

1.0

Applied P & Ch Laboratory

13760 Magnolia Ave. Chino CA 91710
Tel: (909) 590-1828 Fax: (909) 590-1498

Subcontract Chain of Custody

Please Print in pen Page 1 of 1

Subcontract Lab: Maxxam Analytical | Contact: Ann Swatsky | Tel #: (519) 747-2575 | Fax #:
Address: 50 Bathurst Dr. #12 | City: Waterloo | State: ONT | Zip code: N2V-2C5
APCL Client: 03-2811 | APCL Contact: Kenny Chan
Project Name/Code JPL | Job #
BILL TO APCL | Sub Quotation #
Due Date: [X] regular [ ] rush: ___ days ___ hours | Sampled by: Leo Williamson

Field Sample ID No.	Sample Description	Date Collected	Time Collected	Sample Matrix	Preservation	# of Containers	Analysis Items: NDMA	Remarks
	MW-4-1	4/21/03	1330	W	-	2x1L	X	
								Level 5 package

White – With report
Yellow – Lab copy
Pink – Originator

QC Requirement: [ ] Regular; [ ] QA/QC Report; [ ] WIP; [ ] Raw Data; [ ] Extended Raw Data [ ] CLP; [ ] ACE [ ] AFCEE [ ] NEESA ___ (E, C or D); [X] Other _____ (Please specify)

Sample Disposal: [ ] Return [ ] Disposal by APCL [ ] Hold for _____ days after receiving date. **If not specified, samples will be discarded 45 days after samples are received.**

Sample Conditions: [ ] Intact; [ ] Broken. Cooler Seal: [ ] Intact; [ ] Broken; [ ] None. Tag # _____ Temperature: [ ] Room [ ] Cold (_____ °C).

Relinquished by _____ Date/Time 4/23/03 / 1600 Received by _____ Date/Time 03-04-25 / 1:00PM

Relinquished by _____ Date/Time / Received by _____ Date/Time /

APCL USE ONLY Service # Note:

Clients understand that all terms described in the proposals, quotations for this project, and/or the general terms provided in the current APCL price schedules will be followed. APCL reserves the right to terminate its service or withhold delivery of any reports, if in APCL's sole discretion the terms of the project have been broken.

APCL Form 4-101, Ver. 4.0, Jan. 17, 2003.

280000

Maxxam Analytics Inc

SAMPLE RECEIPT RECORD

Way Bill #838068291057
Received 2003-04-251:00M
Courier Company FEDEX
Assigned Job # A314211
Project #JPL
Client Name Applied P and CH
Project Contact Kenny Chan

Verification of Sample conditions

Observation	Yes	NO
Were custody seals on the outside of the cooler?	✓	
Was the Chain of custody inside the cooler?	✓	
Was the Chain of Custody properly filled out?	✓	
Was ice or ice packs used to keep samples cool?	✓	
Temperature of the cooler or blank.	**1.0°c**	
Was the temperature acceptance limit of <8 c met?	✓	
Were the sample containers in good condition?	✓	

If the answer to any of the questions above is NO, a sample exceptions report must be completed.

Date Logged in 2003-04-25

Sample Entry
Tracy Strelau

Maxxam Analytics Inc

50 Bathurst Dr, Unit #12
Waterloo, ON
N2V 2C5
(519) 747 2575 ext.21

Comments:

Applied P & Ch Laboratory
13760 Magnolia Ave. Chino CA 91710
Tel: (909) 590-1828 Fax: (909) 590-1498

APCL Analytical Report

Submitted to:
GEOFON, Inc.
Attention: Leo Williamson
22632 Golden Spring Dr Ste 270
Diamond Bar 91765
Tel: (909)396-7662 Fax: (909)396-1455

Service ID #: 801-033393
Collected by:
Collected on: 05/27/03

Received: 05/27/03
Extracted: N/A
Tested: N/A
Reported: 06/20/03

Sample Description: Water
Project Description: 04-4428.10 JPL

Analysis of Water Samples

Component Analyzed	Method	Unit	PQL	Analysis Result MW-13 03-03393-1	MW-16 03-03393-2
NITROSAMINES BY HRMS [a]					

PQL: Practical Quantitation Limit. MDL: Method Detection Limit. CRDL: Contract Required Detection Limit
N.D.: Not Detected or less than the practical quantitation limit. "-": Analysis is not required.
J: Reported between PQL and MDL.
Listed Dilution Factors (DF) are relative to the method default DF. All unlisted DFs are 1.0
[a] Subcontracted to Maxxam Analytics Inc. See attached.

Respectfully submitted,

Dominic Lau
Laboratory Director
Applied P & Ch Laboratory

GEOFON INCORPORATED

22632 GOLDEN SPRINGS DR., SUITE 270
DIAMOND BAR, CA 91765 • (909) 396-7662 • FAX (909) 396-1455

CHAIN-OF-CUSTODY RECORD

LABORATORY COPY

SHALLOW WELLS 0035

GEOFON's LAB COORDINATOR	LAB COORDINATOR'S PHONE	LAB COORDINATOR'S FAX	LABORATORY SERVICE ID	LABORATORY CONTACT	MAIL REPORT (COMPANY NAME)
Brad Shojaee	(909) 396-7662	(909) 396-1455	—	Kenny Chan	GEOFON, INC.
PROJECT NAME: JPL GW MON-2003	**PROJECT LOCATION** MW-13 / MW-16	**PROJECT NUMBER** 04-442 B.10	**LABORATORY PHONE** (909) 590-1628	**LABORATORY FAX** (909) 590-1498	**RECIPIENT NAME** Leo W. Williamson
PROJECT CONTACT Leo W. Williamson	**PROJECT PHONE NUMBER** (714) 920-8729	**PROJECT FAX** (909) 396-1455	**LABORATORY ADDRESS** 13760 Magnolia Ave		**ADDRESS** 22632 Golden Springs Dr. #270
PROJECT ADDRESS 4800 Oak Grove Dr.	**CITY, STATE AND ZIPCODE** Pasadena, CA	**CLIENT** US NAVY SW DIV	**CITY, STATE AND ZIPCODE** Chino, CA. 91710		**CITY, STATE AND ZIPCODE** Diamond Bar, CA. 91765
PROJECT MANAGER Asrar Faheem	**PROJECT MANAGER'S PHONE** (909) 396-7662	**PROJECT MANAGER'S FAX** (909) 396-7662			

Item	Sample Identifier	Matrix	Date	Time	Preserved	# of Cont	QC Level	T.A.T.	Analyses: 8270 SIM (1,4-Dioxane)	Analyses: 1625 m (NDMA)	Comments
1	MW-13	H_2O	5/27/03	830	NONE	2L4 2L	III	NORMAL	X	X	
2	MW-16	↓	↓	1050	↓	↓	↓	↓	X	X	
3											3393
4											
5											
6											
7											
8											
9											
10											

SAMPLES COLLECTED BY: Leo W. Williamson

COURIER AND AIR BILL NUMBER:

COOLER TEMPERATURE UPON RECEIPT

RELINQUISHED BY	RECEIVED BY	DATE	TIME	SAMPLE'S CONDITION UPON RECEIPT
Leo W. Williamson	S. Bendale	5-27-03	1245	
S. Bendale		5/27/03	1335	

Distribution: White - Laboratory (To be returned with Analytical Report); Goldenrod - Project File; Yellow - Project Data Manager

Applied P & Ch Laboratory
13760 Magnolia Ave., Chino CA 91710
Tel: (909) 590-1828 Fax: (909) 590-1498

Sample Receiving Checklist

APCL ServiceID: 3393 **Client Name/Project:** Geon / JPL

1. Sample Arrival

Date/Time Received 5/27/03 1330 Date/Time Opened 5/27/03 1330 By (name): Thomas Chan

Custody Transfer: ☐ Client ☐ Golden State ☐ UPS ☑ US Mail ☐ FedEx ☑ APCL Empl: Scott B.

2. Chain-of-Custody (CoC)

☑ With Samples? ☐ Faxed? ☐ Client has Copy? ☐ Signed, dated? By: _____

☑ Project ID? ☑ Analyses Clear? ☐ Hold Samples? #on Hold _____ # Received 2

☑ CoC/Docs Zip-Locked under lid? ☐ Compos.#: _ ☑ #Samples OK? _____

☐ Discrepancies? ☐ Client notified? ☐ Response (attach docs): _____

3. Shipping Container/Cooler

☑ Cooler Used? # of 1 Cooled by: ☑ Ice ☐ Blue Ice ☐ Dry Ice ☐ None

Temp °C 3.8 _____ _____ _____ _____ _____

(Cooler temperature measured from temp blank if present, otherwise measured from the cooler).

Cooler Custody Seal? ☐ Absent ☐ Intact ☐ Tampered?

4. Sample Preservation

☐ **pH <2** ☐ pH >12

If Not, pH = _____ Preserved by: ☐ Client ☐ APCL ☐ Third Party _____

5. Holding-time Requirements

☐ pH 24hr ☐ BACT 6/24hr ☐ Cr^{VI} 24hr ☐ NO_3^- 48hr ☐ BOD 48hr

☐ Cl_2 ASAP ☐ Turbidity 48hr ☐ DO ASAP ☐ Fe(II) ASAP

☐ HT Expired? ☐ Client notified?

6. Sample Container Condition

☑ Intact? ☐ Broken? ☐ Documented? Number: _____

Type: ☐ plastic ☑ glass ☐ Tube: brass/SS ☐ Tedlar Bag

☑ Quantity OK? ☐ Leaking? ☐ Anomaly?

☑ Caps tight? ☐ Air Bubbles? ☐ Anomaly?

Labels: ☑ Unique ID? ☑ Date/Time ☐ Preserved?

7. Turn Around Time

☐ RUSH TAT: _____ ☑ Std (7-10 days) ☐ Not Marked

8. Sample Matrix

☐ Drinking H_2O ☐ Other Liq ☐ Soil ☐ Wipe ☐ Polymer ☐ Air ☐ Other: _____

☑ Ground H_2O ☐ Sludge ☐ Filter ☐ Oil/Petro ☐ Paint ☐ W. Water ☐ Extract ☐ Unknown

9. Pre-Login Check List Completed & OK?

☑ ALL OK? (if not, attach docs) ☐ Client Contact? (Name:_____)Date/Time:_____

Received/Checked by: _____ Date: 27 May 2003 Time: 7:34 a.m.

*HT: Samples must be analyzed for results to reflect total concentrations. Results generated outside required of holding times are considered minimal values and may be used to define waste as hazardous but not as non-hazardous.

DocumentFile: [neal.texfiles]amprcl.tex.

Applied P & Ch Laboratory
13760 Magnolia Ave. Chino CA 91710
Tel: (909) 590-1828 Fax: (909) 590-1498

Sample Login: Check List

03-03393 (0470_ 150) (2202777_ 150)

05/27/03

Part 1: General Information

☐	Company Information	Name:	*GEOFON, Inc.*
		Address:	*22632 Golden Spring Dr Ste 270 ,Diamond Bar ,CA 91765*
☐	Project Information	Project Description:	*JPL*
		Project #:	*04-4428.10*
☐	Billing Information	P.O. #:	
		Bill Address:	*22632 Golden Spring Dr Ste 270 ,Diamond Bar ,CA 91765*
		Lab Project ID:	
		Client Database #:	*3*
☐	Receiving Information	Who Received Sample?	*Kenny Chan*
		Receiving Date/Time:	*05/27/03 1330*
		COC No.	
☐	Shipping Information	Shipping Company	*APCL pick up*
		Packing Information:	*Cooler/Ice Chester*
		Cooler Temperature:	*3.8 °C*
☐	Container Information	Container Provider:	*Client*
☐	Sampling Information	Sampling Person:	
		Sampling Company:	*Client*
☐	Turn-Around-Time Option:		*Rush 5 working day(s)*
☐	QC Option:		*NEESA C*
☐	Disposal Option:		*Not specify*

Part 2: Sample Information

Seq. #	Sample ID (on COC)	Sample Sub-ID	APCL Sample ID	Matrix	Cont-tainer	Preser-vative	Vol, ml Am. g	# of Replica	Condition G, L, B	Collected mmddyy	Hold ?	Composite Group	TAT Days	
1	MW-13	NDMA	03-03393-1	W	G		1000	2	G	052703	N	0	7	☐
2	MW-16	NDMA	03-03393-2	W	G		1000	2	G	052703	N	0	7	☐

Part 3: Analysis Information

Test Items: ☑ Customized-13, Sub-contract

Seq. #	Client"s Sample ID (as given on COC)	Sample Sub-ID	APCL Sample ID	Matrix	CUSTOM	
1	MW-13	NDMA	03-03393-1	W	X	☐
2	MW-16	NDMA	03-03393-2	W	X	☐

Login By En-Yu Paul Kou

Check By PY