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Level IV Data Package

MWH Group 192296

Method: 314

Sample No.:

2701030010

2701030011

Perchlorate QC Checklist

rev: 27 Mar 03

Analysis Date: 1-3-07 Analyst: Rajg

QC'd by JK Date 8 Jan 07

Instrument: IC 4

Calculated MCT Level: 3155 umhos/cm

Original IPC conductance: 3085 umhos/cm

Daily IPC conductance: 3107 umhos/cm

Calibration including QCS

- QCS (20ppb) recovery is within 90% - 110% (18-22ppb) to verify that the calibration curve (minimum 5 points) still holds.
- Calibration curve is reanalyzed if QCS fails. Correlation Coefficient is 0.995 or better.

Initial QC Check Samples (MLBLANK, MRL, ICCSCV, IPC) to be analyzed with every batch (up to 20 samples) or part thereof

MLBLANK is analyzed before samples. Perchlorate, if present, is $<$ or $=$ half of the MRL.

N/A L-ClO4 only: ICCSCV at 2ppb is within 50%-150% (1-3ppb)

ClO4 only: MRL at 4ppb is within 75%-125% (3-5ppb)

IPC (25ppb) recovery is between 80%-120% (20-30ppb)

IPC retention time is within 5% of the retention time of the standards

IPC Conductance level is within 10% of the original

$PDA/H = 8.6\%$
 6.9%
 9.4%

LCS/LCSD (25ppb)

Recoveries are between 90%-110% (22.5 - 27.5ppb)

One pair is analyzed per batch (up to 20 samples) or part thereof

MS/MSD (25ppb) NOTE: For UCMR, MS/MSD concentrations alternate between 4ppb and 25ppb

Recoveries are within 80%-120% (20-30ppb) for 25ppb spike N/A (3.2-4.8ppb) for 4ppb spike

One pair is analyzed per batch (up to 20 samples) or part thereof

RPD between MS and MSD is within 15%.

Continuing Calibration Verification (MCV, HCV) NOTE: For UCMR ECV and MCV are required

Verification Checks alternate between mid- and high-level during the analysis (low- and mid-level for UCMR)

MCV (25ppb) recovery is between 85%-115% (21.25 - 28.75ppb)

HCV (100ppb) recovery is between 85%-115% (85-115ppb) N/A ECV (4ppb) recovery is between 75%-125% (3.0-5.0)

Pretreat and include the following QC parameters for any batch or part thereof containing samples requiring pretreatment

N/A One Laboratory Reagent Blank (LRB). Perchlorate is $<$ or $=$ half of MRL.

N/A One pair of Laboratory Control Samples (LCS/LCSD). Recovery of perchlorate is between 85%-115%.

N/A One Pair of Laboratory Fortified Matrices (MS/MSD). Recoveries are between 80%-120%

Samples

All samples are analyzed within 28 days of collection.

All samples are analyzed within MCT Conductance limit.

QIR

N/A QIR needed for failed QC

N/A QIR needed for samples analyzed outside of hold time

Sample No.	Sample Name	Dil.Fac.	Comment	Time	Amount	CLO4 ECD_1
1	autocal1	1.0		12.28.06 11:43		n.a.
2	autocal2	1.0	RAJA060913-2	12.28.06 12:00	1.9631	
3	autocal3	1.0	RAJA060913-3	12.28.06 12:17	3.9460	
4	autocal4	1.0	RAJA060913-4	12.28.06 12:34	9.8301	
5	autocal5	1.0	RAJA060913-5	12.28.06 12:51	25.5004	
6	autocal6	1.0	RAJA060913-6	12.28.06 13:08	49.7039	
7	autocal7	1.0	RAJA060913-7	12.28.06 13:25	100.0430	
8	WASH	1.0		01.03.07 16:13		n.a.
9	WASH	1.0		01.03.07 16:30		n.a.
10	QCSCV	1.0		01.03.07 16:47	19.1127	95.6%
11	IPCCV	1.0		01.03.07 17:04	23.2430	93.0%
12	MBLNK	1.0		01.03.07 17:21		n.a.
13	MRL-2	1.0		01.03.07 17:38	1.7069	85.3%
14	MRL-4	1.0		01.03.07 17:55	✓ 3.7274	93.2%
15	LCS-25	1.0		01.03.07 18:12	✓ 23.9970	96.0%
16	LCSD-25	1.0		01.03.07 18:29	✓ 23.5281	94.1%
17	2612280106	1.0		01.03.07 18:46	2.5430	
18	2612280106MS	1.0		01.03.07 19:03	✓ 23.8407	21.3 - 85.2%
19	2612280106MSD	1.0		01.03.07 19:20	✓ 24.3270	21.8 - 87.1%
20	2612270043_1/50DNR	50.0		01.03.07 19:37	127479.1245	
21	2612290178_1/50000	50000.0		01.03.07 19:54	1682878.5204	✓
22	2612290179_1/50000	50000.0		01.03.07 20:11	1355153.6368	✓
23	2612290180_1/50000	50000.0		01.03.07 20:28	875040.3579	✓
24	2612300020	1.0		01.03.07 20:45		n.a. ✓
25	2612300021	1.0		01.03.07 21:02		n.a. ✓
26	2701020248	1.0		01.03.07 21:19	1.5358	✓
27	2701020256	1.0		01.03.07 21:36	1.4694	✓
28	2701020261	1.0		01.03.07 21:53		n.a. ✓
29	CCV	1.0		01.03.07 22:10	24.0634	96.3%
30	2701020336	1.0		01.03.07 22:27		n.a. ✓
31	2701020337	1.0		01.03.07 22:44	2.6464	✓
32	2701020339	1.0		01.03.07 23:01	3.4376	✓
33	2701020364	1.0		01.03.07 23:18		n.a. ✓
34	2701020386	1.0		01.03.07 23:35		n.a. ✓
35	2701020387DNR	1.0		01.03.07 23:52	82.9477	✓
36	2701030010_1/5	1.0		01.04.07 00:09		n.a. ✓
37	2701030011_1/5000	5000.0		01.04.07 00:26	213260.7857	✓
38	2701030025	1.0		01.04.07 00:43	1.6801	✓
39	2701030051_1/5	5.0		01.04.07 01:00		n.a. ✓
40	HCV	1.0		01.04.07 01:17	98.6491	98.6%
41	STOP	1.0		01.04.07 01:34		n.a.

VB: NMI/a/07

CONDUCTIVITY MW SOP REVISION 5
SM2510B

Analysis Date: 1-3-07
Analyst: 2.0j
Reviewed By: _____
LIMS Check By: _____

Time of Analysis Start: _____ End: _____

MRL 2umhos/cm: Ref _____ exp of solution: _____
KCl Std 1412 Ref 201426 exp of solution 03/07
TV = 1412 umhos/cm @ 25°C for 0.0100M
Reading: 1418
Instrument: YSI Model 3200 SN:01A0504, Year Acquired 2001 New

Was QC Criteria Met: Y N
Was QIR Needed: Y N

Run #	Sample Number	Sample ID	Client	Date Collected	Temp °C	pH	Scale (umho/mhho)	Result		Comments
								Instrument	Reported (umho/cm)	
	Blank							0.4173		
STD	MRL 2umhos/cm							N/A		
STD	KCl - 1000 mhos/cm							1032		1-3 --- ±50% of TV
1	2612290178	Discharge	Kaisergrae	12-27-06			ms	20.82		950-1050 --- ±5% of TV
2	179	West well					us	9763		
3	180	East well					ms	12.11		
4	2701030010	Effluent		1-02-07			us	8323		
5	011	Influent						9490		
6	051	Eff-com?						9621		
7	2612306020	Treated	CC E	12-29-06				549		
8	021	Raw						518		
9	2701020248	027	CDW/leach	1-2-07				927		
10	256	025						999		
DUP								999		
11	261	026						998		RPD < 5%
12	336	028						772		
13	337	031						876		
14	339	032						875		
15	364	030						861		
16	386	025 Dup						999		
17	387	029						999		
18	2701030025	623	calwater					546		
19	/	/	/	/	/	/	/	/	/	/
20	/	/	/	/	/	/	/	/	/	/
DUP	2701030025	623	calwater	1-2-7				540		
STD	KCl - 10 mhos/cm							N/A		8-12 --- RPD < 20% of TV

$$\% \text{ RPD} = \frac{|S1 - S2|}{(S1 + S2)/2} * 100$$

S1 = reading of 1st sample
S2 = reading of 2nd sample

Sequence: 010307-CLO4-IC#4
Operator: raja

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Printed: 1/4/2007 5:13:42 PM

Title: Perchlorate by EPA 314.1
Datasource: IC-SERVER_local
Location: 2007\JAN
Timebase: IC4
#Samples: 41

Created: 1/3/2007 2:13:07 PM by raja
Last Update: 1/4/2007 10:08:38 AM by raja

No.	Name	Dil. Factor	Type	Comment	Program	Method
1	autocal1	1.0000	Standard		IC4-CLO4 PROGRAM	IC#4-CLO4-LOW
2	autocal2	1.0000	Standard	RAJA060913-2	IC4-CLO4 PROGRAM	IC#4-CLO4-LOW
3	autocal3	1.0000	Standard	RAJA060913-3	IC4-CLO4 PROGRAM	IC#4-CLO4-LOW
4	autocal4	1.0000	Standard	RAJA060913-4	IC4-CLO4 PROGRAM	IC#4-CLO4-LOW
5	autocal5	1.0000	Standard	RAJA060913-5	IC4-CLO4 PROGRAM	IC#4-CLO4-LOW
6	autocal6	1.0000	Standard	RAJA060913-6	IC4-CLO4 PROGRAM	IC#4-CLO4-LOW
7	autocal7	1.0000	Standard	RAJA060913-7	IC4-CLO4 PROGRAM	IC#4-CLO4-LOW
8	WASH	1.0000	Unknown		IC4-CLO4 PROGRAM	IC#4-CLO4-LOW
9	WASH	1.0000	Unknown		IC4-CLO4 PROGRAM	IC#4-CLO4-LOW
10	QCSCV	1.0000	Unknown		IC4-CLO4 PROGRAM	IC#4-CLO4-LOW
11	IPCCV	1.0000	Unknown		IC4-CLO4 PROGRAM	IC#4-CLO4-LOW
12	MBLNK	1.0000	Unknown		IC4-CLO4 PROGRAM	IC#4-CLO4-LOW
13	MRL-2	1.0000	Unknown		IC4-CLO4 PROGRAM	IC#4-CLO4-LOW
14	MRL-4	1.0000	Unknown		IC4-CLO4 PROGRAM	IC#4-CLO4-LOW
15	LCS-25	1.0000	Unknown		IC4-CLO4 PROGRAM	IC#4-CLO4-LOW
16	LCSD-25	1.0000	Unknown		IC4-CLO4 PROGRAM	IC#4-CLO4-LOW
17	2612280106	1.0000	Unknown		IC4-CLO4 PROGRAM	IC#4-CLO4-LOW
18	2612280106MS	1.0000	Unknown		IC4-CLO4 PROGRAM	IC#4-CLO4-LOW
19	2612280106MSD	1.0000	Unknown		IC4-CLO4 PROGRAM	IC#4-CLO4-LOW
20	2612270043_1/50DNR	50.0000	Unknown		IC4-CLO4 PROGRAM	IC#4-CLO4-LOW
21	2612290178_1/50000	50000.0000	Unknown		IC4-CLO4 PROGRAM	IC#4-CLO4-LOW
22	2612290179_1/50000	50000.0000	Unknown		IC4-CLO4 PROGRAM	IC#4-CLO4-LOW
23	2612290180_1/50000	50000.0000	Unknown		IC4-CLO4 PROGRAM	IC#4-CLO4-LOW
24	2612300020	1.0000	Unknown		IC4-CLO4 PROGRAM	IC#4-CLO4-LOW
25	2612300021	1.0000	Unknown		IC4-CLO4 PROGRAM	IC#4-CLO4-LOW
26	2701020248	1.0000	Unknown		IC4-CLO4 PROGRAM	IC#4-CLO4-LOW
27	2701020256	1.0000	Unknown		IC4-CLO4 PROGRAM	IC#4-CLO4-LOW
28	2701020261	1.0000	Unknown		IC4-CLO4 PROGRAM	IC#4-CLO4-LOW
29	CCV	1.0000	Unknown		IC4-CLO4 PROGRAM	IC#4-CLO4-LOW
30	2701020336	1.0000	Unknown		IC4-CLO4 PROGRAM	IC#4-CLO4-LOW
31	2701020337	1.0000	Unknown		IC4-CLO4 PROGRAM	IC#4-CLO4-LOW
32	2701020339	1.0000	Unknown		IC4-CLO4 PROGRAM	IC#4-CLO4-LOW
33	2701020364	1.0000	Unknown		IC4-CLO4 PROGRAM	IC#4-CLO4-LOW
34	2701020386	1.0000	Unknown		IC4-CLO4 PROGRAM	IC#4-CLO4-LOW
35	2701020387DNR	1.0000	Unknown		IC4-CLO4 PROGRAM	IC#4-CLO4-LOW
36	2701030010_1/5	1.0000	Unknown		IC4-CLO4 PROGRAM	IC#4-CLO4-LOW
37	2701030011_1/5000	5000.0000	Unknown		IC4-CLO4 PROGRAM	IC#4-CLO4-LOW
38	2701030025	1.0000	Unknown		IC4-CLO4 PROGRAM	IC#4-CLO4-LOW
39	2701030051_1/5	5.0000	Unknown		IC4-CLO4 PROGRAM	IC#4-CLO4-LOW
40	HCV	1.0000	Unknown		IC4-CLO4 PROGRAM	IC#4-CLO4-LOW
41	STOP	1.0000	Unknown		STOP PROGRAM IC#4	IC#4-CLO4-LOW

Sequence: 010307-CLO4-IC#4
Operator: raja

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Printed: 1/4/2007 5:13:42 PM

Title: Perchlorate by EPA 314.1

Datasource: IC-SERVER_local

Location: 2007JAN

Timebase: IC4

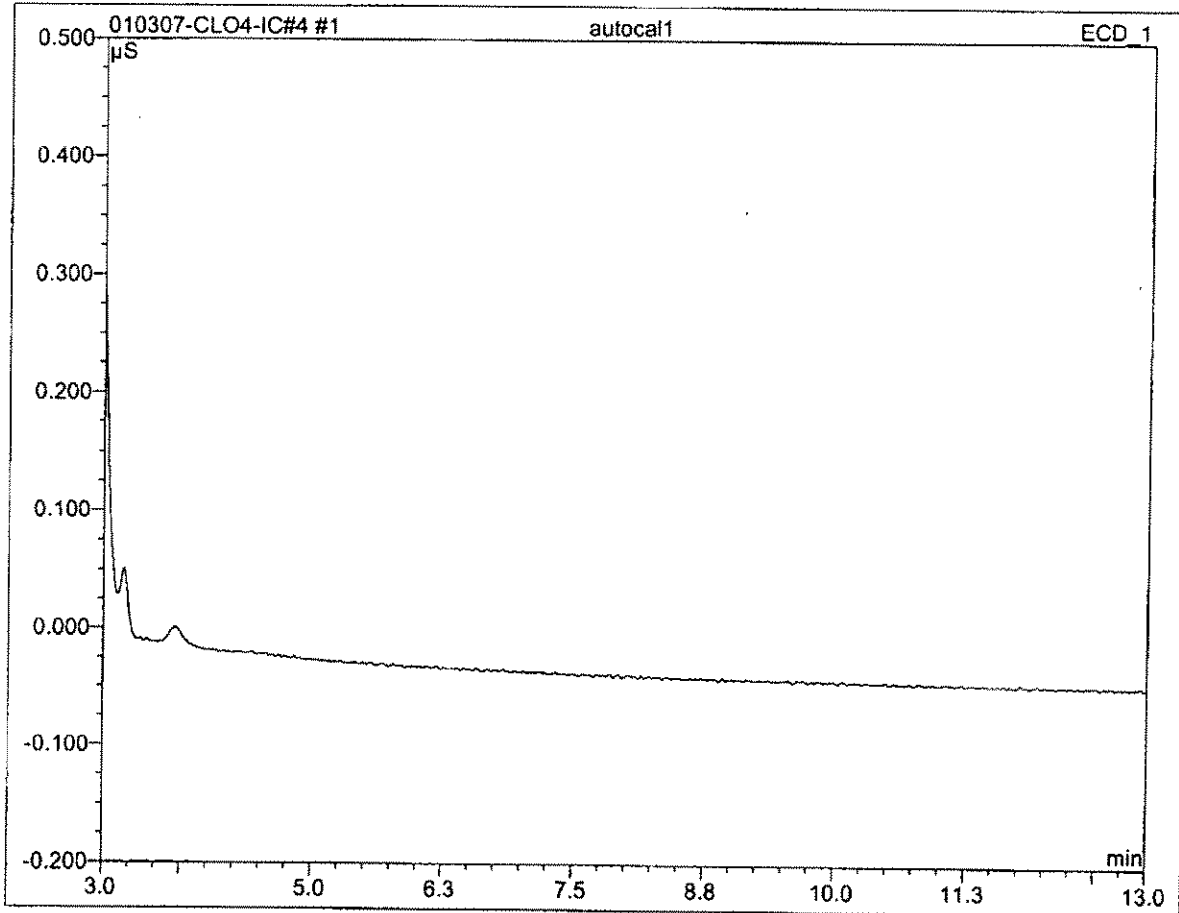
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Last Update: 1/4/2007 10:08:38 AM by raja

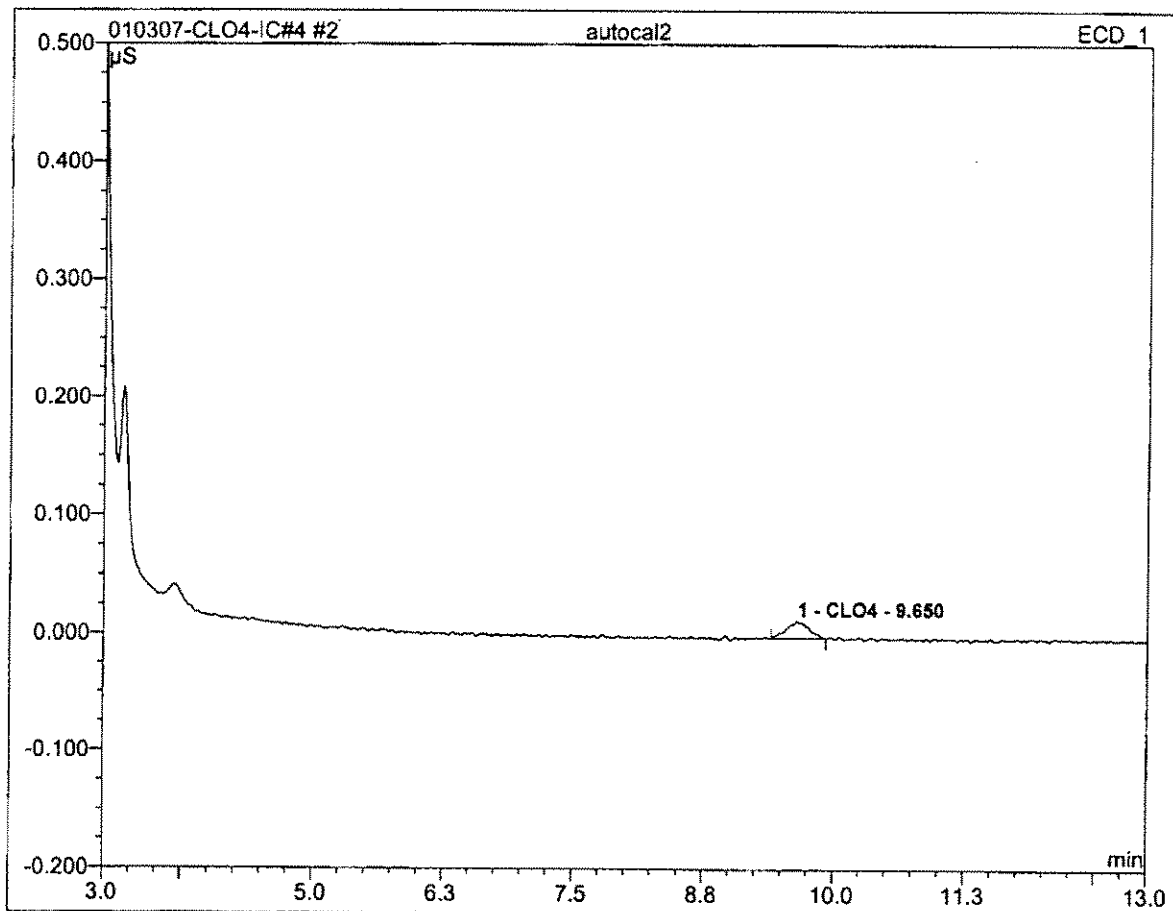
No.	Name	Status	Inj. Date/Time	*Analyst
1	autocal1	Finished	12/28/2006 11:43:00 AM	raja
2	autocal2	Finished	12/28/2006 12:00:02 PM	raja
3	autocal3	Finished	12/28/2006 12:17:03 PM	raja
4	autocal4	Finished	12/28/2006 12:34:04 PM	raja
5	autocal5	Finished	12/28/2006 12:51:06 PM	raja
6	autocal6	Finished	12/28/2006 1:08:07 PM	raja
7	autocal7	Finished	12/28/2006 1:25:08 PM	raja
8	WASH	Finished	1/3/2007 4:13:14 PM	raja
9	WASH	Finished	1/3/2007 4:30:15 PM	raja
10	QCSCV	Finished	1/3/2007 4:47:17 PM	raja
11	IPCCV	Finished	1/3/2007 5:04:18 PM	raja
12	MBLNC	Finished	1/3/2007 5:21:19 PM	raja
13	MRL-2	Finished	1/3/2007 5:38:19 PM	raja
14	MRL-4	Finished	1/3/2007 5:55:20 PM	raja
15	LCS-25	Finished	1/3/2007 6:12:21 PM	raja
16	LCS-25	Finished	1/3/2007 6:29:21 PM	raja
17	2612280106	Finished	1/3/2007 6:46:22 PM	raja
18	2612280106MS	Finished	1/3/2007 7:03:23 PM	raja
19	2612280106MSD	Finished	1/3/2007 7:20:24 PM	raja
20	2612270043_1/50DNR	Finished	1/3/2007 7:37:25 PM	raja
21	2612290178_1/50000	Finished	1/3/2007 7:54:26 PM	raja
22	2612290179_1/50000	Finished	1/3/2007 8:11:27 PM	raja
23	2612290180_1/50000	Finished	1/3/2007 8:28:27 PM	raja
24	2612300020	Finished	1/3/2007 8:45:28 PM	raja
25	2612300021	Finished	1/3/2007 9:02:29 PM	raja
26	2701020248	Finished	1/3/2007 9:19:30 PM	raja
27	2701020256	Finished	1/3/2007 9:36:31 PM	raja
28	2701020261	Finished	1/3/2007 9:53:32 PM	raja
29	CCV	Finished	1/3/2007 10:10:33 PM	raja
30	2701020336	Finished	1/3/2007 10:27:33 PM	raja
31	2701020337	Finished	1/3/2007 10:44:34 PM	raja
32	2701020339	Finished	1/3/2007 11:01:35 PM	raja
33	2701020364	Finished	1/3/2007 11:18:36 PM	raja
34	2701020386	Finished	1/3/2007 11:35:37 PM	raja
35	2701020387DNR	Finished	1/3/2007 11:52:38 PM	raja
36	2701030010_1/5	Finished	1/4/2007 12:09:39 AM	raja
37	2701030011_1/5000	Finished	1/4/2007 12:26:40 AM	raja
38	2701030025	Finished	1/4/2007 12:43:41 AM	raja
39	2701030051_1/5	Finished	1/4/2007 1:00:42 AM	raja
40	HCV	Finished	1/4/2007 1:17:43 AM	raja
41	STOP	Finished	1/4/2007 1:34:44 AM	raja

1 autocal1			
Sample Name:	autocal1	Channel:	ECD_1
Sample Type:	standard	Control Program:	IC4-CLO4 PROGRAM
Recording Time:	12/28/2006 11:43	Quantif. Method:	IC#4-CLO4-LOW
Analyst:	raja	Dilution Factor:	1.0000



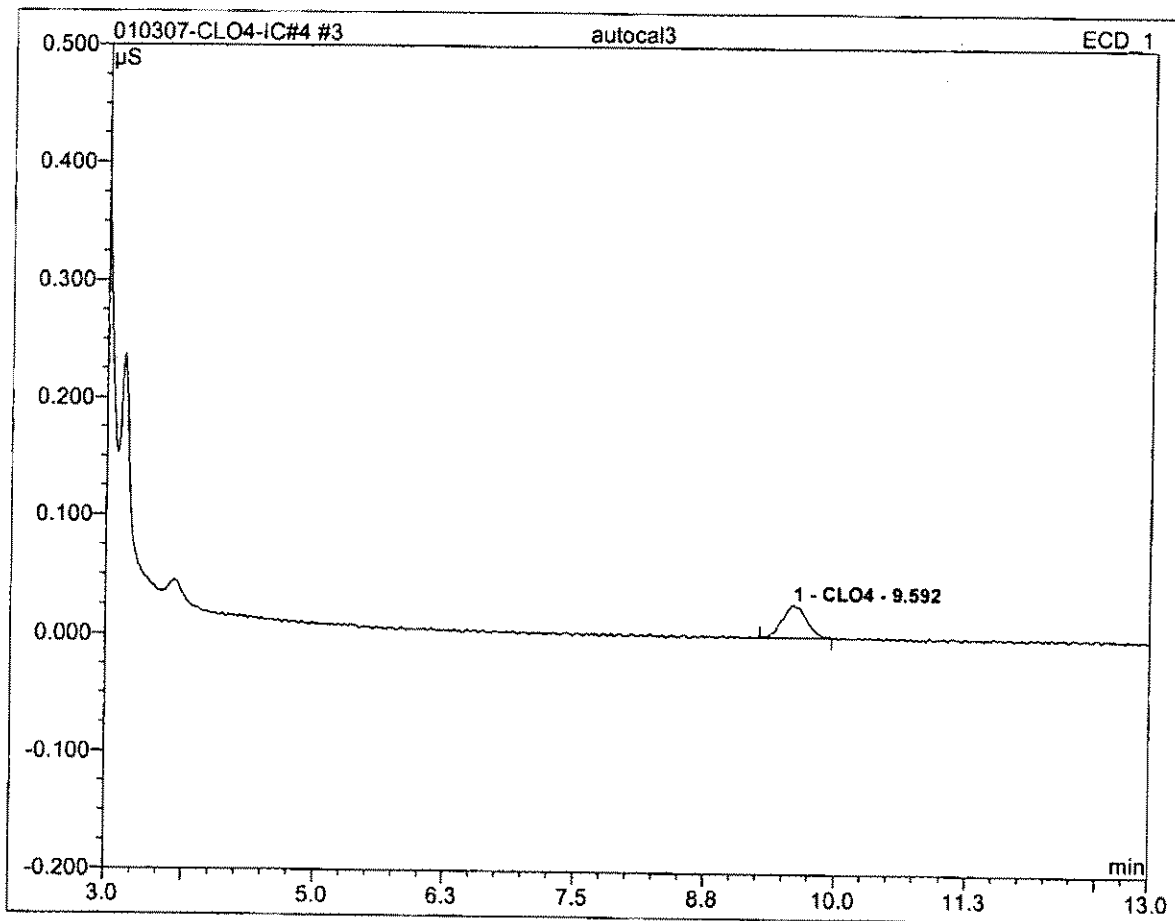
No.	Ret.Time min	Peak Name	Height μS	Area μS*min	Rel.Area %	Amount	Type
Total:			0.000	0.000	0.00	0.000	

2 autocal2			
RAJA060913-2			
Sample Name:	autocal2	Channel:	ECD_1
Sample Type:	standard	Control Program:	IC4-CLO4 PROGRAM
Recording Time:	12/28/2006 12:00	Quantif. Method:	IC#4-CLO4-LOW
Analyst:	raja	Dilution Factor:	1.0000



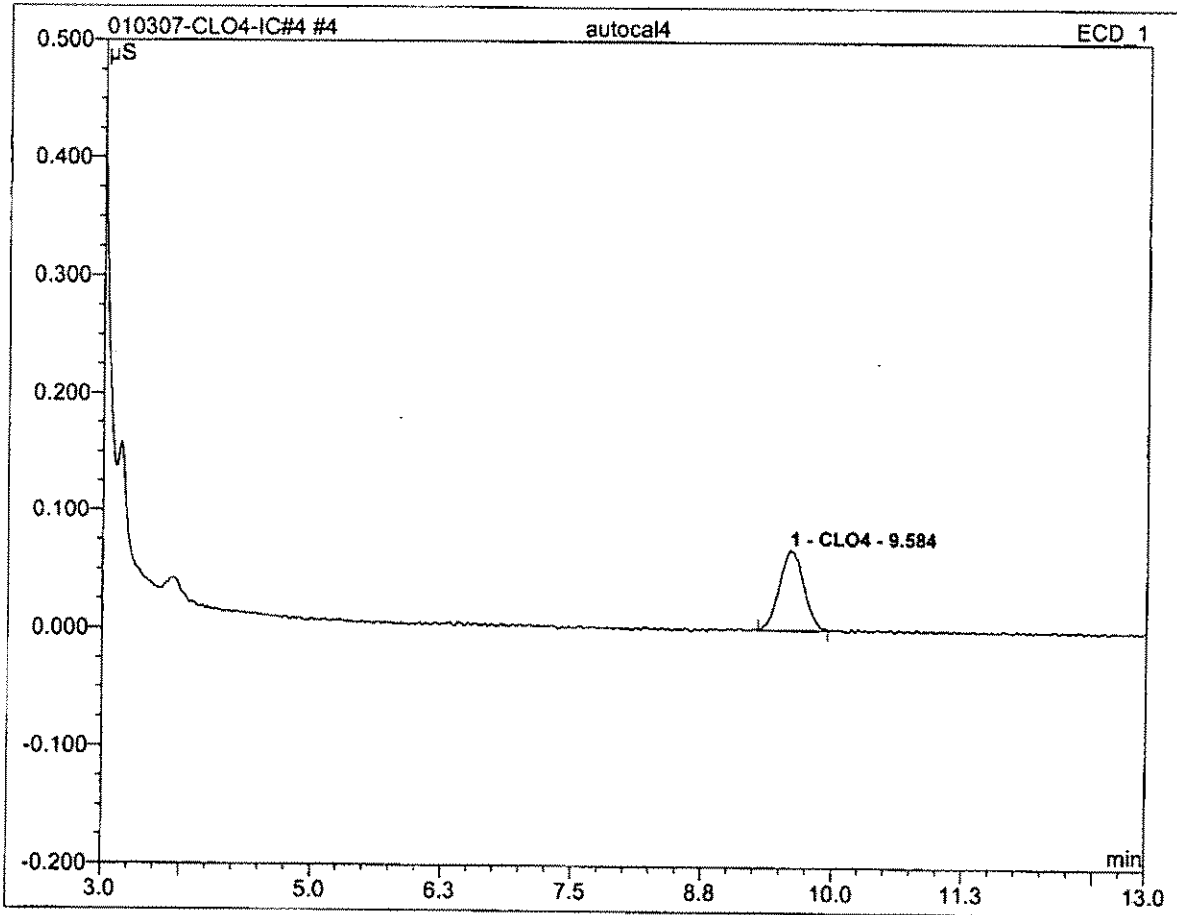
No.	Ret.Time min	Peak Name	Height μS	Area μS*min	Rel.Area %	Amount	Type
1	9.65	CLO4	0.015	0.004	100.00	1.963	BMB
Total:			0.015	0.004	100.00	1.963	

3 autocal3			
RAJA060913-3			
Sample Name:	autocal3	Channel:	ECD_1
Sample Type:	standard	Control Program:	IC4-CLO4 PROGRAM
Recording Time:	12/28/2006 12:17	Quantif. Method:	IC#4-CLO4-LOW
Analyst:	raja	Dilution Factor:	1.0000



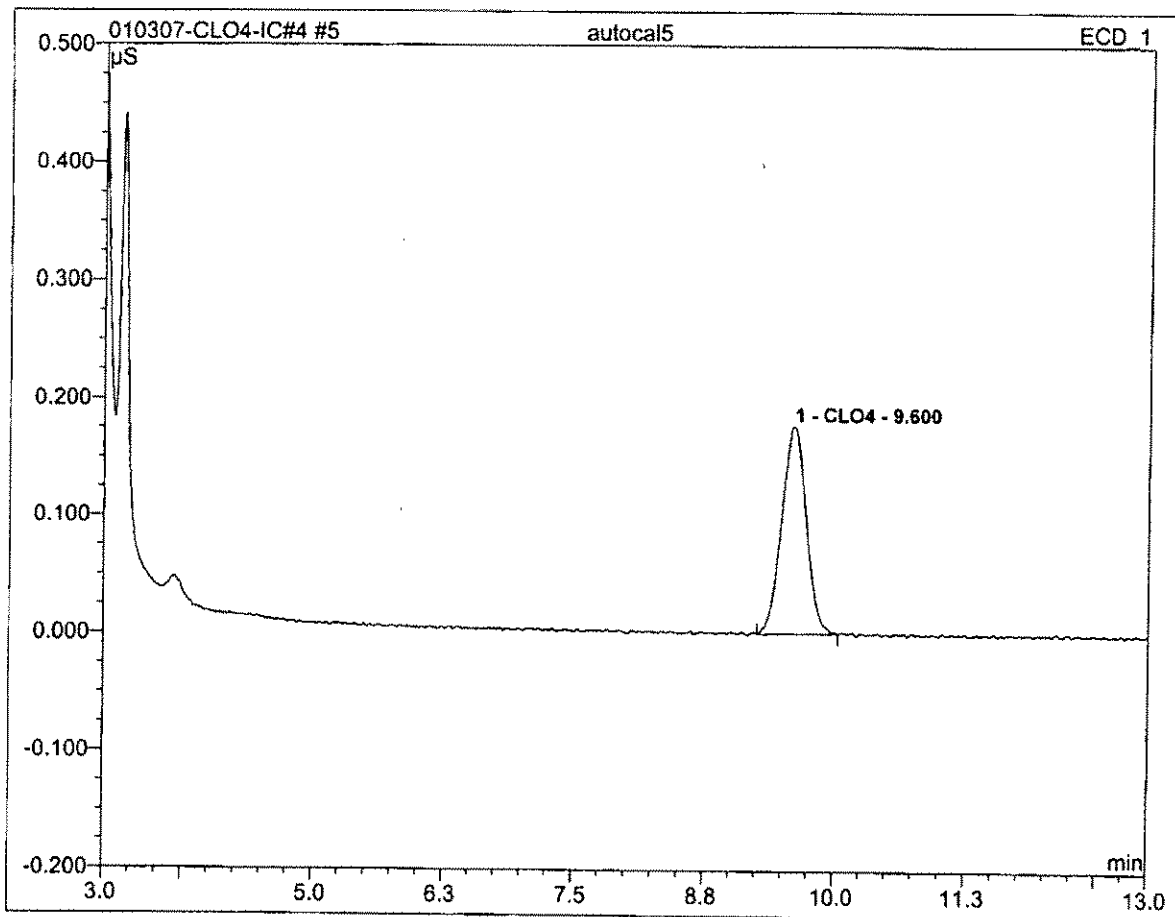
No.	Ret.Time min	Peak Name	Height μS	Area μS*min	Rel.Area %	Amount	Type
1	9.59	CLO4	0.027	0.007	100.00	3.946	BMB
Total:			0.027	0.007	100.00	3.946	

4 autocal4			
RAJA060913-4			
Sample Name:	autocal4	Channel:	ECD_1
Sample Type:	standard	Control Program:	IC4-CLO4 PROGRAM
Recording Time:	12/28/2006 12:34	Quantif. Method:	IC#4-CLO4-LOW
Analyst:	raja	Dilution Factor:	1.0000



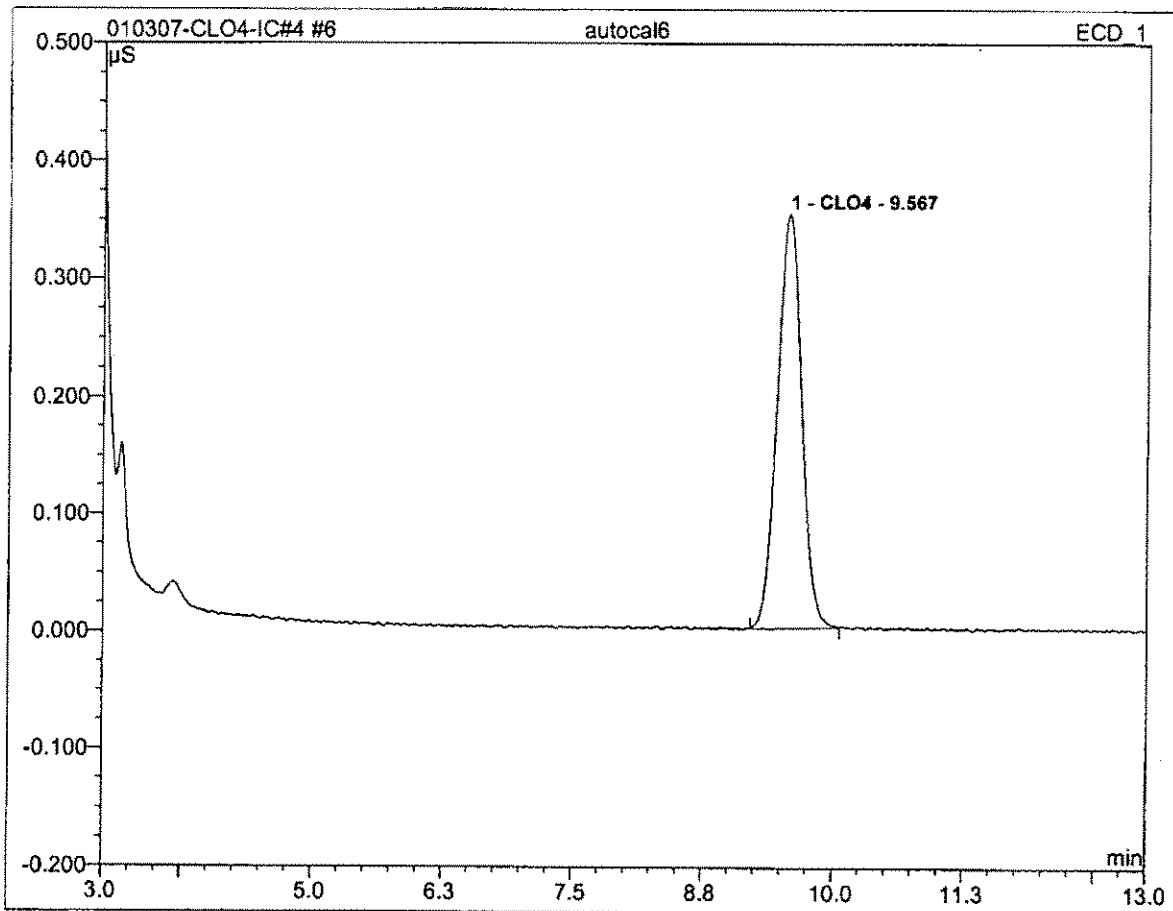
No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	9.58	CLO4	0.068	0.018	100.00	9.830	BMB
Total:			0.068	0.018	100.00	9.830	

5 autocal5			
RAJA060913-5			
Sample Name:	autocal5	Channel:	ECD_1
Sample Type:	standard	Control Program:	IC4-CLO4 PROGRAM
Recording Time:	12/28/2006 12:51	Quantif. Method:	IC#4-CLO4-LOW
Analyst:	raja	Dilution Factor:	1.0000



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	9.60	CLO4	0.177	0.048	100.00	25.500	BMB
Total:			0.177	0.048	100.00	25.500	

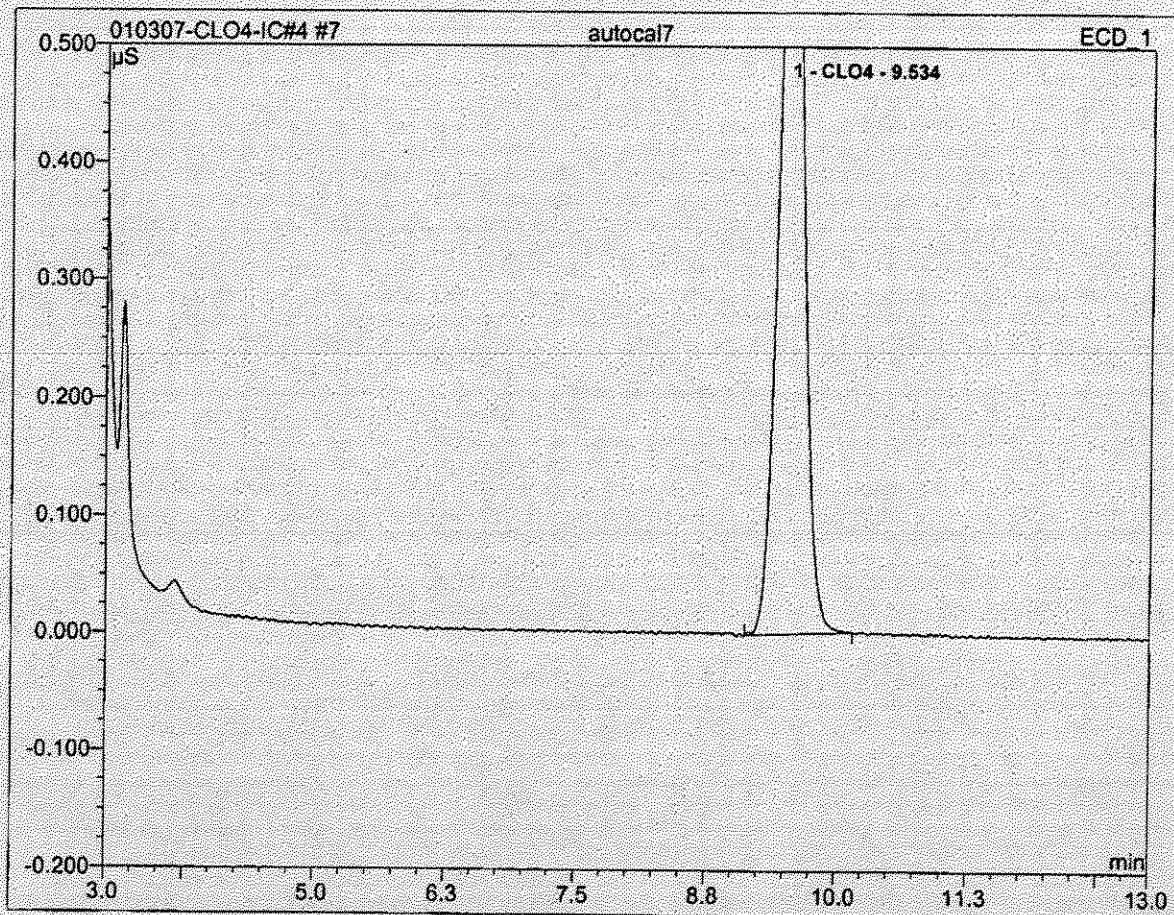
6 autocal6			
RAJA060913-6			
Sample Name:	autocal6	Channel:	ECD_1
Sample Type:	standard	Control Program:	IC4-CLO4 PROGRAM
Recording Time:	12/28/2006 13:08	Quantif. Method:	IC#4-CLO4-LOW
Analyst:	raja	Dilution Factor:	1.0000



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	9.57	CLO4	0.352	0.096	100.00	49.704	BMB
Total:			0.352	0.096	100.00	49.704	

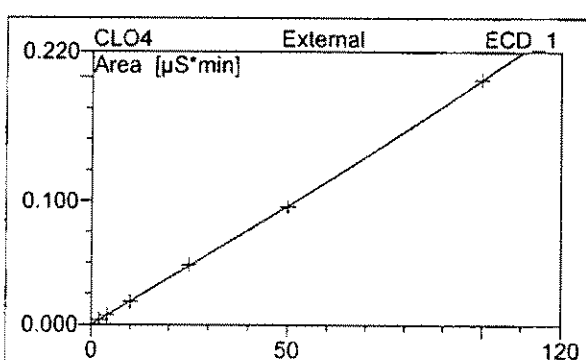
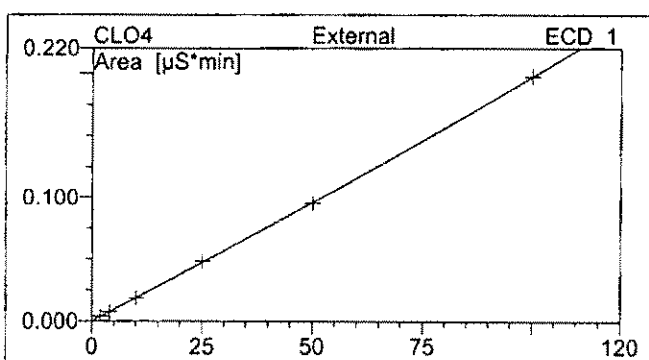
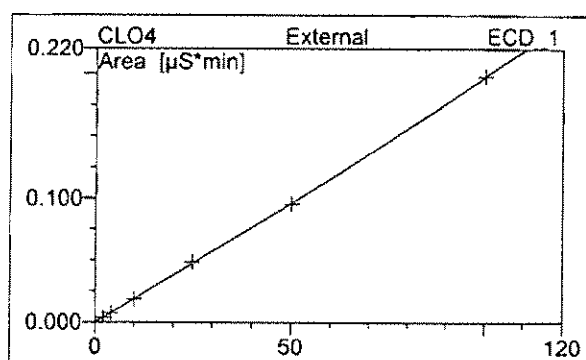
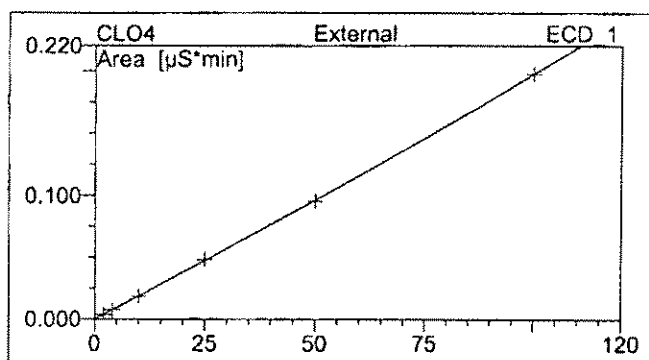
7 autocal7**RAJA060913-7**

Sample Name:	autocal7	Channel:	ECD_1
Sample Type:	standard	Control Program:	IC4-CLO4 PROGRAM
Recording Time:	12/28/2006 13:25	Quantif. Method:	IC#4-CLO4-LOW
Analyst:	raja	Dilution Factor:	1.0000



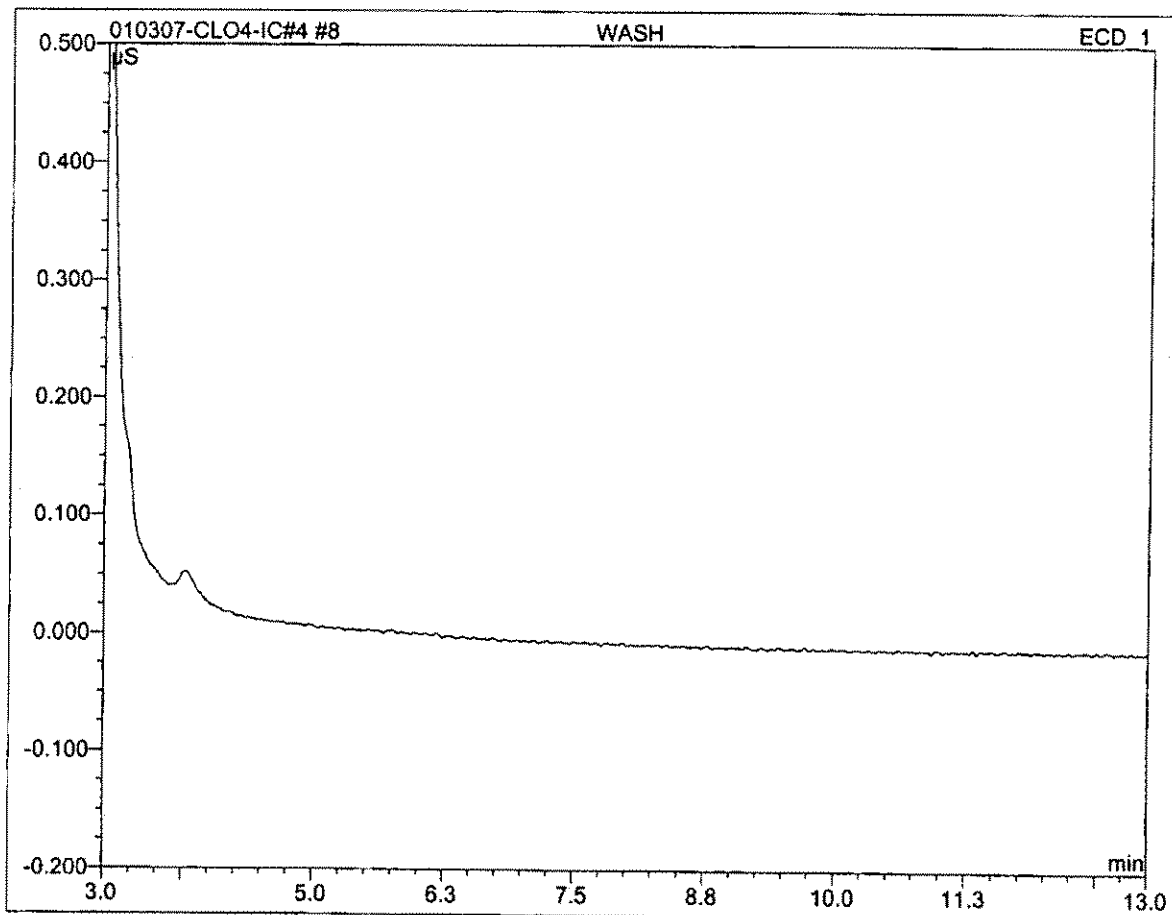
No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	9.53	CLO4	0.735	0.198	100.00	100.043	BMB
Total:			0.735	0.198	100.00	100.043	

7 autocal7	
RAJA060913-7	
Sample Name:	autocal7
Vial Number:	141
Sample Type:	standard
Control Program:	IC4-CLO4 PROGRAM
Quantif. Method:	IC#4-CLO4-LOW
Recording Time:	12/28/2006 13:25
Run Time (min):	14.50
Injection Volume:	1000.0
Channel:	ECD_1
Wavelength:	n.a.
Bandwidth:	n.a.
Dilution Factor:	1.0000
Sample Weight:	1.0000
Sample Amount:	1.0000



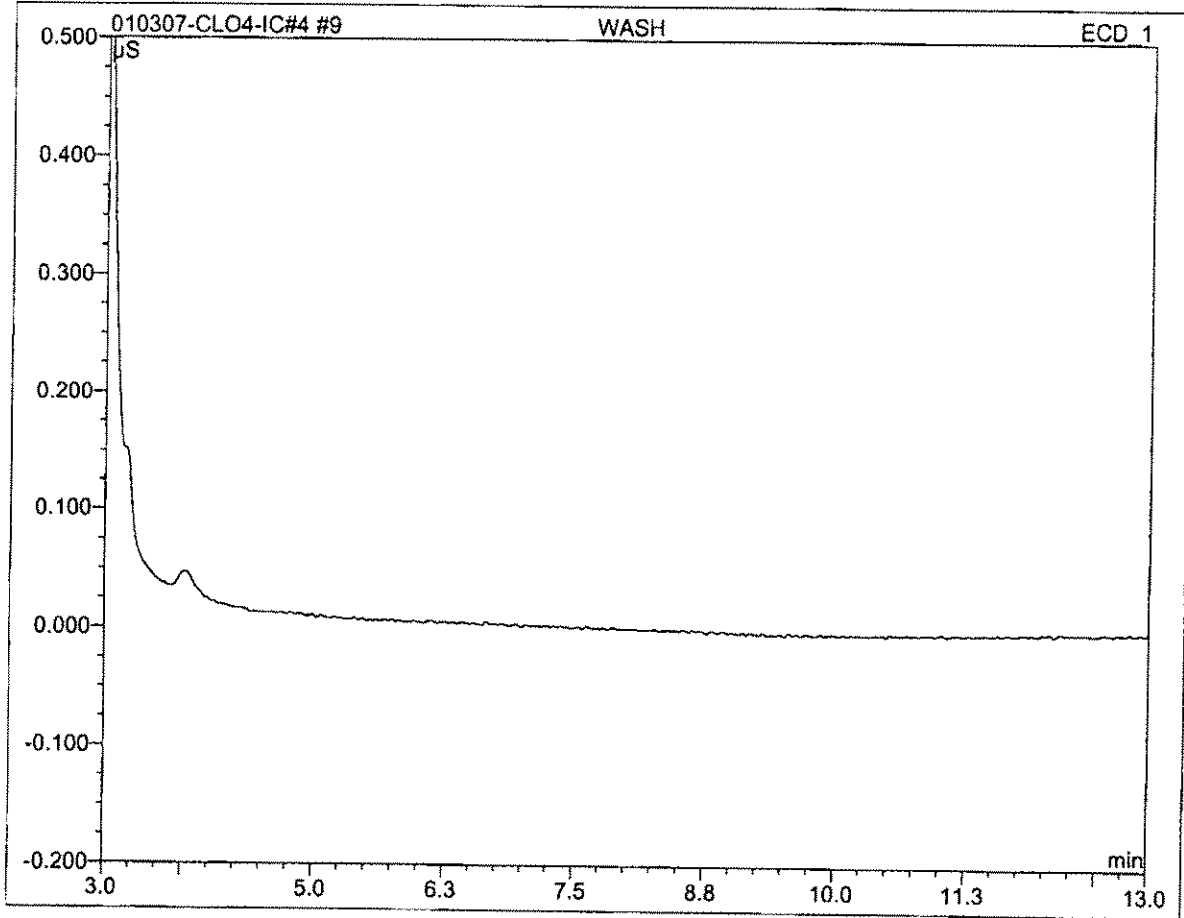
No.	Ret.Time min	Peak Name	Cal.Type	Points	Corr.Coeff. %	Offset	Slope	Curve
1	9.53	CLO4	0QOff	6	99.9871	0.0000	0.0019	0.0000
Average:					99.9871	0.0000	0.0019	0.0000

8 WASH			
Sample Name:	WASH	Channel:	ECD_1
Sample Type:	unknown	Control Program:	IC4-CLO4 PROGRAM
Recording Time:	01/03/2007 16:13	Quantif. Method:	IC#4-CLO4-LOW
Analyst:	raja	Dilution Factor:	1.0000



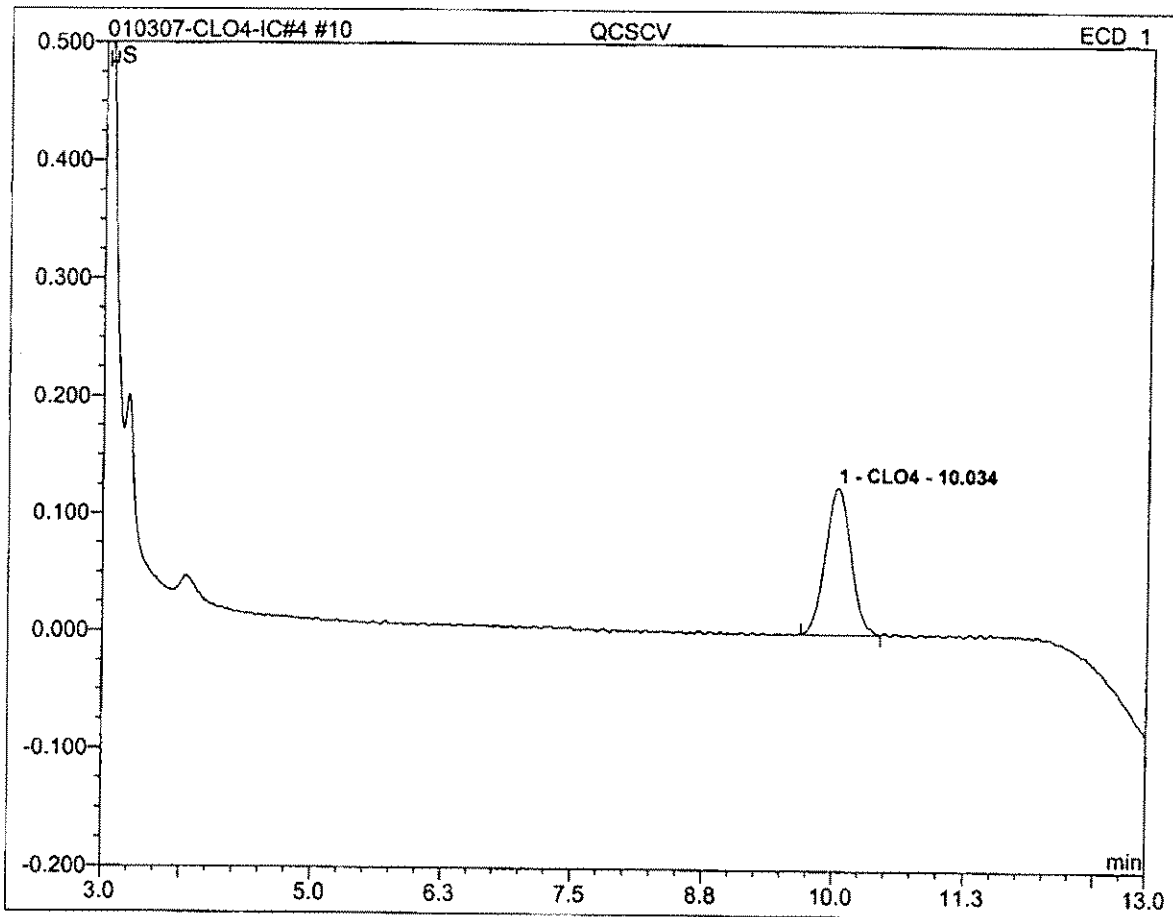
No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
Total:			0.000	0.000	0.00	0.000	

9 WASH			
Sample Name:	WASH	Channel:	ECD_1
Sample Type:	unknown	Control Program:	IC4-CLO4 PROGRAM
Recording Time:	01/03/2007 16:30	Quantif. Method:	IC#4-CLO4-LOW
Analyst:	raja	Dilution Factor:	1.0000



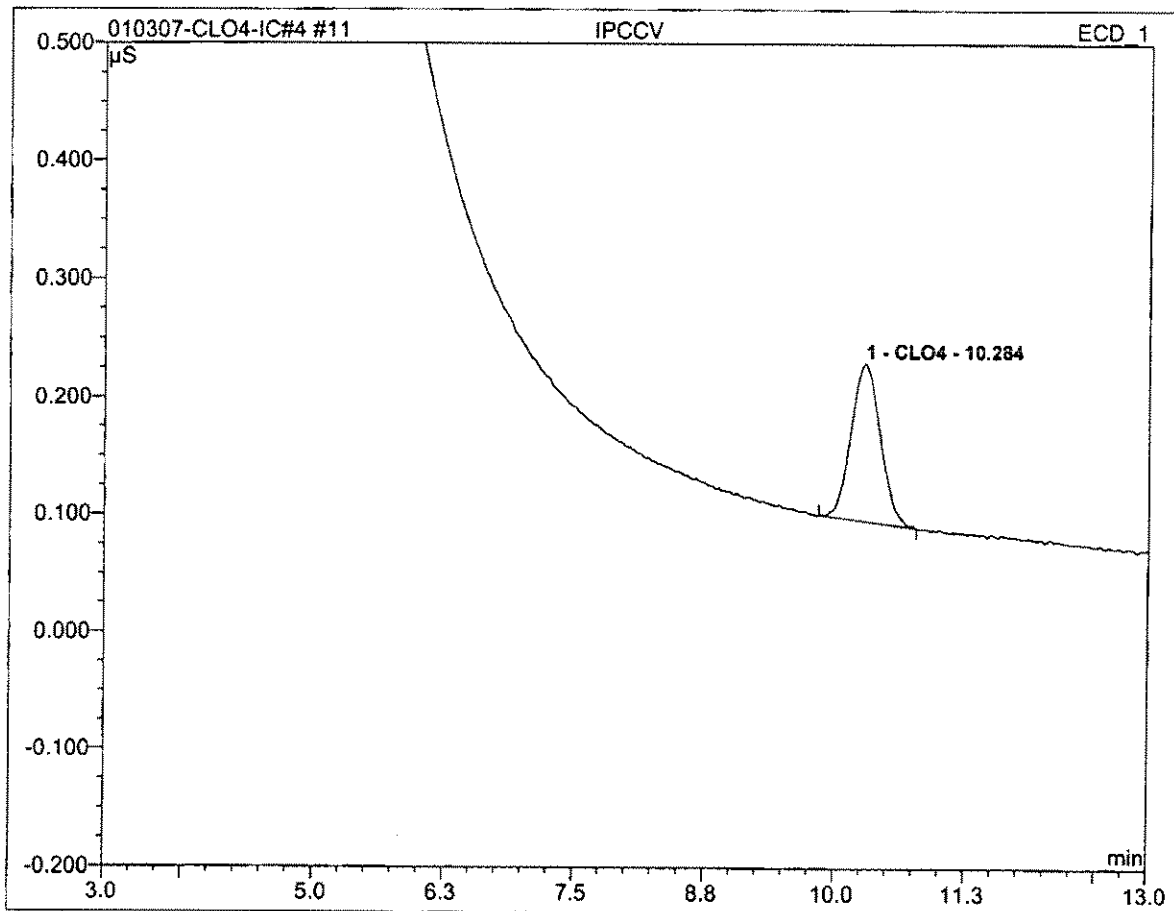
No.	Ret.Time min	Peak Name	Height μS	Area μS*min	Rel.Area %	Amount	Type
Total:			0.000	0.000	0.00	0.000	

10 QCSCV			
Sample Name:	QCSCV	Channel:	ECD_1
Sample Type:	unknown	Control Program:	IC4-CLO4 PROGRAM
Recording Time:	01/03/2007 16:47	Quantif. Method:	IC#4-CLO4-LOW
Analyst:	raja	Dilution Factor:	1.0000



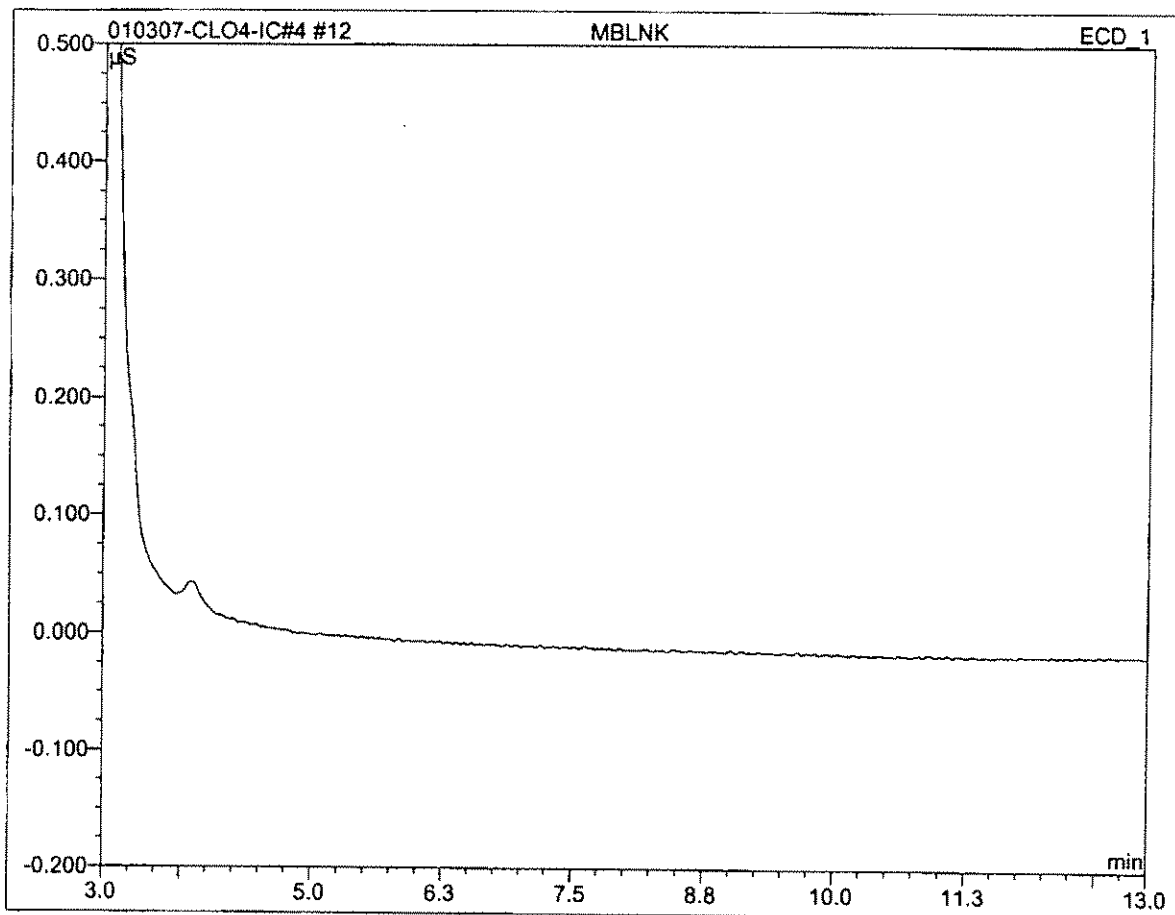
No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Ref.Area %	Amount	Type
1	10.03	CLO4	0.126	0.036	100.00	19.113	BMB
Total:			0.126	0.036	100.00	19.113	

11 IPCCV			
Sample Name:	IPCCV	Channel:	ECD_1
Sample Type:	unknown	Control Program:	IC4-CLO4 PROGRAM
Recording Time:	01/03/2007 17:04	Quantif. Method:	IC#4-CLO4-LOW
Analyst:	raja	Dilution Factor:	1.0000



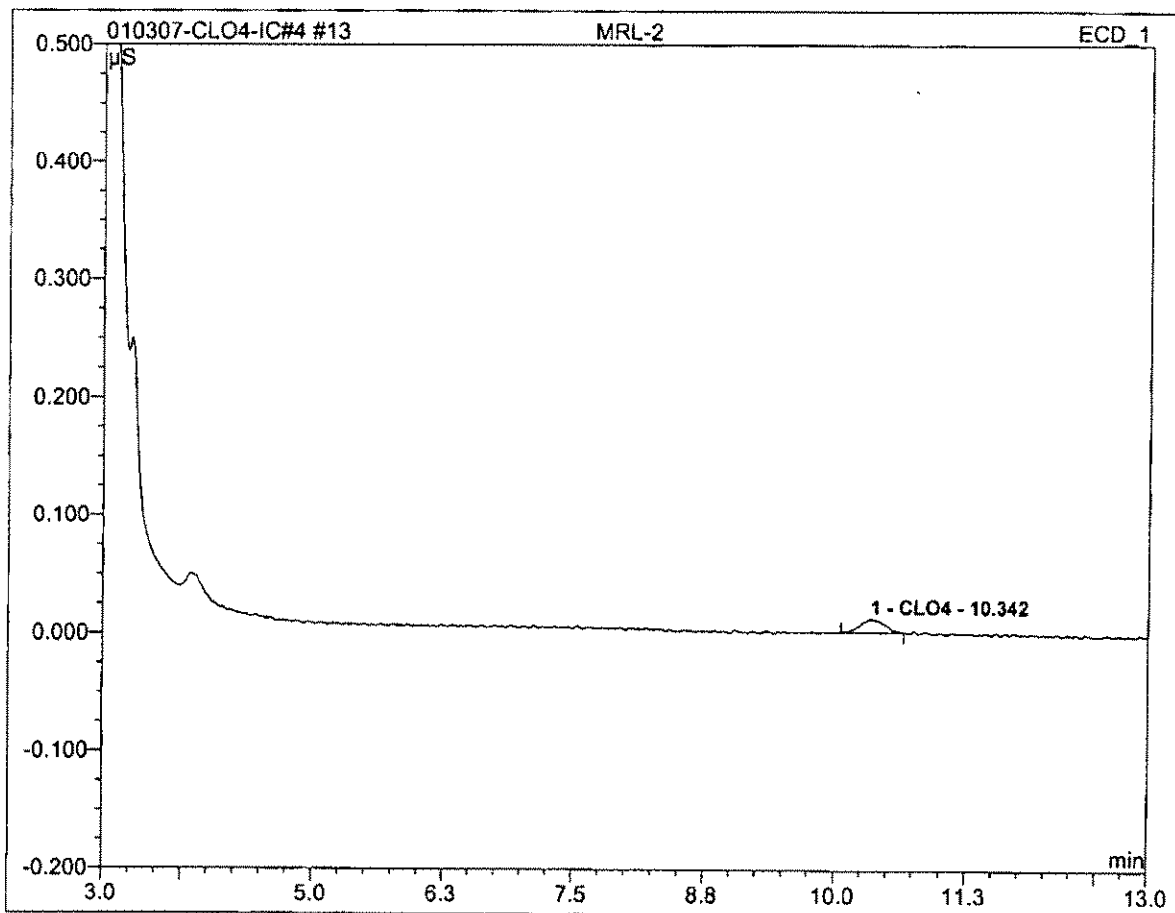
No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	10.28	CLO4	0.135	0.044	100.00	23.243	BMB
Total:			0.135	0.044	100.00	23.243	

12 MBLNK			
Sample Name:	MBLNK	Channel:	ECD_1
Sample Type:	unknown	Control Program:	IC4-CLO4 PROGRAM
Recording Time:	01/03/2007 17:21	Quantif. Method:	IC#4-CLO4-LOW
Analyst:	raja	Dilution Factor:	1.0000



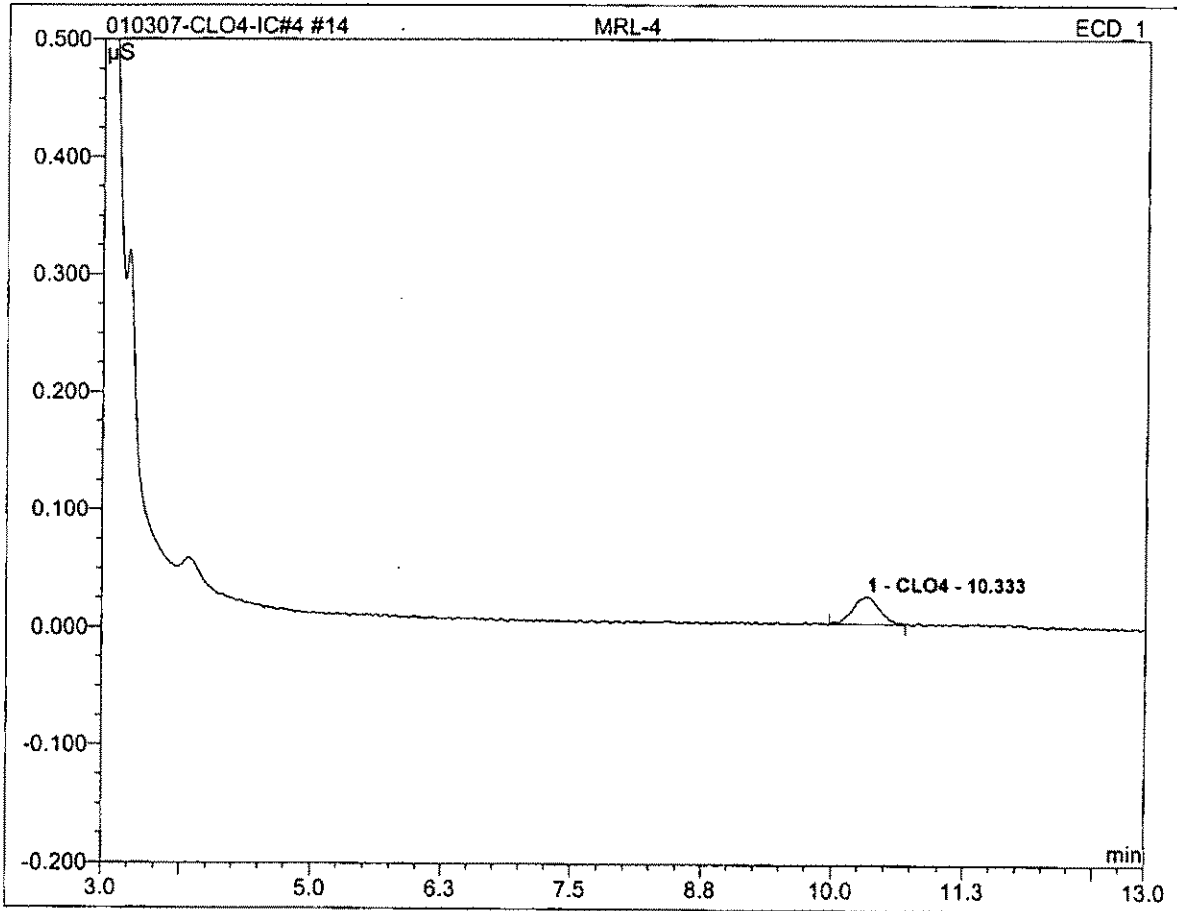
No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
Total:			0.000	0.000	0.00	0.000	

13 MRL-2			
Sample Name:	MRL-2	Channel:	ECD_1
Sample Type:	unknown	Control Program:	IC4-CLO4 PROGRAM
Recording Time:	01/03/2007 17:38	Quantif. Method:	IC#4-CLO4-LOW
Analyst:	raja	Dilution Factor:	1.0000



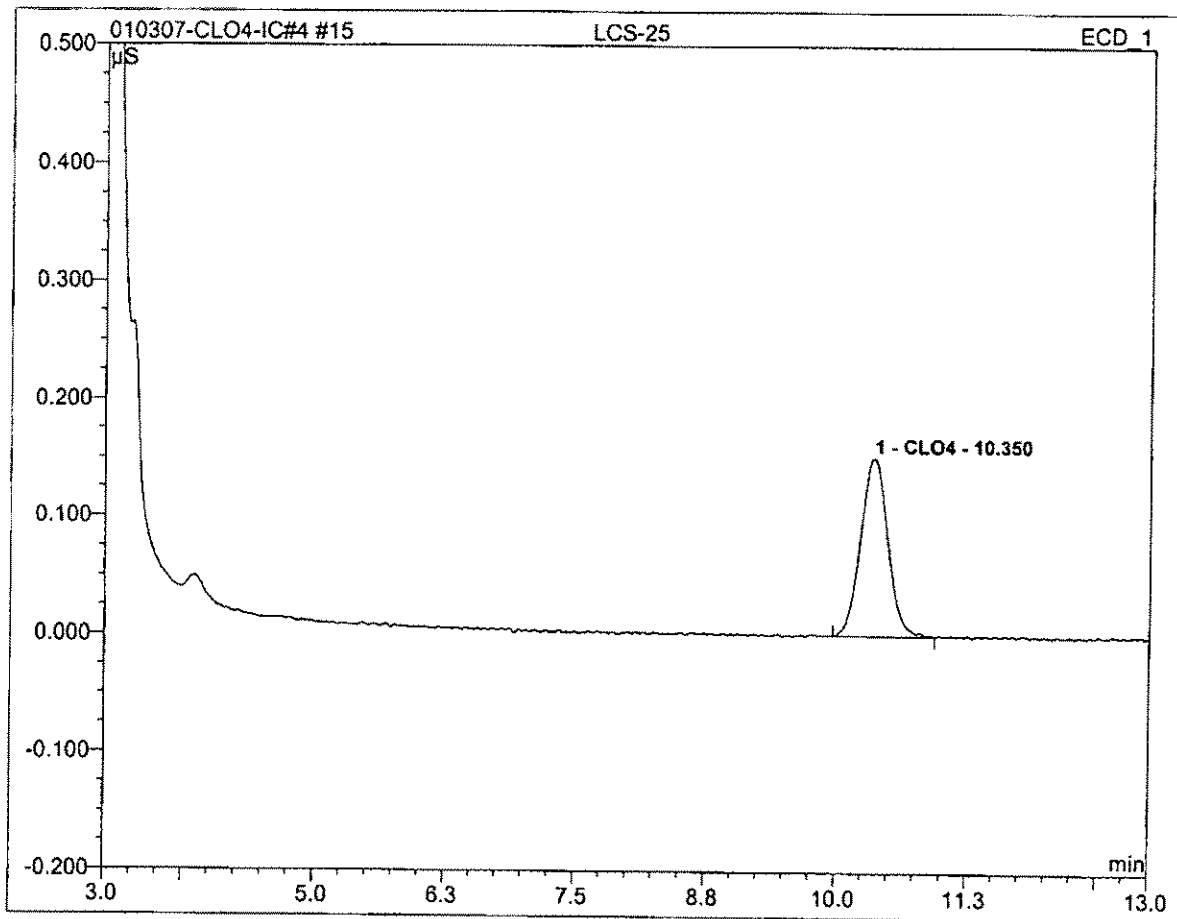
No.	Ret.Time min	Peak Name	Height μS	Area μS*min	Rel.Area %	Amount	Type
1	10.34	CLO4	0.012	0.003	100.00	1.707	BMB
Total:			0.012	0.003	100.00	1.707	

14 MRL-4			
Sample Name:	MRL-4	Channel:	ECD_1
Sample Type:	unknown	Control Program:	IC4-CLO4 PROGRAM
Recording Time:	01/03/2007 17:55	Quantif. Method:	IC#4-CLO4-LOW
Analyst:	raja	Dilution Factor:	1.0000



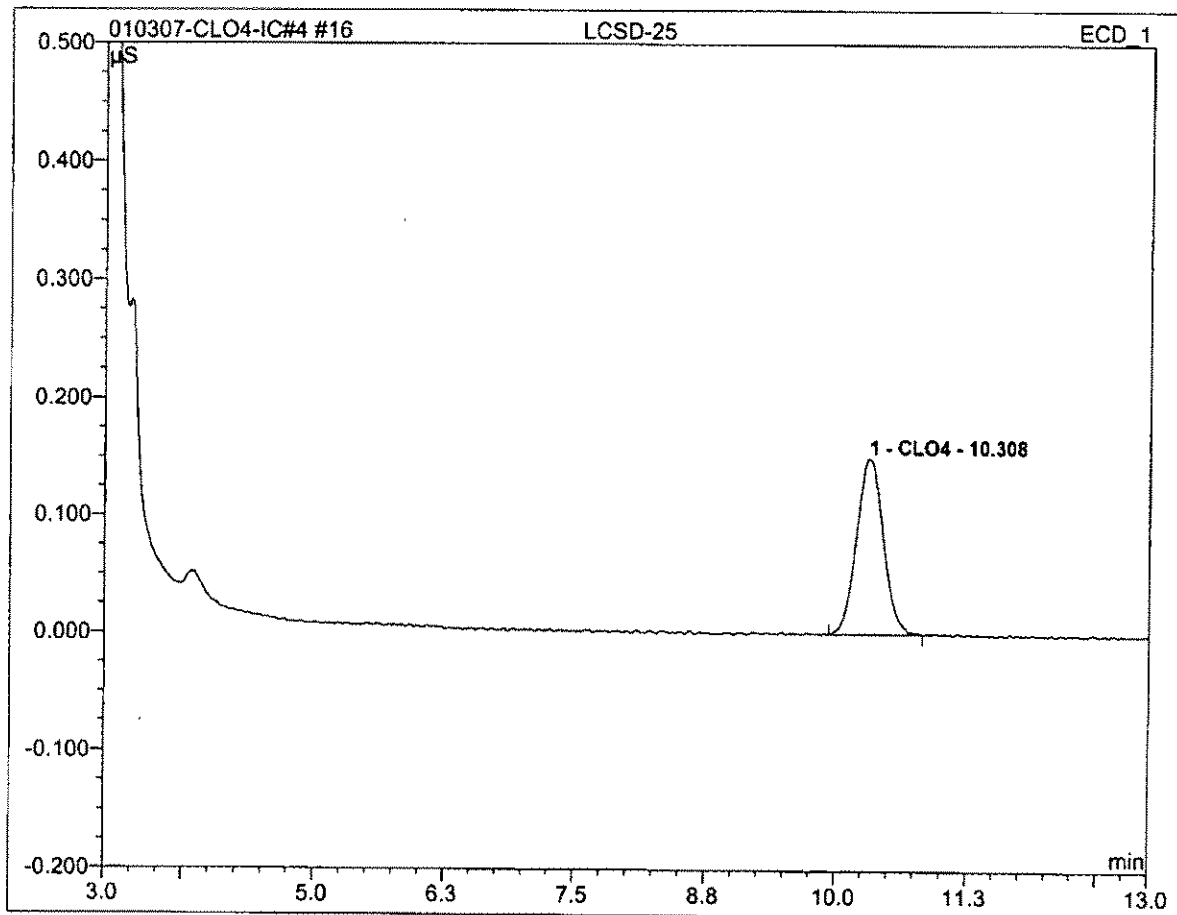
No.	Ret.Time min	Peak Name	Height μS	Area μS*min	Rel.Area %	Amount	Type
1	10.33	CLO4	0.024	0.007	100.00	3.727	BMB
Total:			0.024	0.007	100.00	3.727	

15 LCS-25			
Sample Name:	LCS-25	Channel:	ECD_1
Sample Type:	unknown	Control Program:	IC4-CLO4 PROGRAM
Recording Time:	01/03/2007 18:12	Quantif. Method:	IC#4-CLO4-LOW
Analyst:	raja	Dilution Factor:	1.0000



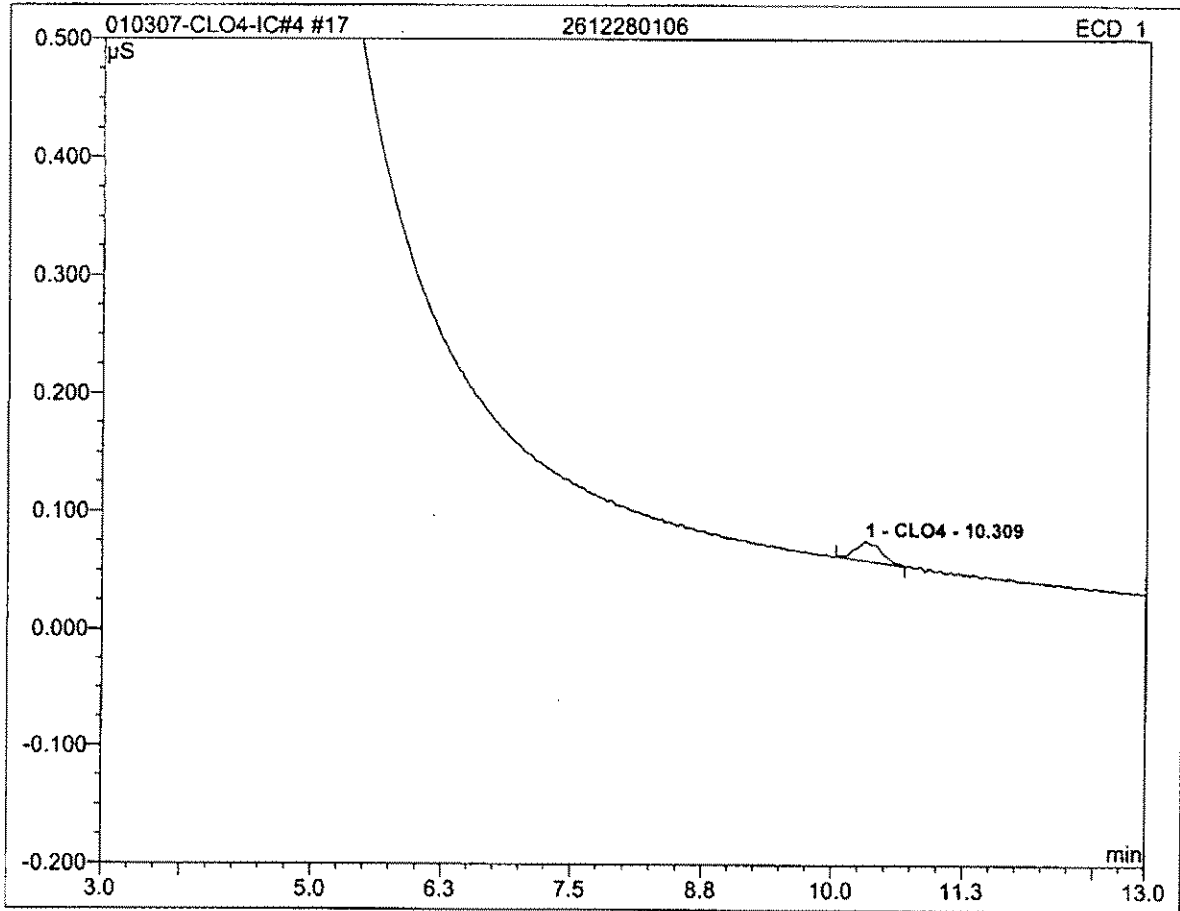
No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	10.35	CLO4	0.151	0.045	100.00	23.997	BMB
Total:			0.151	0.045	100.00	23.997	

16 LCSD-25			
Sample Name:	LCSD-25	Channel:	ECD_1
Sample Type:	unknown	Control Program:	IC4-CLO4 PROGRAM
Recording Time:	01/03/2007 18:29	Quantif. Method:	IC#4-CLO4-LOW
Analyst:	raja	Dilution Factor:	1.0000



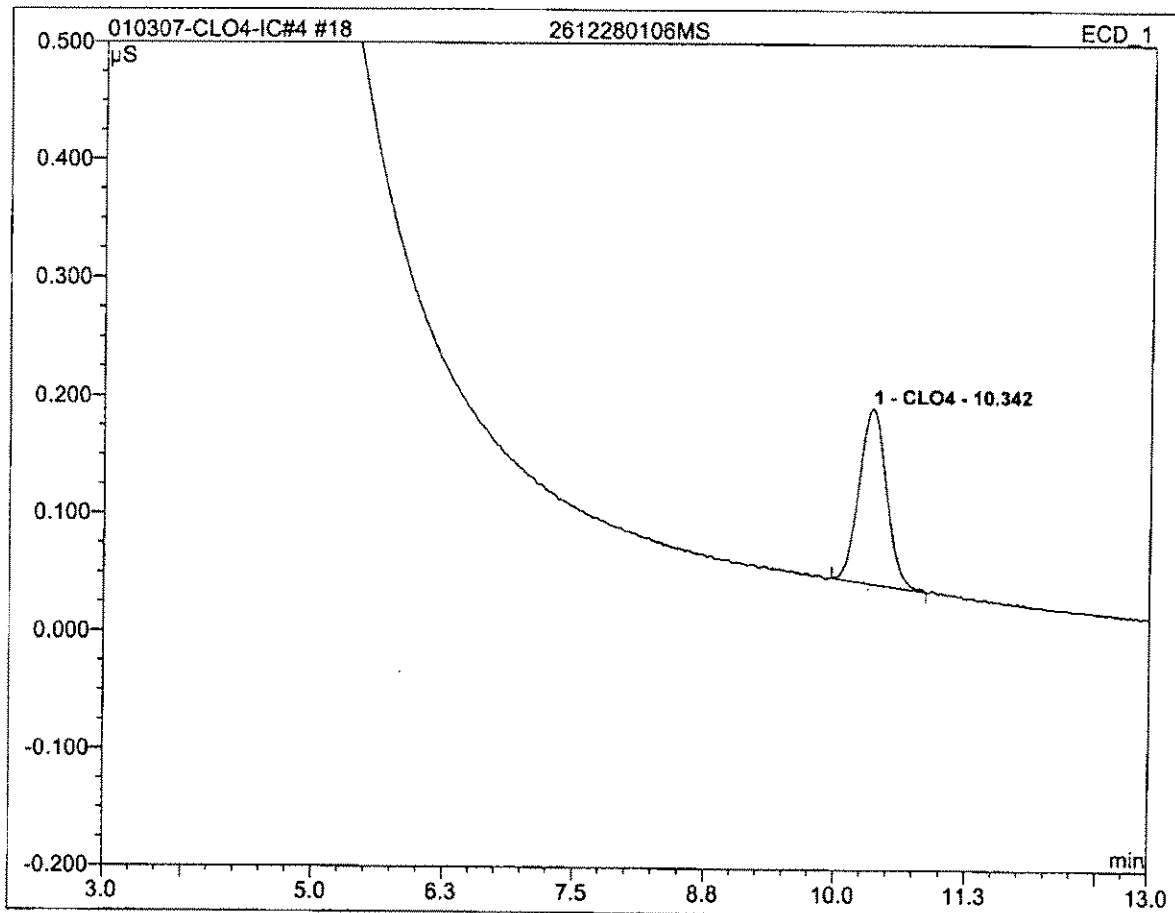
No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	10.31	CLO4	0.149	0.045	100.00	23.528	BMB
Total:			0.149	0.045	100.00	23.528	

17 2612280106			
Sample Name:	2612280106	Channel:	ECD_1
Sample Type:	unknown	Control Program:	IC4-CLO4 PROGRAM
Recording Time:	01/03/2007 18:46	Quantif. Method:	IC#4-CLO4-LOW
Analyst:	raja	Dilution Factor:	1.0000



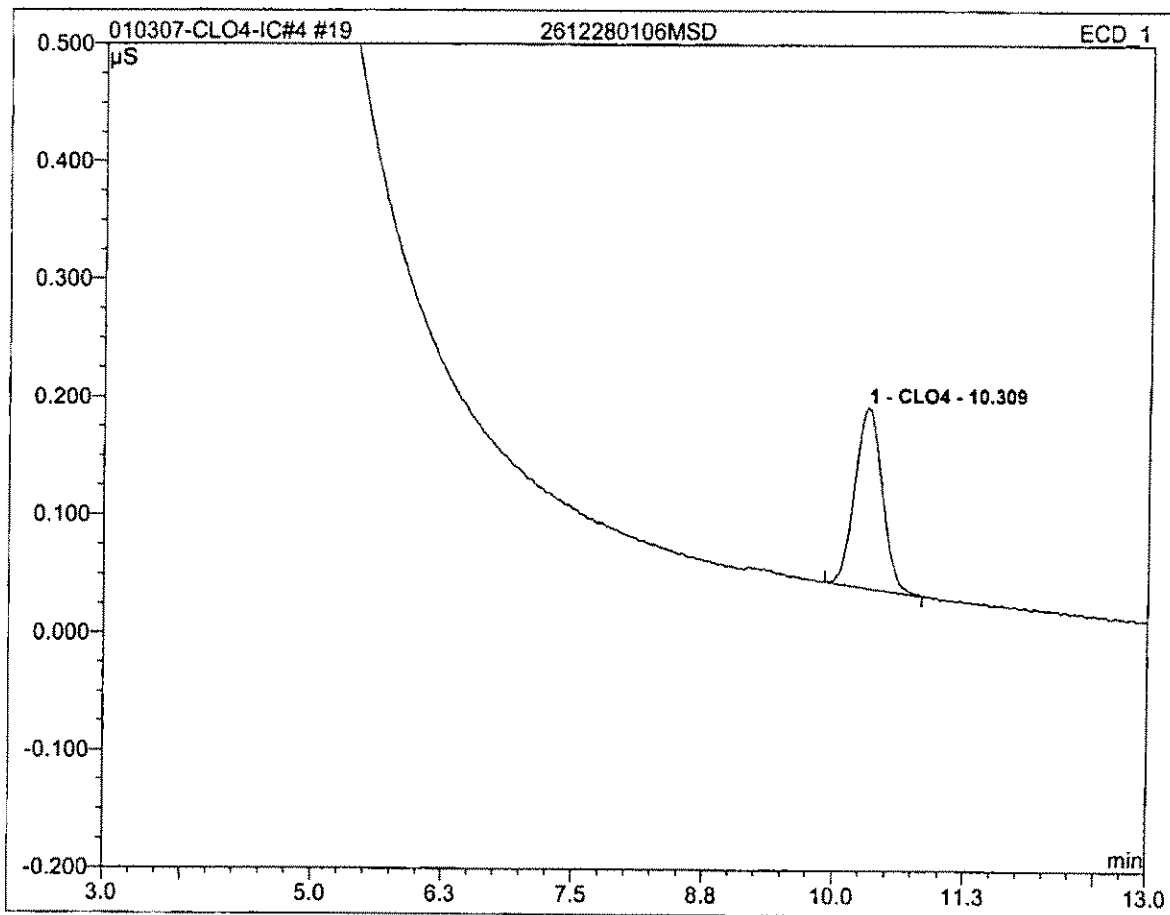
No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	10.31	CLO4	0.016	0.005	100.00	2.543	BMB
Total:			0.016	0.005	100.00	2.543	

18 2612280106MS			
Sample Name:	2612280106MS	Channel:	ECD_1
Sample Type:	unknown	Control Program:	IC4-CLO4 PROGRAM
Recording Time:	01/03/2007 19:03	Quantif. Method:	IC#4-CLO4-LOW
Analyst:	raja	Dilution Factor:	1.0000



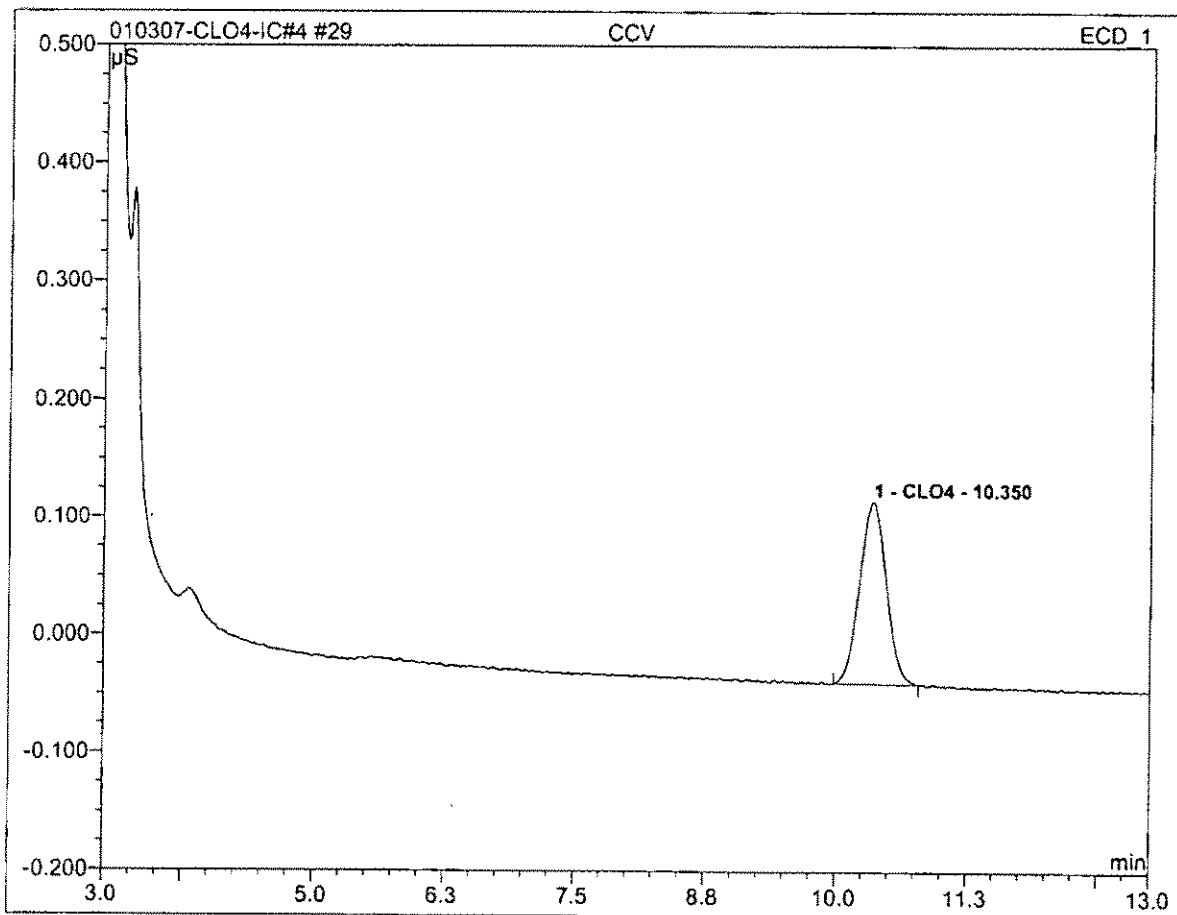
No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Ref.Area %	Amount	Type
1	10.34	CLO4	0.149	0.045	100.00	23.841	BMB
Total:			0.149	0.045	100.00	23.841	

19 2612280106MSD			
Sample Name:	2612280106MSD	Channel:	ECD_1
Sample Type:	unknown	Control Program:	IC4-CLO4 PROGRAM
Recording Time:	01/03/2007 19:20	Quantif. Method:	IC#4-CLO4-LOW
Analyst:	raja	Dilution Factor:	1.0000



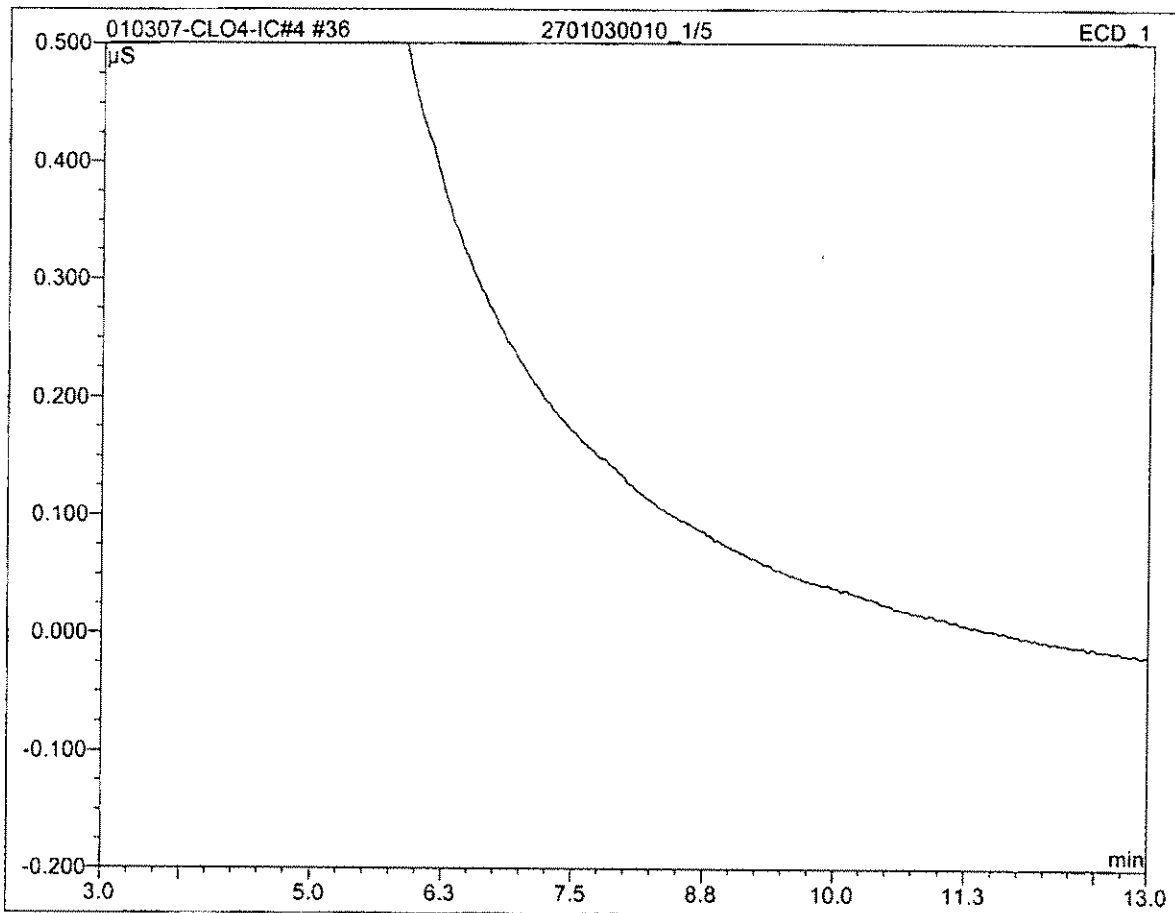
No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	10.31	CLO4	0.153	0.046	100.00	24.327	BMB
Total:			0.153	0.046	100.00	24.327	

29 CCV			
Sample Name:	CCV	Channel:	ECD_1
Sample Type:	unknown	Control Program:	IC4-CLO4 PROGRAM
Recording Time:	01/03/2007 22:10	Quantif. Method:	IC#4-CLO4-LOW
Analyst:	raja	Dilution Factor:	1.0000



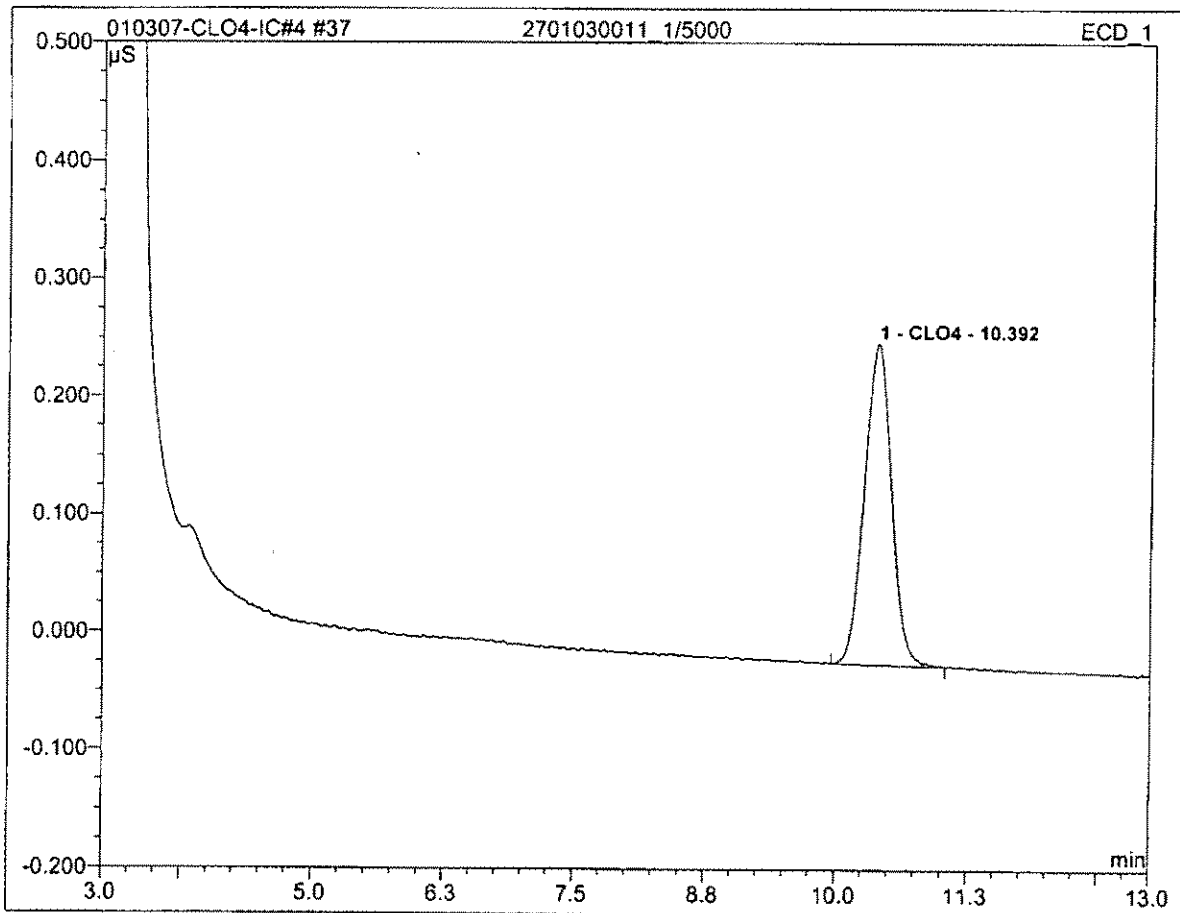
No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	10.35	CLO4	0.155	0.046	100.00	24.063	BMB
Total:			0.155	0.046	100.00	24.063	

36 2701030010_1/5			
Sample Name:	2701030010_1/5	Channel:	ECD_1
Sample Type:	unknown	Control Program:	IC4-CLO4 PROGRAM
Recording Time:	01/04/2007 00:09	Quantif. Method:	IC#4-CLO4-LOW
Analyst:	raja	Dilution Factor:	1.0000



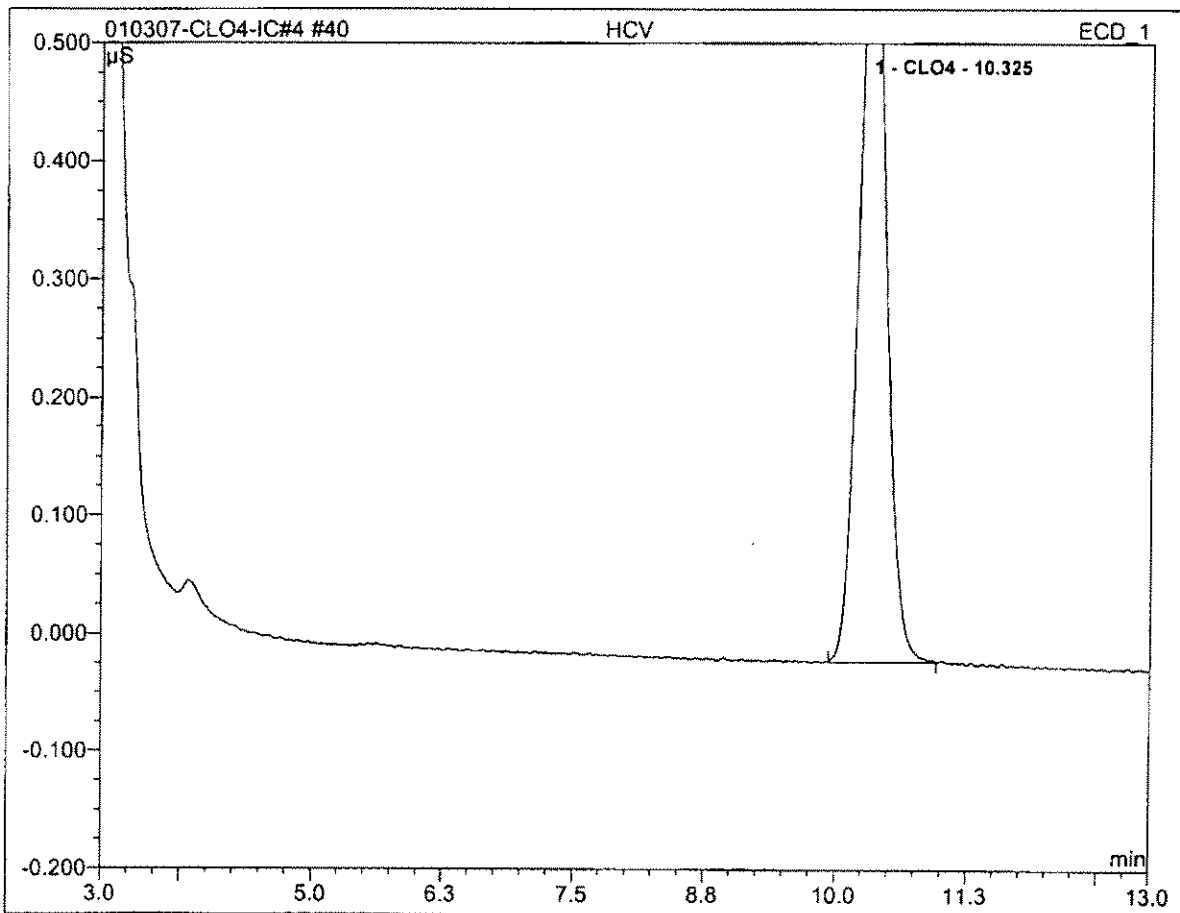
No.	Ret.Time min	Peak Name	Height μS	Area μS*min	Rel.Area %	Amount	Type
Total:			0.000	0.000	0.00	0.000	

37 2701030011_1/5000			
Sample Name:	2701030011_1/5000	Channel:	ECD_1
Sample Type:	unknown	Control Program:	IC4-CLO4 PROGRAM
Recording Time:	01/04/2007 00:26	Quantif. Method:	IC#4-CLO4-LOW
Analyst:	raja	Dilution Factor:	5000.0000



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	10.39	CLO4	0.273	0.082	100.00	213260.786	BMB
Total:			0.273	0.082	100.00	213260.786	

40 HCV			
Sample Name:	HCV	Channel:	ECD_1
Sample Type:	unknown	Control Program:	IC4-CLO4 PROGRAM
Recording Time:	01/04/2007 01:17	Quantif. Method:	IC#4-CLO4-LOW
Analyst:	raja	Dilution Factor:	1.0000



No.	Ret.Time min	Peak Name	Height μS	Area μS*min	Rel.Area %	Amount	Type
1	10.33	CLO4	0.660	0.195	100.00	98.649	BMB
Total:			0.660	0.195	100.00	98.649	

41 STOP			
<i>Sample Name:</i>	STOP	<i>Channel:</i>	n.a.
<i>Sample Type:</i>	unknown	<i>Control Program:</i>	STOP PROGRAM IC#4
<i>Recording Time:</i>	01/04/2007 01:34	<i>Quantif. Method:</i>	IC#4-CLO4-LOW
<i>Analyst:</i>	raja	<i>Dilution Factor:</i>	1.0000

010307-CLO4-IC#4 #41	STOP	ECD 1
Can't open raw data file "C:\Chromel\Data\2007\JAN\010307-CLO4-IC#4.SEQ\ECD_1.CHL\41.acd". The system cannot find the file specified.		

n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
	n.a.		n.a.	n.a.	n.a.	n.a.	
Total:			0.000	0.000	0.00	0.000	

**Standard
Preparation
Worksheet
&
Certificate of
Analysis**

Reagent Preparation Documentation

Reagent: DBP LCS Stock Solution
Date Received/Prepped: 082706/100106/110106/111606/122006/010807/020607
Date Expired: 092706/110106/120106/121606/012007/020807/050607
Manufacturer: _____
Storage Condition: _____

MW #: Raja060827-1
By: Raja
Matrix: aq
Amount: 100ml
Lot #: _____

Component	Comment	Standard	Concentration
Chlorite 1000ppm Exp: - 03-24-07	1000 mL → Add 50 mL of EDA (LMR060129-12) the	R 201401	10ppm
Chlorate 1000ppm Exp: - 05-31-09	1000 mL dilute to 100 ml with D.I. water	R 201400	10ppm
Bromide Exp: - 10-27-07	500 mL	R 201369	5ppm

Comment: _____

Reagent: DBP LCS Solution
Date Received/Prepped: 082706/100106/110106/111606/122006/010807/020607
Date Expired: 092706/110106/120106/121606/012007/020807/050607
Manufacturer: _____
Storage Condition: _____

MW #: Raja060827-2
By: Raja
Matrix: aq
Amount: 100ml
Lot #: _____

Component	Comment	Standard	Concentration
DBP LCS stock soln	2ml → Dilute with D.I. water to 100ml	Raja060827-1	ClO ₂ ⁻ - 200ppb
EDA solution	50 mL	LMR060129-12	ClO ₃ ⁻ - 200ppb Br ⁻ - 100ppb

Comment: Prep: _____
 Expired: _____

Reagent: Perchlorate Calibration Stock Solution
Date Received/Prepped: 091306/101106/111306/012107/022007/022807
Date Expired: 121306/101107/022307/042107/050607/052807
Manufacturer: _____
Storage Condition: _____

MW #: Raja060913-1
By: Raja
Matrix: aq
Amount: 100ml
Lot #: _____

Component	Comment	Standard	Concentration
Perchlorate 1000ppm Exp: - 072809	100 mL → Dilute with D.I. water to 100ml	R201449	1000ppb

Comment: 070407/042107/051607/061207/060407/072707/081107/091207/

Reagent Preparation Documentation

Reagent: ClO₄ Calibration Standard #1
Date Received/Prepped: 091306/101106/113006/102107/102207/022807
Date Expired: 121306/101107/1023007/1042107/105207/1052807
Manufacturer: _____
Storage Condition: _____

MW #: Raja060913-2
By: Raja
Matrix: aq
Amount: 100ml
Lot #: _____

Component	Comment	Standard	Concentration
ClO ₄ Cal. Stock sol'n	200 ML → Dilute to 100ml with D.I. water	Raja060913-1	2.0 ppb

Comment: 030407/042707/051607/061207/060407/072707/081607/091207/

Reagent: ClO₄ Calibration Standard #2
Date Received/Prepped: 091306/101106/113006/102107/102207/022807
Date Expired: 121306/101107/1023007/1042107/105207/1052807
Manufacturer: _____
Storage Condition: _____

MW #: Raja060913-3
By: Raja
Matrix: aq
Amount: 100ml
Lot #: _____

Component	Comment	Standard	Concentration
ClO ₄ Cal. Stock sol'n	400 ML → Raise to 100ml with D.I. water	Raja060913-1	4.0 ppb

Comment: 030407/042707/051607/061207/060407/072707/081607/091207/

Reagent: ClO₄ Calibration Standard #3
Date Received/Prepped: 091306/101106/113006/102107/102207/022807
Date Expired: 121306/101107/1023007/1042107/105207/1052807
Manufacturer: _____
Storage Condition: _____

MW #: Raja060913-4
By: Raja
Matrix: aq
Amount: 100ml
Lot #: _____

Component	Comment	Standard	Concentration
ClO ₄ Cal. Stock sol'n	1ml → Dilute to 100ml with D.I. water	Raja060913-1	10.0 ppb

Comment: 030407/042707/051607/061207/060407/072707/081607/091207/

Reagent Preparation Documentation

Reagent: ClO₄ Calibration standard #4
Date Received/Prepped: 091306/101106 / 113006 / 012107 / 022807 / 030407
Date Expired: 121306/011107 / 022807 / 042107 / 052807 / 060407
Manufacturer: _____
Storage Condition: _____

MW #: Raja060913-5
By: Raja
Matrix: aq
Amount: 100ml
Lot #: _____

Component	Comment	Standard	Concentration
ClO ₄ cal. stock sol'n	2.5ml → Dilute to 100ml with D.I. water	Raja060913-1	25.0ppb

Comment: 042707 / 051607 / 061207 /
072707 / 081607 / 091207 /

Reagent: ClO₄ Calibration Standard #5
Date Received/Prepped: 091306/101106 / 113006 / 012107 / 022807 / 030407
Date Expired: 121306/011107 / 023007 / 042107 / 052807 / 060407
Manufacturer: _____
Storage Condition: _____

MW #: Raja060913-6
By: Raja
Matrix: aq
Amount: 100ml
Lot #: _____

Component	Comment	Standard	Concentration
ClO ₄ cal. stock sol'n	5.0ml → Dilute to 100ml with D.I. water	Raja060913-1	50.0ppb

Comment: 042707 / 051607 /
072707 / 081607 /

Reagent: ClO₄ Calibration Standard #6
Date Received/Prepped: 091306/101106 / 113006 / 012107 / 022807 / 030407
Date Expired: 121306/011107 / 023007 / 042107 / 052807 / 060407
Manufacturer: _____
Storage Condition: _____

MW #: Raja060913-7
By: Raja
Matrix: aq
Amount: 100ml
Lot #: _____

Component	Comment	Standard	Concentration
ClO ₄ cal. stock sol'n	10.0ml → Dilute to 100ml with D.I. water	Raja060913-1	100ppb

Comment: 042707 / 051607 / 061207 /
072707 / 081607 / 091207 /

CERTIFIED WEIGHT REPORT

Part Number: 57001 Lot # 072806 Solvent(s): ASTM Type 1 Water
 Lot Number: 072806
 Description: Perchlorate

R201449

Expiration Date: 072809
 Nominal Concentration (µg/mL): 1000

Weight(s) shown below were combined and diluted to (mL): 1000.55 5E-05 Balance Uncertainty
 0.084 Flask Uncertainty

<i>Lawrence Barry</i>	
Formulated By:	Lawrence Barry 072806
<i>Pedro Rentas</i>	
Reviewed By:	Pedro L. Rentas 072806

Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Assay (%)	Target Weight(g)	Actual Weight(g)	Actual Conc (µg/mL)	Expanded Uncertainty (+/-)	MSDS Information (Solvent Safety Info. On Attached pg.)	NIST	SFM
1. Sodium Perchlorate (ClO4)	IN119 AF06730TQ	1000.0	99.0	0.10	81.2	1.2319	1.23216	1000.2	0.00203	OSHA PEL (TWA) LD50	N/A	3152a

Method: E300P.M. Column: ASAHIPACK ODP50 (150mm X 4.0mm ID X 5.0µm df). Inj. Volume= 10µL. Flow Rate= 1.5mL/min. Column Temp.= 40°C. Isocratic Analysis using Anion Mobile Phase. Detector: PDA (DAD1, Sig=360,20 REF=266, 10). Analyst: Pedro Rentas.

Peak No.	Name	PDA RT (min.)
1	Sodium Perchlorate	21.78

