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Level IV Data Package

MWH Group 236536

Method: EPA 314

2804080743
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Perchlorate QC Checklist

rev: 27 Mar 03

Analysis Date: 4/10/08 **Analyst:** CLV

QC'd by [signature] **Date** 4/15/08

Instrument: IC11 **Calculated MCT Level:** 3155 umhos/cm

Original IPC conductance: 3030 umhos/cm **Daily IPC conductance:** 3030 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 (MBLANK, MRL, ICCSCV, IPC) to be analyzed with every batch (up to 20 samples) or part thereof

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

✓ *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

$PDA/_H = 0.2\%$

$PDA = 6.3\%$

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

— 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%.

— 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 CD_1	
1	autocal1	1.0		04.10.08 18:53	n.a.	
2	autocal2	1.0	2	04.10.08 19:15	2.4036	
3	autocal3	1.0	4	04.10.08 19:38	4.1158	
4	autocal4	1.0	10	04.10.08 20:00	10.3763	
5	autocal5	1.0	25	04.10.08 20:23	23.6594	
6	autocal6	1.0	50	04.10.08 20:45	50.3202	
7	autocal7	1.0	100	04.10.08 21:07	100.1247	
8	QCS	1.0	20	04.10.08 21:30	18.7226	93.6%
9	IPC	1.0	25	04.10.08 21:52	22.2638	89.1%
10	-MBLK	1.0		04.10.08 22:15	n.a.	ND≤½MRL
11	-MRLCHK-2	1.0	2	04.10.08 22:37	2.0211	101%
12	-MRLCHK-4	1.0	4	04.10.08 22:59	4.5049	113%
13	-LCS1	1.0	25	04.10.08 23:22	24.0134	96.0%
14	-LCS2	1.0	25	04.10.08 23:44	23.6599	94.6%
15	2804070040	1.0		04.11.08 00:07	n.a.	
16	2804070042	1.0		04.11.08 00:29	n.a.	
17	2804070047	1.0		04.11.08 00:51	n.a.	
18	2804070047-MS	1.0	25	04.11.08 01:14	22.4818	89.9%
19	2804070047-MSD	1.0	25	04.11.08 01:36	22.6655	90.7%
20	2804070150	1.0		04.11.08 01:59	n.a.	
21	2804080133	1.0		04.11.08 02:21	n.a.	
22	2804080195_1/2	2.0		04.11.08 02:43	36.4345	
23	2804080211_1/2	2.0		04.11.08 03:06	43.8144	
24	2804080212_1/2	2.0		04.11.08 03:28	44.6204	WS MM 4/14/08
25	2804080214_1/2	2.0		04.11.08 03:51	59.8777	
26	2804080290_1/5	5.0	EC=8800	04.11.08 04:13	n.a.	
27	CCV	1.0	25	04.11.08 04:35	24.2743	97.1%
28	2804080308_1/10000	10000.0		04.11.08 04:58	199888.2069	
29	2804080397	1.0		04.11.08 05:20	n.a.	
30	2804080413	1.0		04.11.08 05:43	n.a.	
31	2804080414	1.0		04.11.08 06:05	n.a.	
32	2804080415	1.0		04.11.08 06:27	5.4689	
33	2804080474_1/5	5.0	EC=8900	04.11.08 06:50	n.a.	
34	2804080475_1/10000	10000.0		04.11.08 07:12	246207.2998	
35	2804080522	1.0		04.11.08 07:35	n.a.	
36	2804080523	1.0		04.11.08 07:57	n.a.	
37	2804080524	1.0		04.11.08 08:19	n.a.	
38	HCV	1.0	100	04.11.08 08:42	100.2906	100%
39	IPC	1.0	25	04.11.08 09:04	22.2458	89.0%
40	-MBLK	1.0		04.11.08 09:27	n.a.	ND≤½MRL
41	-MRLCHK-2	1.0	2	04.11.08 09:49	2.1323	107%
42	-MRLCHK-4	1.0	4	04.11.08 10:11	4.3153	108%
43	-LCS1	1.0	25	04.11.08 10:34	24.6235	98.5%
44	-LCS2	1.0	25	04.11.08 10:56	24.6420	98.6%

45	2804080525	1.0		04.11.08 11:19	n.a.	
46	2804080526	1.0		04.11.08 11:41	n.a.	
47	2804080772	1.0		04.11.08 12:03	n.a.	
48	2804080774	1.0		04.11.08 12:26	2.0651	
49	2804080792	1.0		04.11.08 12:48	2.6018	
50	2804080795	1.0		04.11.08 13:11	2.4850	
51	2804080797	1.0		04.11.08 13:33	1.7660	
52	2804080800	1.0		04.11.08 13:55	1.4553	
53	2804080802	1.0		04.11.08 14:18	1.0177	
54	2804080803	1.0		04.11.08 14:40	0.8563	
55	2804080803-MS	1.0	25	04.11.08 15:03	22.7690	219/87.6%
56	2804080803-MSD	1.0	25	04.11.08 15:25	23.2674	224/89.6%
57	CCV	1.0	25	04.11.08 15:47	24.5455	98.2%
58	2804080804	1.0		04.11.08 16:10	1.6857	
59	2804080811	1.0		04.11.08 16:32	1.7376	
60	2804080813	1.0		04.11.08 16:55	n.a.	
61	2804090487	1.0		04.11.08 17:17	6.9652	
62	2804090607	1.0		04.11.08 17:39	46.7795	
63	2804090616	1.0		04.11.08 18:02	n.a.	
64	2804080743_1/5	5.0		04.11.08 18:24	61.3538	
65	2804080745_1/2500	2500.0		04.11.08 18:46	70502.7104	
66	2804080746_1/10000	10000.0		04.11.08 19:09	327882.9006	
67	2804080747_1/10000	10000.0		04.11.08 19:31	328601.8749	
68	HCV	1.0	100	04.11.08 19:54	100.3581	100%

MWH Laboratories
750 Royal Oaks Drive, Suite 100
Monrovia, CA 91016-3629

CONDUCTIVITY MW SOP REVISION 5
SM2510B

Analysis Date: 4/8/08
Analyst: CL
Reviewed By:
LIMS Check By:

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

Time of Analysis Start: 1435 End:

MRL 2umhos/cm: Rill exp of solution:
KCl Std 1412 Rill 201819 exp of solution 9/08
TV = 1412 µmho/cm @ 25°C for 0.0100M
Reading: 1403
Instrument: YSI Model 3200 SN:01A0504, Year Aquired 2001 New

IPC = 3030

Run #	Sample Number	Sample ID	Client	Date Collected	Temp °C	pH	Scale (µmho/mmho)	Result: Instrument	Result: Reported (µmho/cm)	Comments
Blk	Blank				21	7	uS		0.744	
STD	MRL 2umhos/cm									1-3—±50% of TV
STD	KCl - 1000 mhos/cm								979	950-1050—±5% of TV
1	2804070040		[redacted]					500		
2	0042							380		
3	0047							210		
4	0150		[redacted]					460		
5	2804080133							520		
6	0195		KM					2400		
7	0211							2400		
8	0212							2400		
9	0219							2300		
10	0290							8800		
DUP	↓							8800		RPD < 5%
11	0308							8900		
12	0397		[redacted]					610		
13	0413		[redacted]					590		
14	0419							560		
15	0415							520		
16	0474		KM					8900		
17	0475		↓					9100		
18	0522		[redacted]					450		
19	0523							470		
20	0524		↓					560		
DUP	2804080475		KM		↓	↓	↓	9100		RPD < 5%
STD	KCl - 10 mhos/cm									8-12—RPD < 20% of TV

% RPD = |S1-S2| * 100
(S1+S2)/2

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

MWH Laboratories
750 Royal Oaks Drive, Suite 100
Monrovia, CA 91016-3629

CONDUCTIVITY MW SOP REVISION 5
SM2510B

Analysis Date: 4/09/08
Analyst: CW
Reviewed By:
LIMS Check By:

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

Time of Analysis Start: 2000 End:

MRL 2umhos/cm: Rill exp of solution:
KCl Std 1412 Rill 201819 exp of solution 5/08
TV = 1412 µmho/cm @ 25°C for 0.0100M
Reading: 1400
Instrument: YSI Model 3200 SN:01A0504, Year Acquired 2001 New

TPC = 3030

Run #	Sample Number	Sample ID	Client	Date Collected	Temp °C	pH	Scale (µmho/mmho)	Result: Instrument	Result: Reported (µmho/cm)	Comments
Blk	Blank				21	7	u		0840	
STD	MRL 2umhos/cm									1-3—±50% of TV
STD	KCl - 1000 mhos/cm								1005	950-1060—±5% of TV
1	2804080525		[redacted]					430		
2	0526		↓					390		
3	0772		[redacted]					970		
4	0774							860		
5	0792							880		
6	0795							880		
7	0797							870		
8	0800							870		
9	0802							880		
10	0803							720		
DUP	↓							720		RPD < 5%
11	0809		↓					510		
12	0811		[redacted]					560		
13	0813		[redacted]					580		
14	2809090487		[redacted]					760		
15	0607		[redacted]					340		
16	0616		↓					290		
17	2804080743		KM					10800		
18	0745							13200		
19	0746							11200		
20	0747							7600		
DUP	↓		↓					7600		RPD < 5%
STD	KCl - 10 mhos/cm									8-12—RPD < 20% of TV

% RPD = |S1-S2| * 100 / (S1+S2)/2

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

Sequence: 041008CLO4-IC11
Operator: clv
Printed: 4/12/2008 4:38:01 PM

Title:
Datasource: Dionex_USPAS2SDIO2
Location: IC\IC11_CLO4\2008\APR
Timebase: IC11
#Samples: 68

Created: 4/9/2008 9:06:28 PM by clv
Last Update: 4/11/2008 5:59:15 PM by clv

No.	Name	Sample ID	Dil. Factor	Type	Comment	Status	Program
1	autocal1		1.0000	Standard		Finished	Perchlorate-IC11
2	autocal2	R201449 EXP 07/28/09	1.0000	Standard	2	Finished	Perchlorate-IC11
3	autocal3		1.0000	Standard	4	Finished	Perchlorate-IC11
4	autocal4		1.0000	Standard	10	Finished	Perchlorate-IC11
5	autocal5		1.0000	Standard	25	Finished	Perchlorate-IC11
6	autocal6		1.0000	Standard	50	Finished	Perchlorate-IC11
7	autocal7		1.0000	Standard	100	Finished	Perchlorate-IC11
8	QCS	R201789 EXP 07/10/09	1.0000	Unknown	20	Finished	Perchlorate-IC11
9	IPC	EC=3155	1.0000	Unknown	25	Finished	Perchlorate-IC11
10	-MBLK		1.0000	Unknown		Finished	Perchlorate-IC11
11	-MRLCHK-2	2	1.0000	Unknown	2	Finished	Perchlorate-IC11
12	-MRLCHK-4	4	1.0000	Unknown	4	Finished	Perchlorate-IC11
13	-LCS1	25	1.0000	Unknown	25	Finished	Perchlorate-IC11
14	-LCS2	25	1.0000	Unknown	25	Finished	Perchlorate-IC11
15	2804070040	[redacted]	1.0000	Unknown		Finished	Perchlorate-IC11
16	2804070042	[redacted]	1.0000	Unknown		Finished	Perchlorate-IC11
17	2804070047	[redacted]	1.0000	Unknown		Finished	Perchlorate-IC11
18	2804070047-MS	25	1.0000	Unknown	25	Finished	Perchlorate-IC11
19	2804070047-MSD	25	1.0000	Unknown	25	Finished	Perchlorate-IC11
20	2804070150	[redacted]693011	1.0000	Unknown		Finished	Perchlorate-IC11
21	2804080133	[redacted] 593003	1.0000	Unknown		Finished	Perchlorate-IC11
22	2804080195_1/2	KM UPGRADIENT	2.0000	Unknown		Finished	Perchlorate-IC11
23	2804080211_1/2	KM 6.05	2.0000	Unknown		Finished	Perchlorate-IC11
24	2804080212_1/2	KM 5.5	2.0000	Unknown		Finished	Perchlorate-IC11
25	2804080214_1/2	KM 0.55	2.0000	Unknown		Finished	Perchlorate-IC11
26	2804080290_1/5	KM EFF	5.0000	Unknown	EC=8800	Finished	Perchlorate-IC11
27	CCV	25	1.0000	Unknown	25	Finished	Perchlorate-IC11
28	2804080308_1/10000	KM INF	10000.0000	Unknown		Finished	Perchlorate-IC11
29	2804080397	[redacted]	1.0000	Unknown		Finished	Perchlorate-IC11
30	2804080413	[redacted]	1.0000	Unknown		Finished	Perchlorate-IC11
31	2804080414	[redacted]	1.0000	Unknown		Finished	Perchlorate-IC11
32	2804080415	[redacted]	1.0000	Unknown		Finished	Perchlorate-IC11
33	2804080474_1/5	KM EFF-COMP	5.0000	Unknown	EC=8900	Finished	Perchlorate-IC11
34	2804080475_1/10000	KM INF-COMP	10000.0000	Unknown		Finished	Perchlorate-IC11
35	2804080522	[redacted]	1.0000	Unknown		Finished	Perchlorate-IC11
36	2804080523	[redacted]	1.0000	Unknown		Finished	Perchlorate-IC11
37	2804080524	[redacted]	1.0000	Unknown		Finished	Perchlorate-IC11
38	HCV	100	1.0000	Unknown	100	Finished	Perchlorate-IC11
39	IPC	EC=3155	1.0000	Unknown	25	Finished	Perchlorate-IC11
40	-MBLK		1.0000	Unknown		Finished	Perchlorate-IC11
41	-MRLCHK-2	2	1.0000	Unknown	2	Finished	Perchlorate-IC11
42	-MRLCHK-4	4	1.0000	Unknown	4	Finished	Perchlorate-IC11

Title:
Datasource: Dionex_USPAS2SDIO2
Location: IC\IC11_CLO4\2008\APR
Timebase: IC11
#Samples: 68
Created: 4/9/2008 9:06:28 PM by clv
Last Update: 4/11/2008 5:59:15 PM by clv

No.	Name	Method	Inj. Date/Time	*Analyst
1	autocal1	IC#4-CLO4-LOW	4/10/2008 6:53:31 PM	clv
2	autocal2	IC#4-CLO4-LOW	4/10/2008 7:15:55 PM	clv
3	autocal3	IC#4-CLO4-LOW	4/10/2008 7:38:20 PM	clv
4	autocal4	IC#4-CLO4-LOW	4/10/2008 8:00:44 PM	clv
5	autocal5	IC#4-CLO4-LOW	4/10/2008 8:23:08 PM	clv
6	autocal6	IC#4-CLO4-LOW	4/10/2008 8:45:33 PM	clv
7	autocal7	IC#4-CLO4-LOW	4/10/2008 9:07:57 PM	clv
8	QCS	IC#4-CLO4-LOW	4/10/2008 9:30:21 PM	clv
9	IPC	IC#4-CLO4-LOW	4/10/2008 9:52:45 PM	clv
10	-MBLK	IC#4-CLO4-LOW	4/10/2008 10:15:10 PM	clv
11	-MRLCHK-2	IC#4-CLO4-LOW	4/10/2008 10:37:34 PM	clv
12	-MRLCHK-4	IC#4-CLO4-LOW	4/10/2008 10:59:58 PM	clv
13	-LCS1	IC#4-CLO4-LOW	4/10/2008 11:22:18 PM	clv
14	-LCS2	IC#4-CLO4-LOW	4/10/2008 11:44:42 PM	clv
15	2804070040	IC#4-CLO4-LOW	4/11/2008 12:07:06 AM	clv
16	2804070042	IC#4-CLO4-LOW	4/11/2008 12:29:30 AM	clv
17	2804070047	IC#4-CLO4-LOW	4/11/2008 12:51:53 AM	clv
18	2804070047-MS	IC#4-CLO4-LOW	4/11/2008 1:14:17 AM	clv
19	2804070047-MSD	IC#4-CLO4-LOW	4/11/2008 1:36:41 AM	clv
20	2804070150	IC#4-CLO4-LOW	4/11/2008 1:59:05 AM	clv
21	2804080133	IC#4-CLO4-LOW	4/11/2008 2:21:29 AM	clv
22	2804080195_1/2	IC#4-CLO4-LOW	4/11/2008 2:43:53 AM	clv
23	2804080211_1/2	IC#4-CLO4-LOW	4/11/2008 3:06:17 AM	clv
24	2804080212_1/2	IC#4-CLO4-LOW	4/11/2008 3:28:41 AM	clv
25	2804080214_1/2	IC#4-CLO4-LOW	4/11/2008 3:51:05 AM	clv
26	2804080290_1/5	IC#4-CLO4-LOW	4/11/2008 4:13:29 AM	clv
27	CCV	IC#4-CLO4-LOW	4/11/2008 4:35:53 AM	clv
28	2804080308_1/10000	IC#4-CLO4-LOW	4/11/2008 4:58:17 AM	clv
29	2804080397	IC#4-CLO4-LOW	4/11/2008 5:20:41 AM	clv
30	2804080413	IC#4-CLO4-LOW	4/11/2008 5:43:05 AM	clv
31	2804080414	IC#4-CLO4-LOW	4/11/2008 6:05:29 AM	clv
32	2804080415	IC#4-CLO4-LOW	4/11/2008 6:27:53 AM	clv
33	2804080474_1/5	IC#4-CLO4-LOW	4/11/2008 6:50:17 AM	clv
34	2804080475_1/10000	IC#4-CLO4-LOW	4/11/2008 7:12:41 AM	clv
35	2804080522	IC#4-CLO4-LOW	4/11/2008 7:35:05 AM	clv
36	2804080523	IC#4-CLO4-LOW	4/11/2008 7:57:29 AM	clv
37	2804080524	IC#4-CLO4-LOW	4/11/2008 8:19:53 AM	clv
38	HCV	IC#4-CLO4-LOW	4/11/2008 8:42:16 AM	clv
39	IPC	IC#4-CLO4-LOW	4/11/2008 9:04:40 AM	clv
40	-MBLK	IC#4-CLO4-LOW	4/11/2008 9:27:05 AM	clv
41	-MRLCHK-2	IC#4-CLO4-LOW	4/11/2008 9:49:29 AM	clv
42	-MRLCHK-4	IC#4-CLO4-LOW	4/11/2008 10:11:53 AM	clv

Title:
Datasource: Dionex_USPAS2SDIO2
Location: IC\IC11_CLO4\2008\APR
Timebase: IC11
#Samples: 68

Created: 4/9/2008 9:06:28 PM by clv
Last Update: 4/11/2008 5:59:15 PM by clv

No.	Name	Sample ID	Dil. Factor	Type	Comment	Status	Program
43	-LCS1	25	1.0000	Unknown	25	Finished	Perchlorate-IC11
44	-LCS2	25	1.0000	Unknown	25	Finished	Perchlorate-IC11
45	2804080525	[redacted]	1.0000	Unknown		Finished	Perchlorate-IC11
46	2804080526	[redacted]	1.0000	Unknown		Finished	Perchlorate-IC11
47	2804080772	[redacted]	1.0000	Unknown		Finished	Perchlorate-IC11
48	2804080774	[redacted]	1.0000	Unknown		Finished	Perchlorate-IC11
49	2804080792	[redacted]	1.0000	Unknown		Finished	Perchlorate-IC11
50	2804080795	[redacted]	1.0000	Unknown		Finished	Perchlorate-IC11
51	2804080797	[redacted]	1.0000	Unknown		Finished	Perchlorate-IC11
52	2804080800	[redacted]	1.0000	Unknown		Finished	Perchlorate-IC11
53	2804080802	[redacted]	1.0000	Unknown		Finished	Perchlorate-IC11
54	2804080803	[redacted]	1.0000	Unknown		Finished	Perchlorate-IC11
55	2804080803-MS	25	1.0000	Unknown	25	Finished	Perchlorate-IC11
56	2804080803-MSD	25	1.0000	Unknown	25	Finished	Perchlorate-IC11
57	CCV	25	1.0000	Unknown	25	Finished	Perchlorate-IC11
58	2804080804	[redacted]	1.0000	Unknown		Finished	Perchlorate-IC11
59	2804080811	[redacted]	1.0000	Unknown		Finished	Perchlorate-IC11
60	2804080813	[redacted]	1.0000	Unknown		Finished	Perchlorate-IC11
61	2804090487	[redacted]	1.0000	Unknown		Finished	Perchlorate-IC11
62	2804090607	[redacted]	1.0000	Unknown		Finished	Perchlorate-IC11
63	2804090616	[redacted]	1.0000	Unknown		Finished	Perchlorate-IC11
64	2804080743_1/5	KM ART1	5.0000	Unknown		Finished	Perchlorate-IC11
65	2804080745_1/2500	KM ART2	2500.0000	Unknown		Finished	Perchlorate-IC11
66	2804080746_1/10000	KM ART3	10000.0000	Unknown		Finished	Perchlorate-IC11
67	2804080747_1/10000	KM ART4	10000.0000	Unknown		Finished	Perchlorate-IC11
68	HCV	100	1.0000	Unknown	100	Finished	Perchlorate-IC11

Sequence: 041008CLO4-IC11
Operator: clv
Printed: 4/12/2008 4:38:01 PM

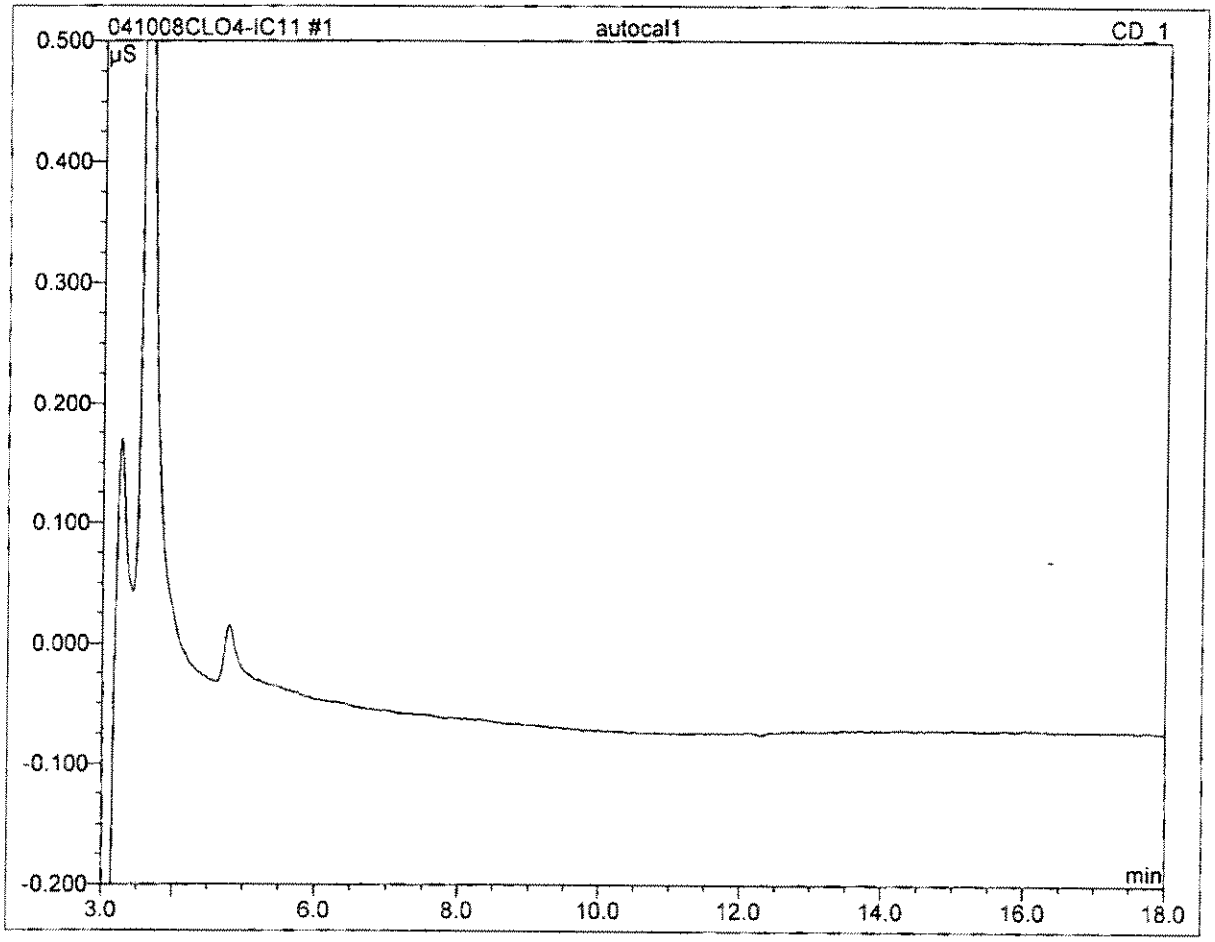
Title:
Datasource: Dionex_USPAS2SDIO2
Location: IC\IC11_CLO4\2008\APR
Timebase: IC11
#Samples: 68

Created: 4/9/2008 9:06:28 PM by clv
Last Update: 4/11/2008 5:59:15 PM by clv

No.	Name	Method	Inj. Date/Time	*Analyst
43	-LCS1	IC#4-CLO4-LOW	4/11/2008 10:34:16 AM	clv
44	-LCS2	IC#4-CLO4-LOW	4/11/2008 10:56:40 AM	clv
45	2804080525	IC#4-CLO4-LOW	4/11/2008 11:19:04 AM	clv
46	2804080526	IC#4-CLO4-LOW	4/11/2008 11:41:28 AM	clv
47	2804080772	IC#4-CLO4-LOW	4/11/2008 12:03:52 PM	clv
48	2804080774	IC#4-CLO4-LOW	4/11/2008 12:26:16 PM	clv
49	2804080792	IC#4-CLO4-LOW	4/11/2008 12:48:40 PM	clv
50	2804080795	IC#4-CLO4-LOW	4/11/2008 1:11:04 PM	clv
51	2804080797	IC#4-CLO4-LOW	4/11/2008 1:33:28 PM	clv
52	2804080800	IC#4-CLO4-LOW	4/11/2008 1:55:52 PM	clv
53	2804080802	IC#4-CLO4-LOW	4/11/2008 2:18:16 PM	clv
54	2804080803	IC#4-CLO4-LOW	4/11/2008 2:40:40 PM	clv
55	2804080803-MS	IC#4-CLO4-LOW	4/11/2008 3:03:04 PM	clv
56	2804080803-MSD	IC#4-CLO4-LOW	4/11/2008 3:25:27 PM	clv
57	CCV	IC#4-CLO4-LOW	4/11/2008 3:47:51 PM	clv
58	2804080804	IC#4-CLO4-LOW	4/11/2008 4:10:15 PM	clv
59	2804080811	IC#4-CLO4-LOW	4/11/2008 4:32:39 PM	clv
60	2804080813	IC#4-CLO4-LOW	4/11/2008 4:55:03 PM	clv
61	2804090487	IC#4-CLO4-LOW	4/11/2008 5:17:24 PM	clv
62	2804090607	IC#4-CLO4-LOW	4/11/2008 5:39:45 PM	clv
63	2804090616	IC#4-CLO4-LOW	4/11/2008 6:02:09 PM	clv
64	2804080743_1/5	IC#4-CLO4-LOW	4/11/2008 6:24:33 PM	clv
65	2804080745_1/2500	IC#4-CLO4-LOW	4/11/2008 6:46:56 PM	clv
66	2804080746_1/10000	IC#4-CLO4-LOW	4/11/2008 7:09:20 PM	clv
67	2804080747_1/10000	IC#4-CLO4-LOW	4/11/2008 7:31:43 PM	clv
68	HCV	IC#4-CLO4-LOW	4/11/2008 7:54:07 PM	clv

1 autocal1

Sample Name:	**autocal1**	*Channel:*	**CD_1**
Sample Type:	**standard**	*Control Program:*	**Perchlorate-IC11**
Recording Time:	**04/10/2008 18:53**	*Quantif. Method:*	**IC#4-CLO4-LOW**
Analyst:	**clv**	*Dilution Factor:*	**1.0000**

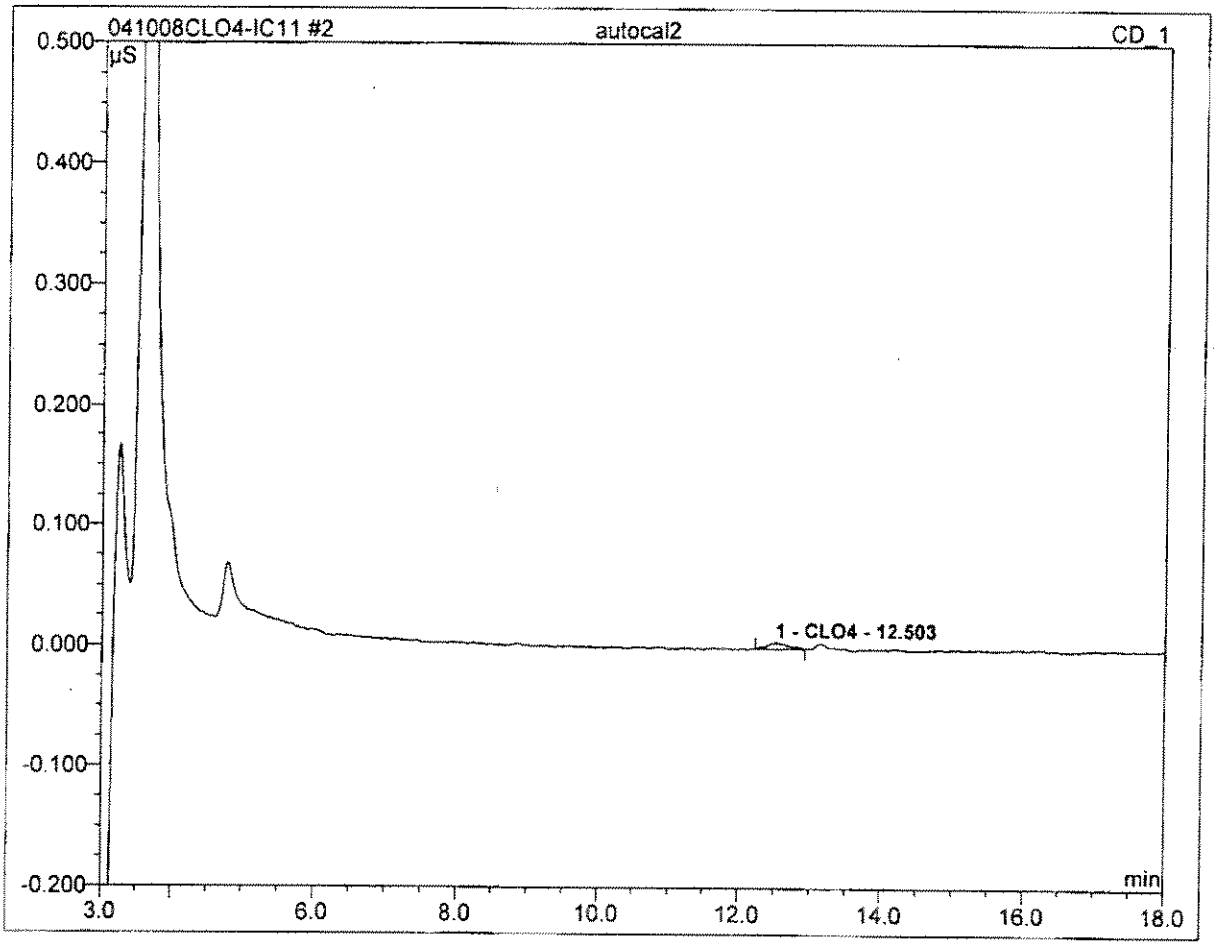


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
Total:			0.000	0.000	0.00	0.000	

2 autocal2

2

Sample Name:	**autocal2**	*Channel:*	**CD_1**
Sample Type:	**standard**	*Control Program:*	**Perchlorate-IC11**
Recording Time:	**04/10/2008 19:15**	*Quantif. Method:*	**IC#4-CLO4-LOW**
Analyst:	**clv**	*Dilution Factor:*	**1.0000**

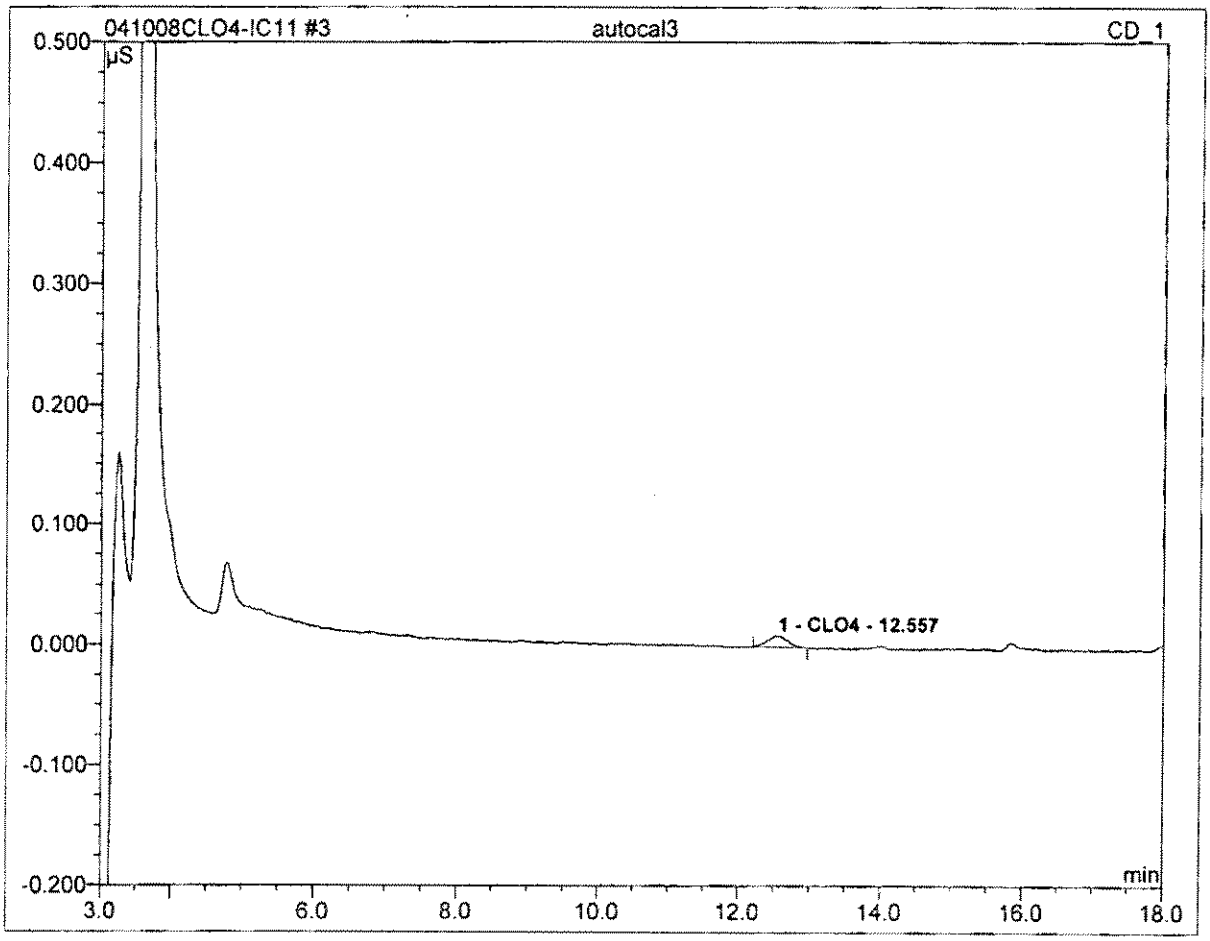


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	12.50	CLO4	0.005	0.002	100.00	2.404	BMB
Total:			0.005	0.002	100.00	2.404	

3 autocal3

4

Sample Name:	**autocal3**	*Channel:*	**CD_1**
Sample Type:	**standard**	*Control Program:*	**Perchlorate-IC11**
Recording Time:	**04/10/2008 19:38**	*Quantif. Method:*	**IC#4-CLO4-LOW**
Analyst:	**clv**	*Dilution Factor:*	**1.0000**

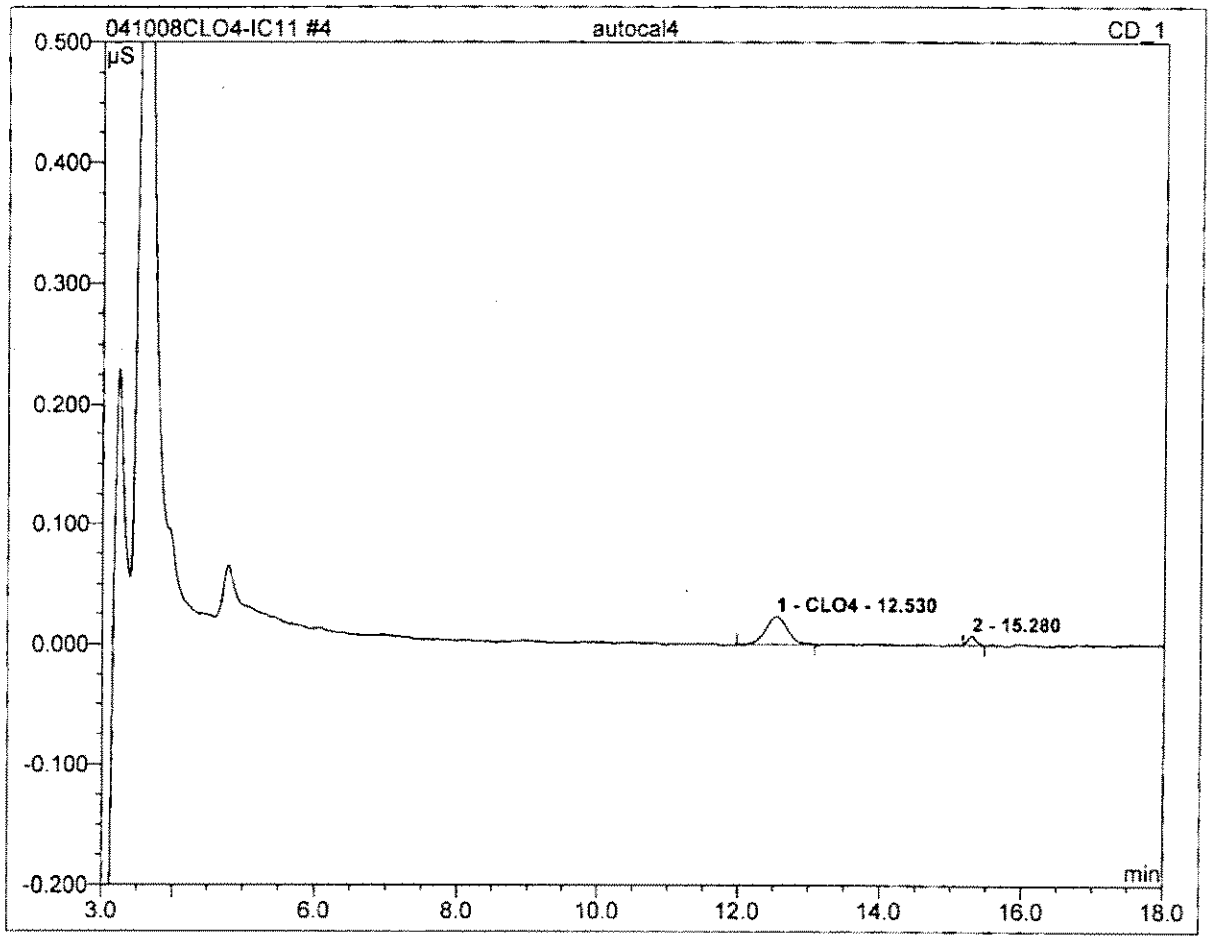


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	12.56	CLO4	0.009	0.003	100.00	4.116	BMB
Total:			0.009	0.003	100.00	4.116	

4 autocal4

10

Sample Name:	**autocal4**	*Channel:*	**CD_1**
Sample Type:	**standard**	*Control Program:*	**Perchlorate-IC11**
Recording Time:	**04/10/2008 20:00**	*Quantif. Method:*	**IC#4-CLO4-LOW**
Analyst:	**clv**	*Dilution Factor:*	**1.0000**

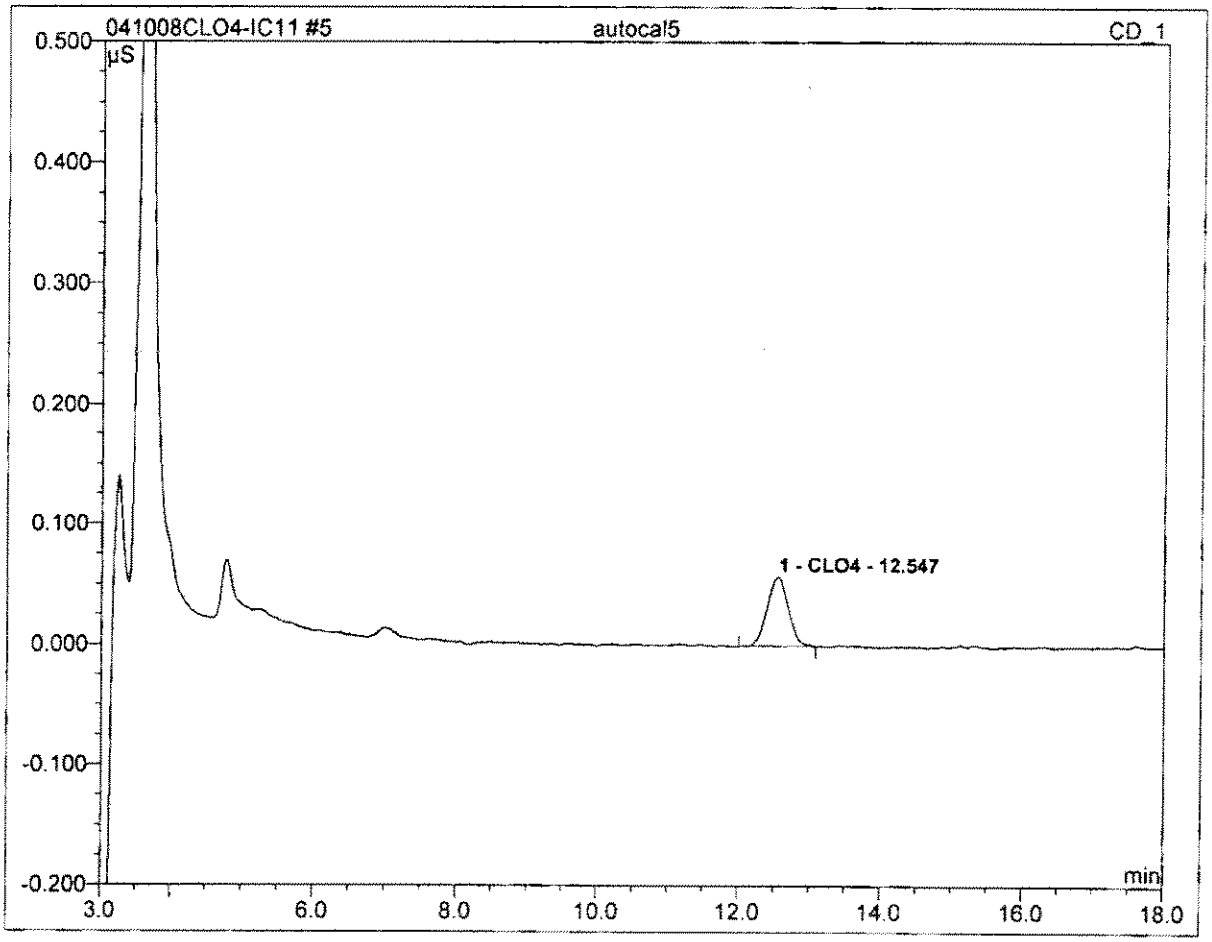


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	12.53	CLO4	0.024	0.009	89.57	10.376	BMB
Total:			0.024	0.009	89.57	10.376	

5 autocal5

25

Sample Name:	**autocal5**	*Channel:*	**CD_1**
Sample Type:	**standard**	*Control Program:*	**Perchlorate-IC11**
Recording Time:	**04/10/2008 20:23**	*Quantif. Method:*	**IC#4-CLO4-LOW**
Analyst:	**clv**	*Dilution Factor:*	**1.0000**

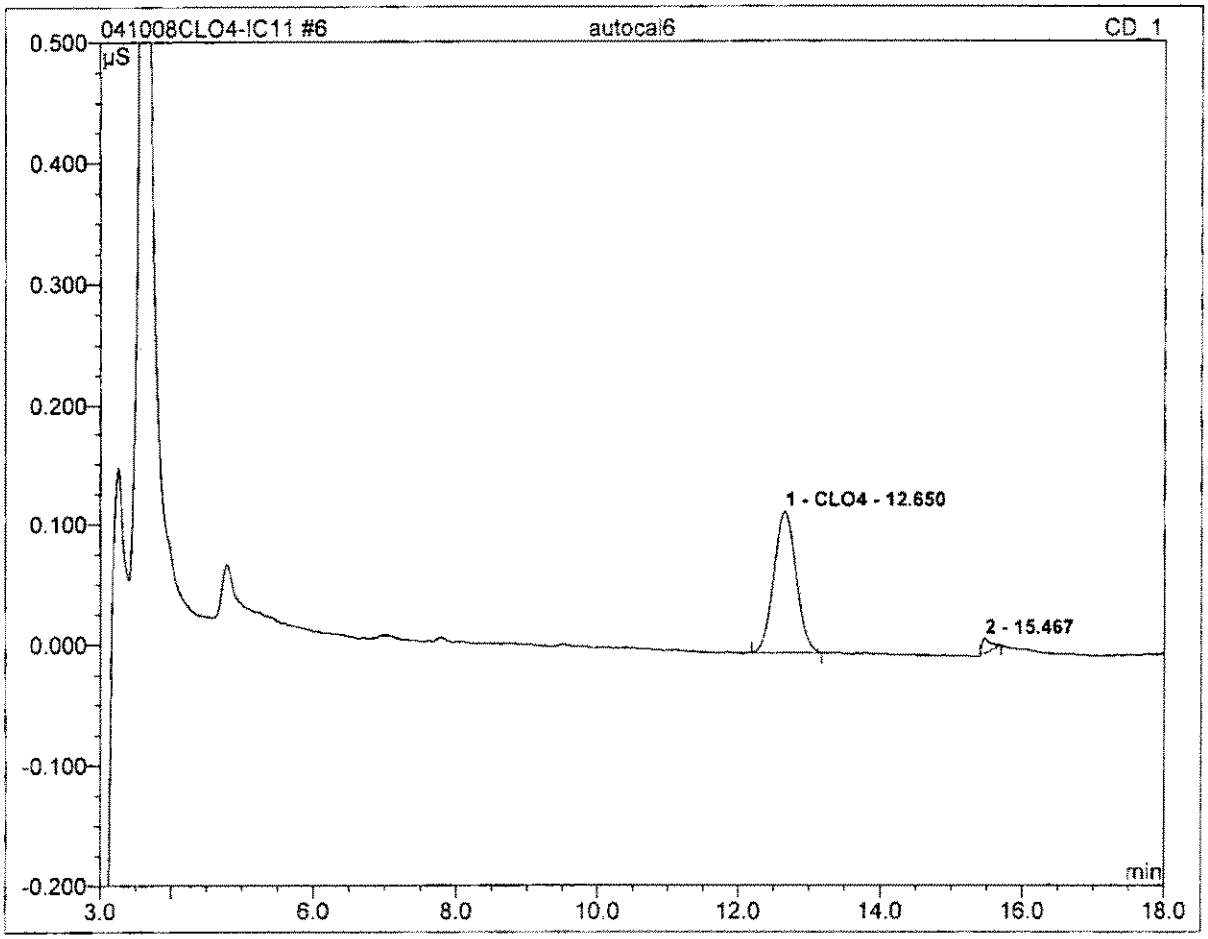


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	12.55	CLO4	0.058	0.020	100.00	23.659	BMB
Total:			0.058	0.020	100.00	23.659	

6 autocal6

50

Sample Name:	**autocal6**	*Channel:*	**CD_1**
Sample Type:	**standard**	*Control Program:*	**Perchlorate-IC11**
Recording Time:	**04/10/2008 20:45**	*Quantif. Method:*	**IC#4-CLO4-LOW**
Analyst:	**clv**	*Dilution Factor:*	**1.0000**

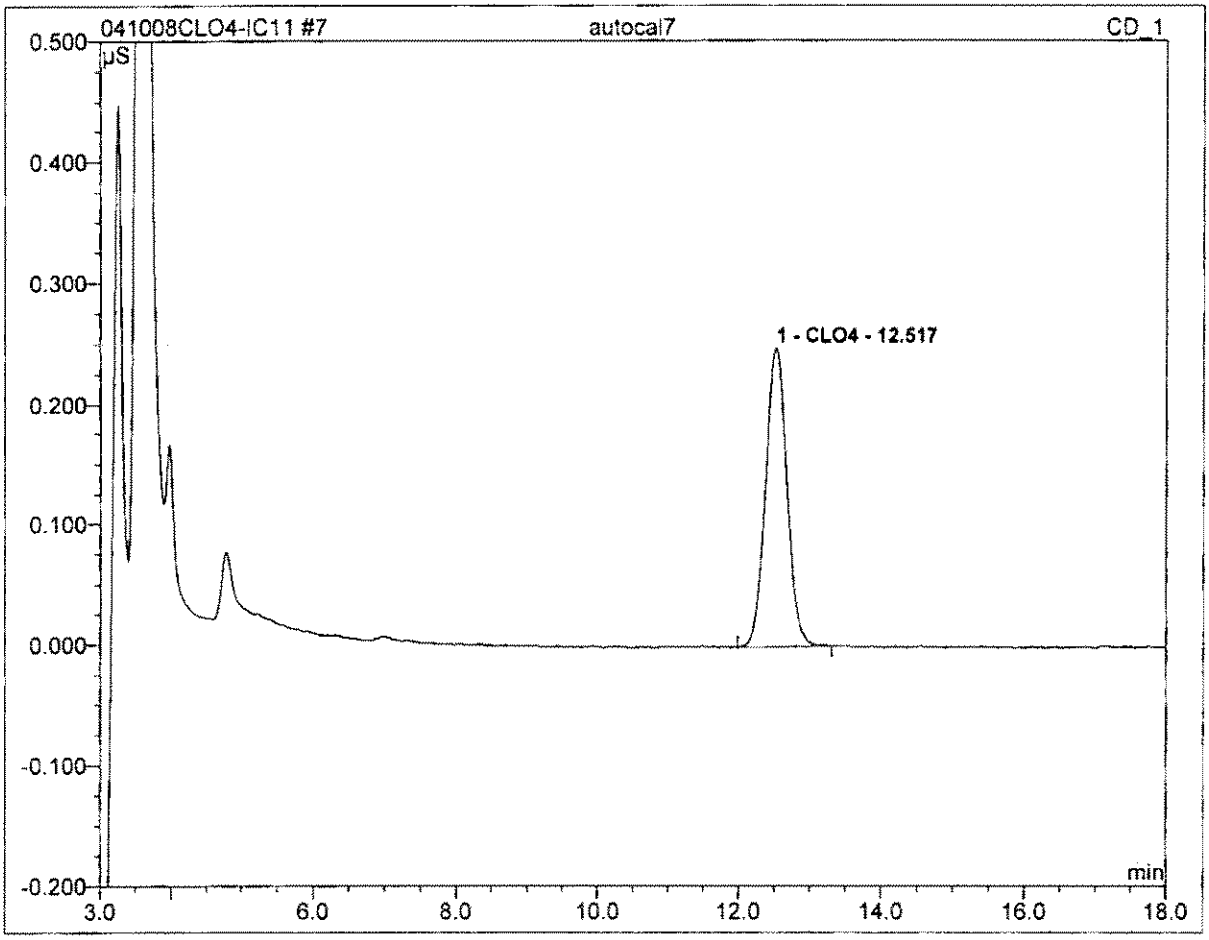


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	12.65	CLO4	0.118	0.043	96.30	50.320	BMB
Total:			0.118	0.043	96.30	50.320	

7 autocal7

100

Sample Name:	**autocal7**	*Channel:*	**CD_1**
Sample Type:	**standard**	*Control Program:*	**Perchlorate-IC11**
Recording Time:	**04/10/2008 21:07**	*Quantif. Method:*	**IC#4-CLO4-LOW**
Analyst:	**clv**	*Dilution Factor:*	**1.0000**

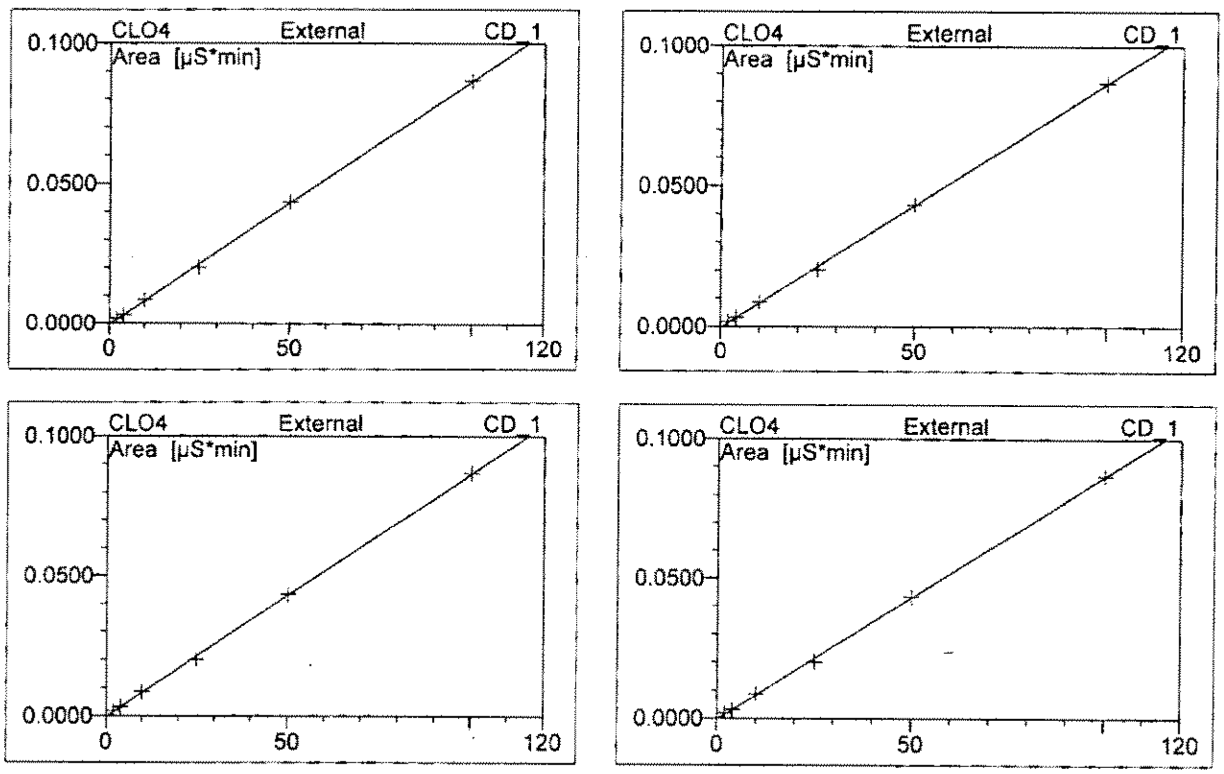


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	12.52	CLO4	0.249	0.087	100.00	100.125	BMB
Total:			0.249	0.087	100.00	100.125	

7 autocal7

100

Sample Name:	**autocal7**	*Injection Volume:*	**20.0**
Vial Number:	**141**	*Channel:*	**CD_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**Perchlorate-IC11**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC#4-CLO4-LOW**	*Dilution Factor:*	**1.0000**
Recording Time:	**4/10/2008 21:07**	*Sample Weight:*	**1.0000**
Run Time (min):	**20.00**	*Sample Amount:*	**1.0000**

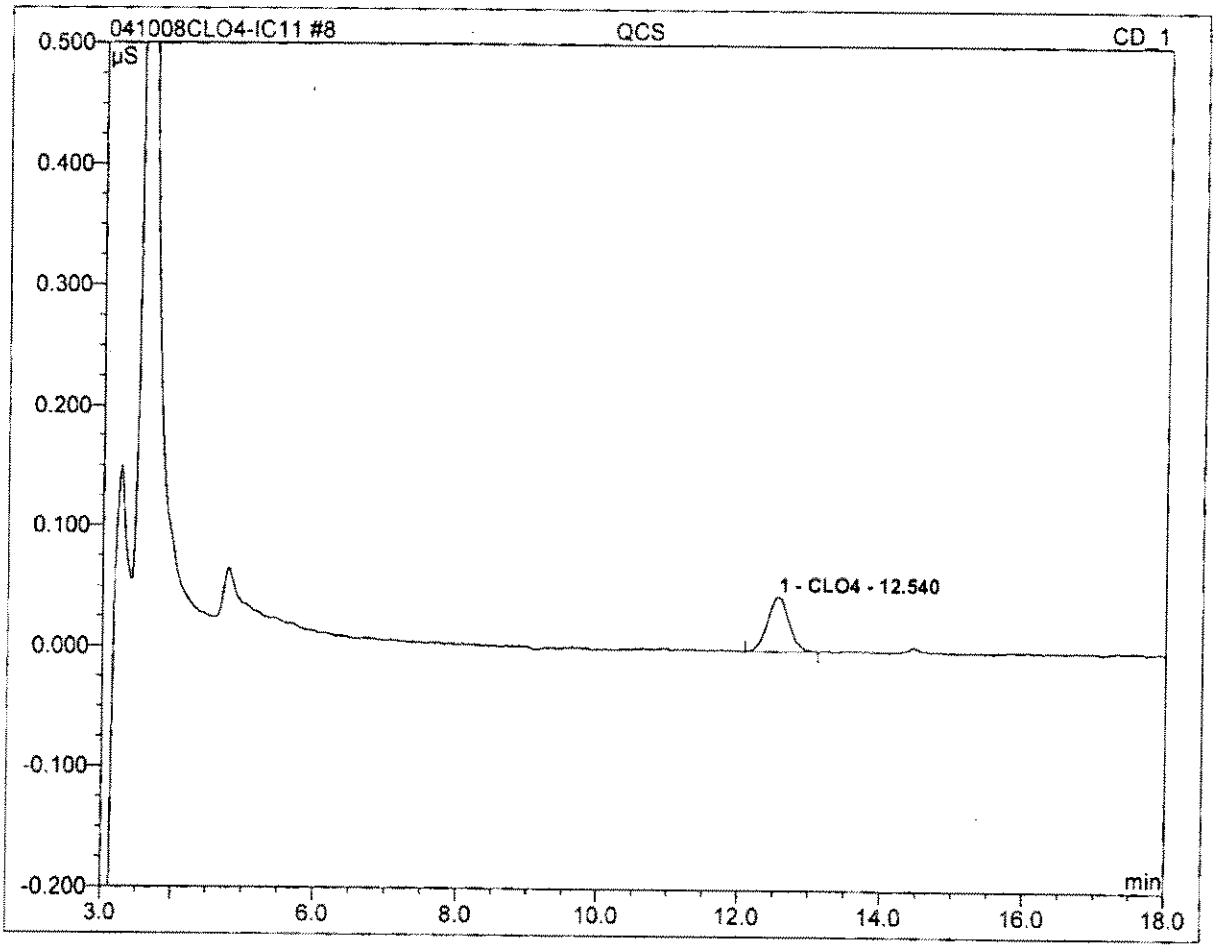


No.	Ret.Time min	Peak Name	Cal.Type	Points	Corr.Coeff. %	Offset	Slope	Curve
1	12.52	CLO4	LOff	6	99.9844	-0.0004	0.0009	0.0000
Average:					99.9844	-0.0004	0.0009	0.0000

8 QCS

20

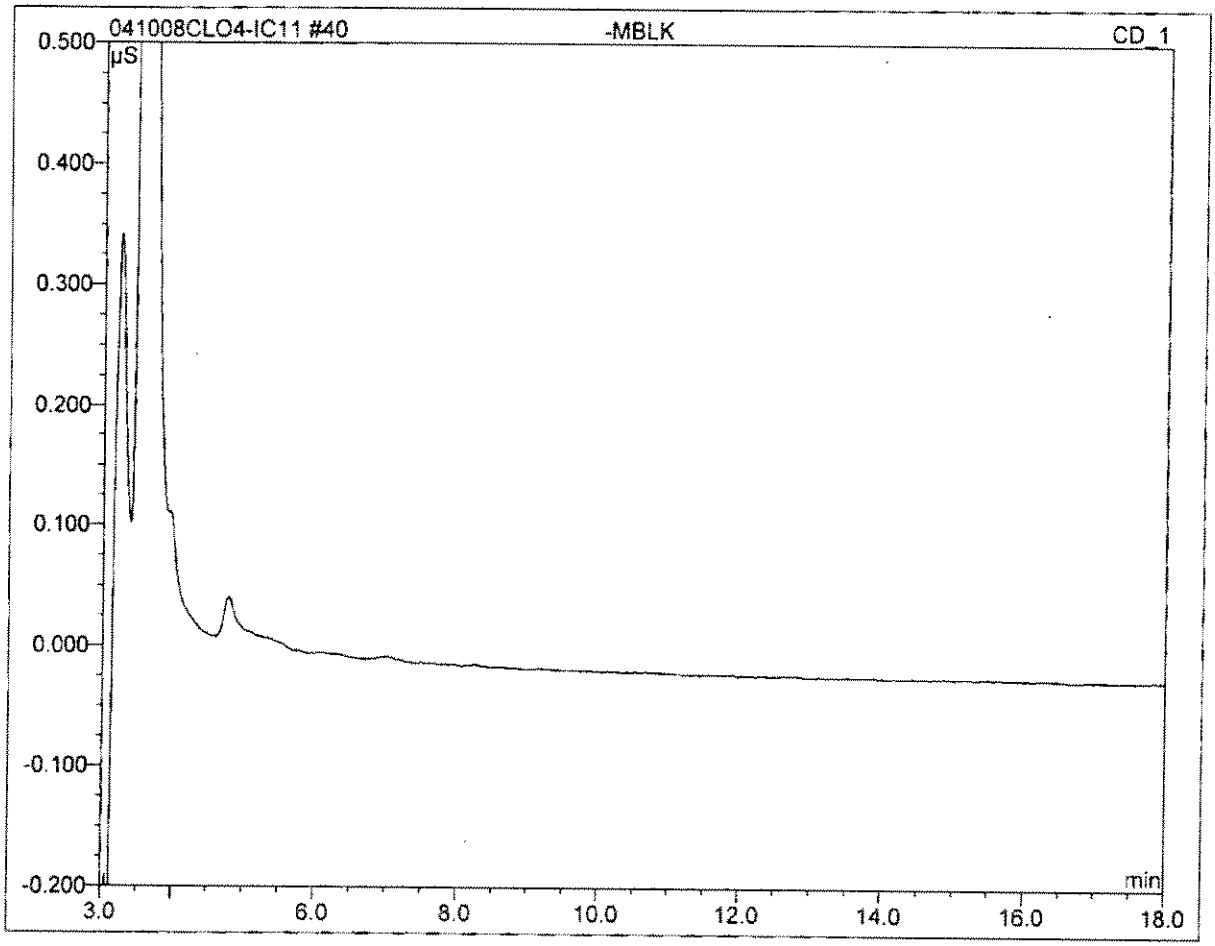
Sample Name:	**QCS**	*Channel:*	**CD_1**
Sample Type:	**unknown**	*Control Program:*	**Perchlorate-IC11**
Recording Time:	**04/10/2008 21:30**	*Quantif. Method:*	**IC#4-CLO4-LOW**
Analyst:	**clv**	*Dilution Factor:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	12.54	CLO4	0.046	0.016	100.00	18.723	BMB
Total:			0.046	0.016	100.00	18.723	

40 -MBLK

Sample Name:	**-MBLK**	*Channel:*	**CD_1**
Sample Type:	**unknown**	*Control Program:*	**Perchlorate-IC11**
Recording Time:	**04/11/2008 09:27**	*Quantif. Method:*	**IC#4-CLO4-LOW**
Analyst:	**clv**	*Dilution Factor:*	**1.0000**

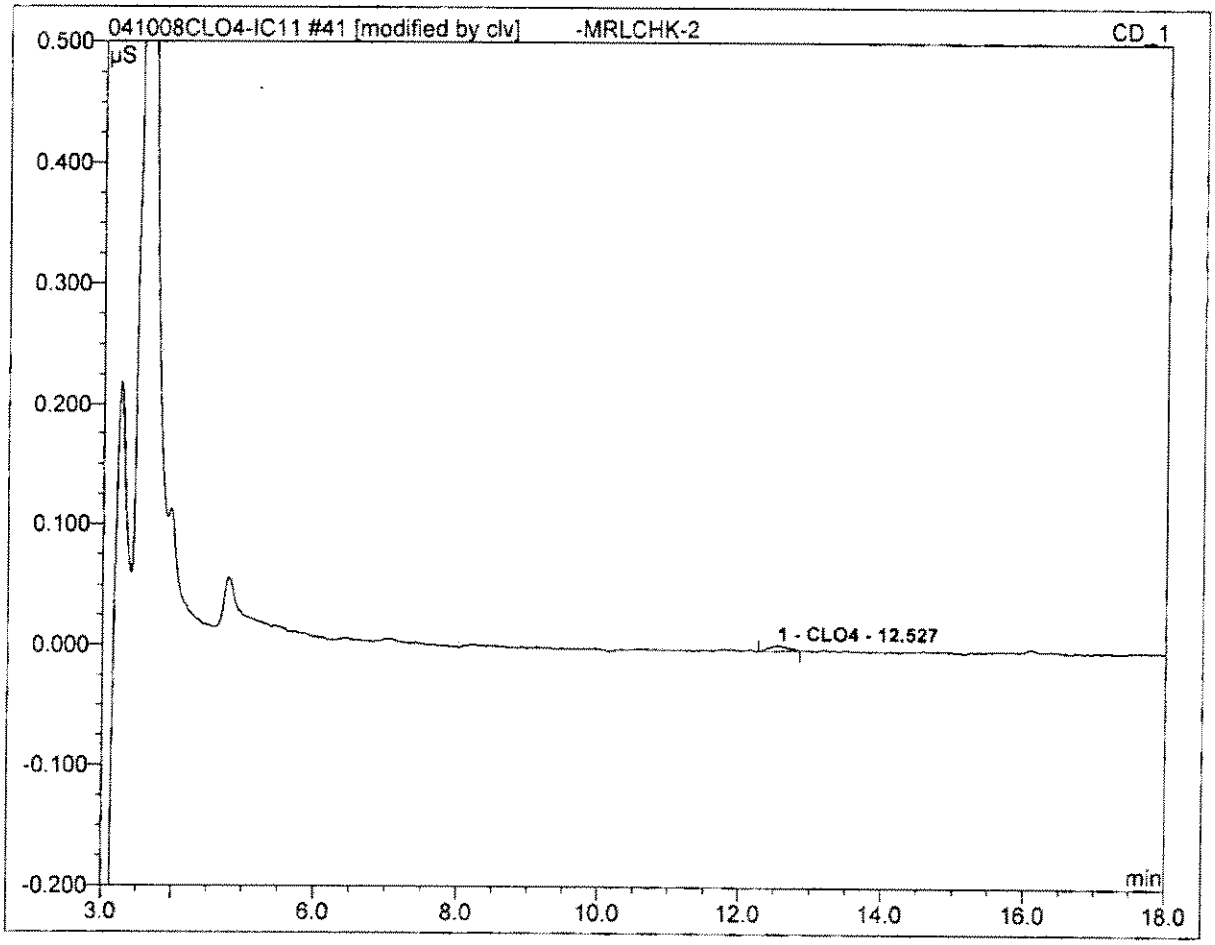


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
Total:			0.000	0.000	0.00	0.000	

41 -MRLCHK-2

2

Sample Name:	**-MRLCHK-2**	*Channel:*	**CD_1**
Sample Type:	**unknown**	*Control Program:*	**Perchlorate-IC11**
Recording Time:	**04/11/2008 09:49**	*Quantif. Method:*	**IC#4-CLO4-LOW**
Analyst:	**clv**	*Dilution Factor:*	**1.0000**

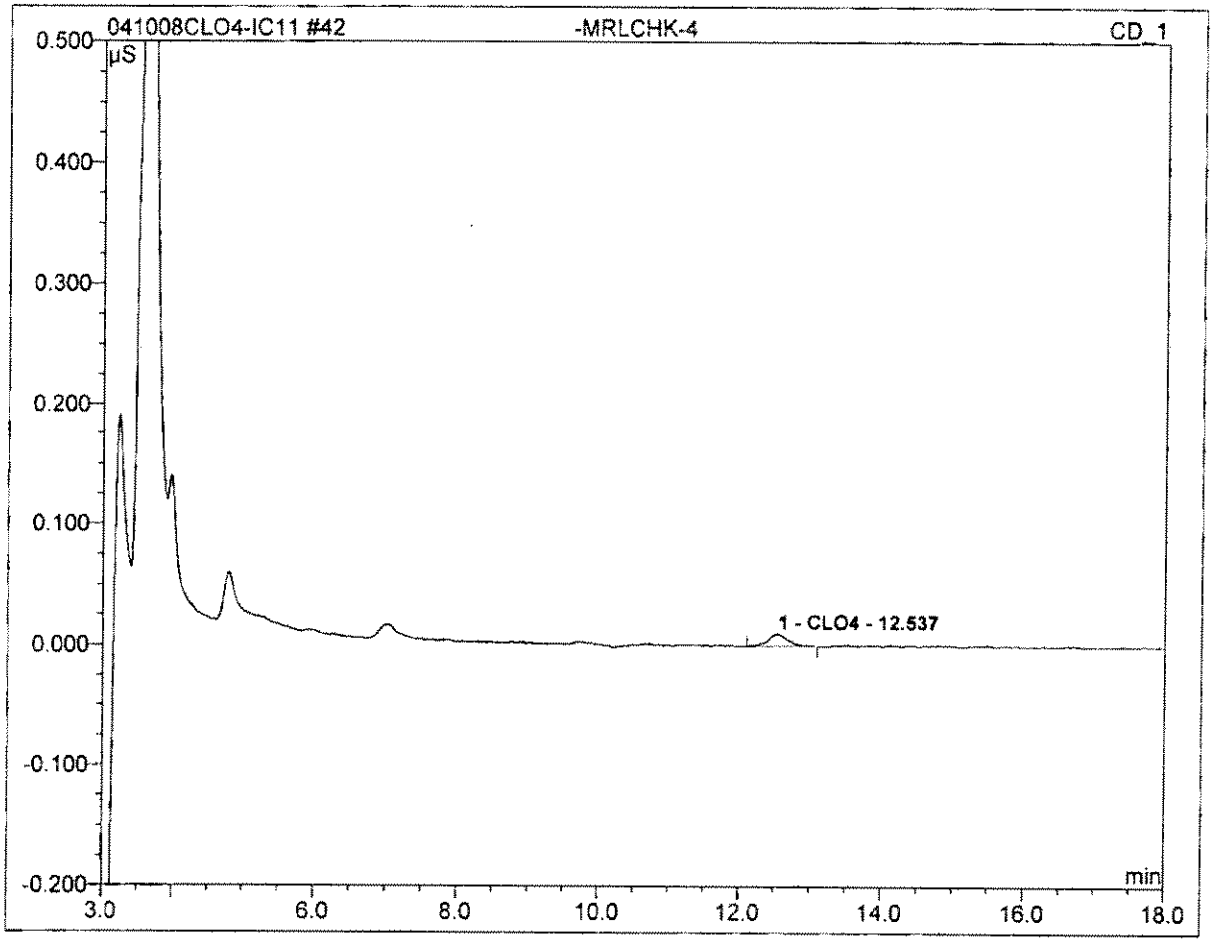


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	12.53	CLO4	0.005	0.001	100.00	2.132	BMB*
Total:			0.005	0.001	100.00	2.132	

42 -MRLCHK-4

4

Sample Name:	**-MRLCHK-4**	*Channel:*	**CD_1**
Sample Type:	**unknown**	*Control Program:*	**Perchlorate-IC11**
Recording Time:	**04/11/2008 10:11**	*Quantif. Method:*	**IC#4-CLO4-LOW**
Analyst:	**clv**	*Dilution Factor:*	**1.0000**

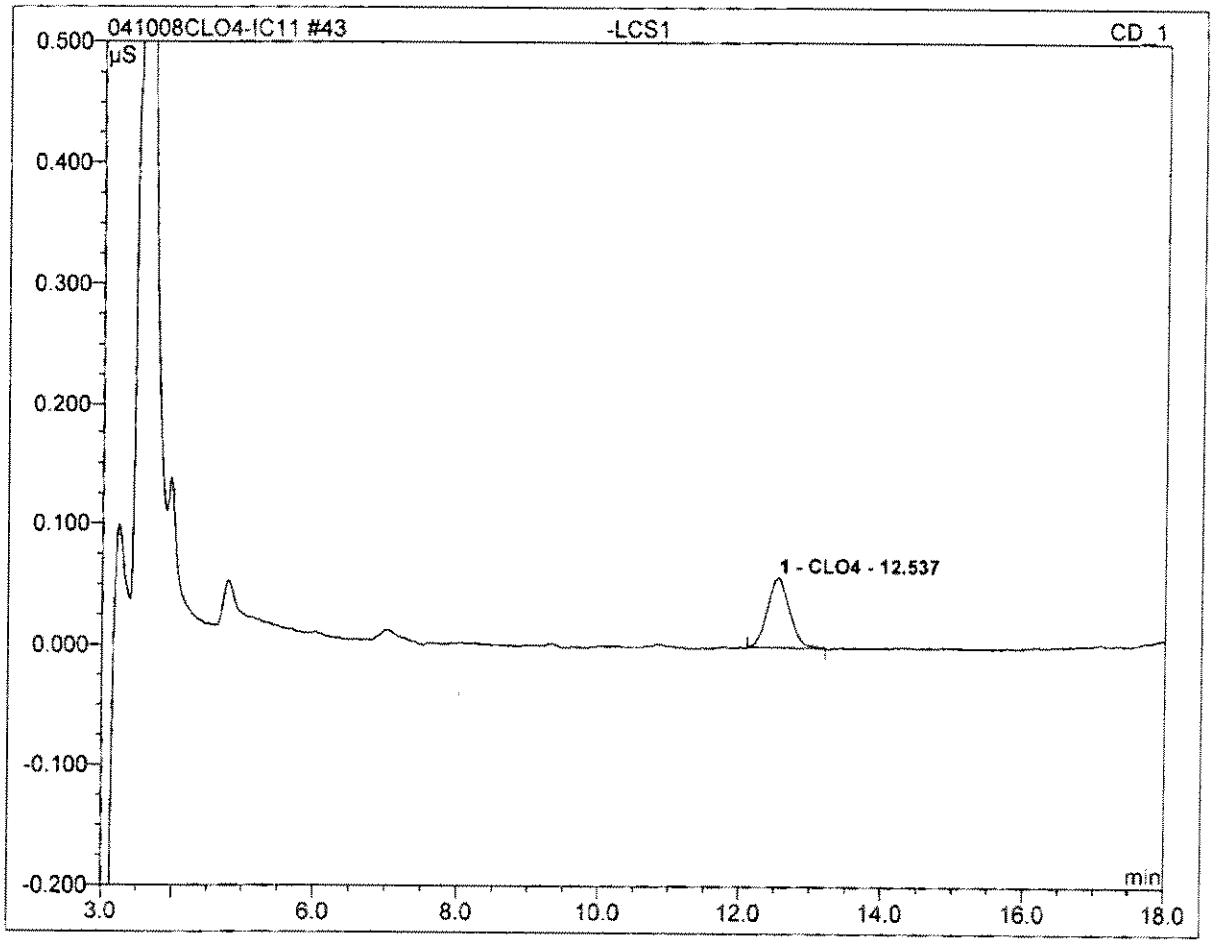


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	12.54	CLO4	0.010	0.003	100.00	4.315	BMB
Total:			0.010	0.003	100.00	4.315	

43 -LCS1

25

Sample Name:	**-LCS1**	*Channel:*	**CD_1**
Sample Type:	**unknown**	*Control Program:*	**Perchlorate-IC11**
Recording Time:	**04/11/2008 10:34**	*Quantif. Method:*	**IC#4-CLO4-LOW**
Analyst:	**clv**	*Dilution Factor:*	**1.0000**

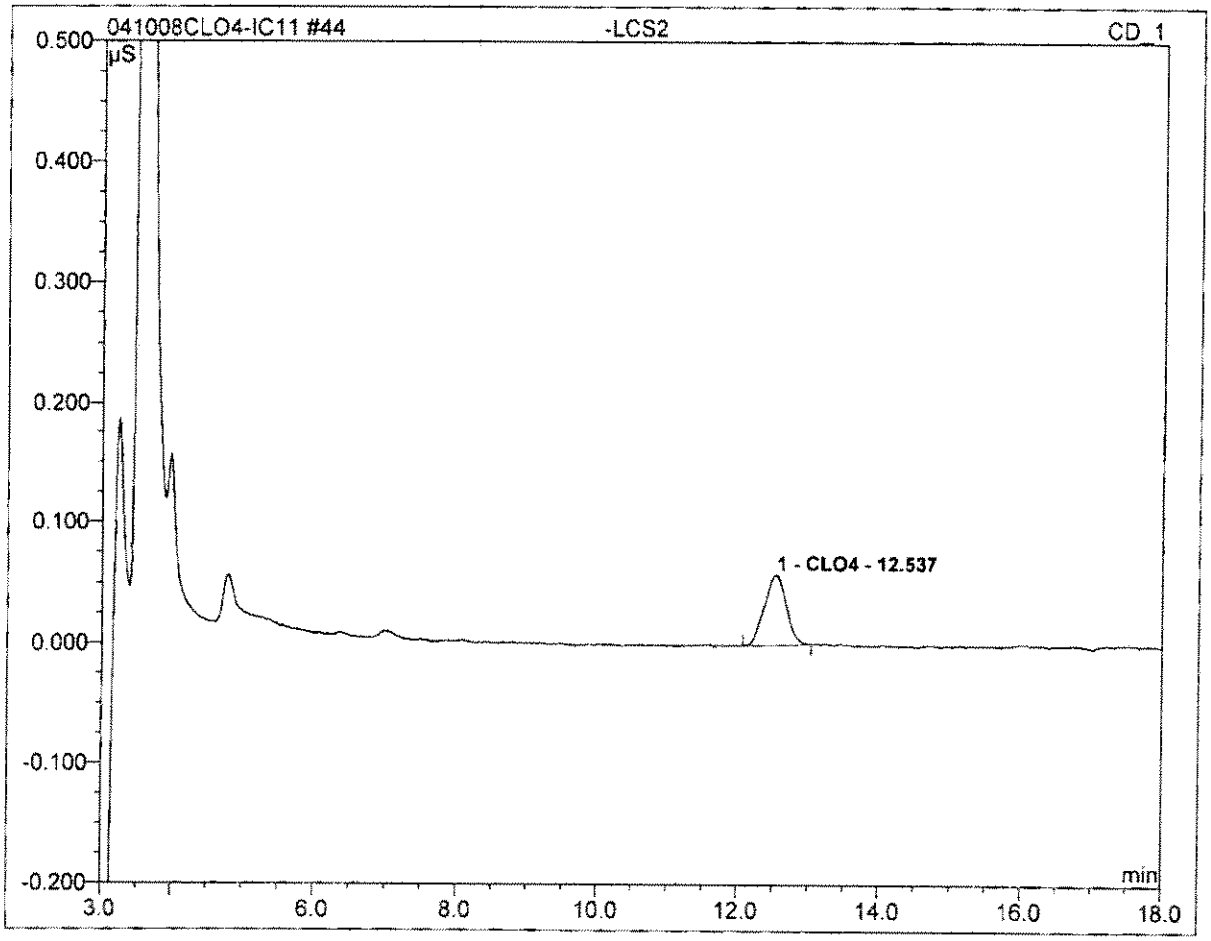


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	12.54	CLO4	0.058	0.021	100.00	24.623	BMB
Total:			0.058	0.021	100.00	24.623	

44 -LCS2

25

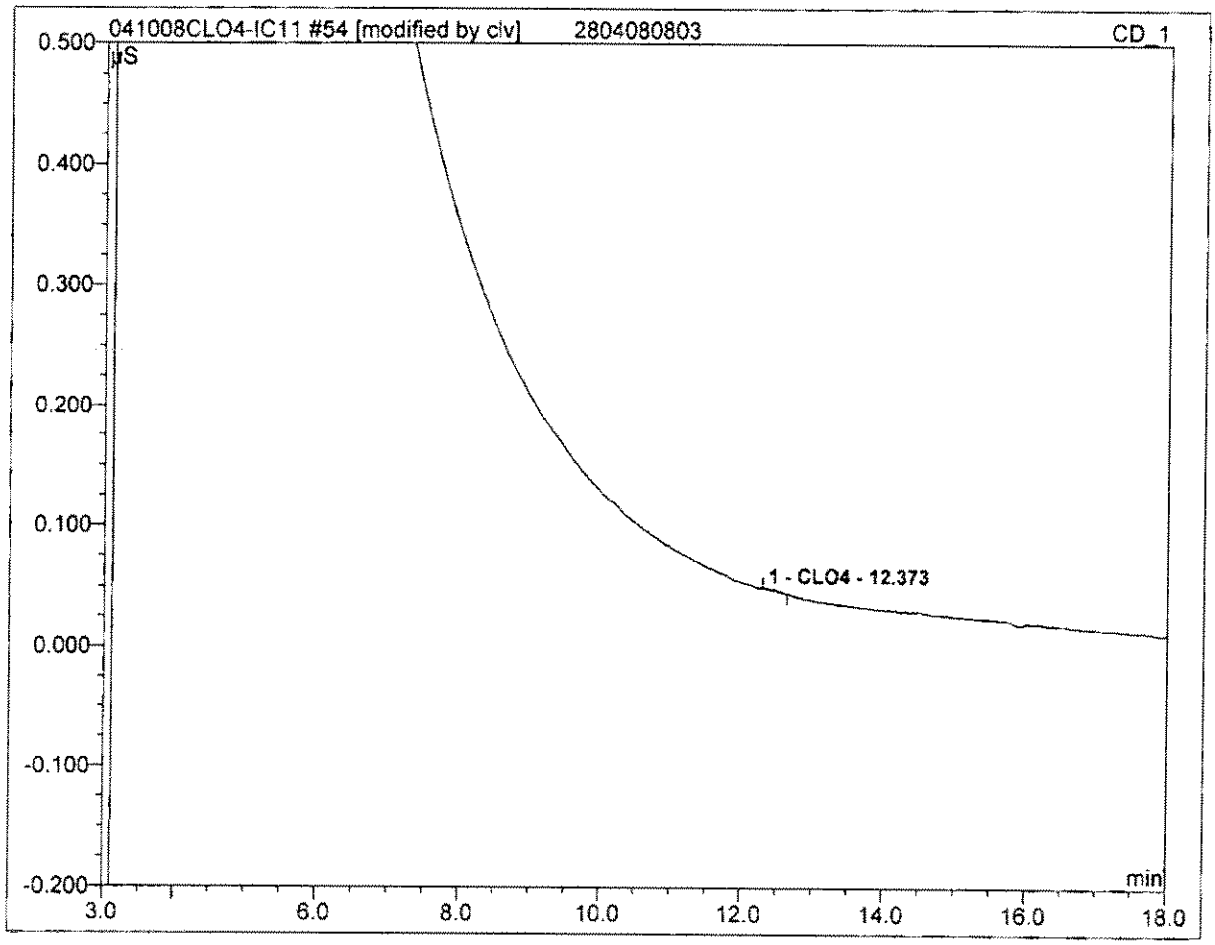
Sample Name:	**-LCS2**	*Channel:*	**CD_1**
Sample Type:	**unknown**	*Control Program:*	**Perchlorate-IC11**
Recording Time:	**04/11/2008 10:56**	*Quantif. Method:*	**IC#4-CLO4-LOW**
Analyst:	**clv**	*Dilution Factor:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	12.54	CLO4	0.058	0.021	100.00	24.642	BMB
Total:			0.058	0.021	100.00	24.642	

54 2804080803

Sample Name:	**2804080803**	*Channel:*	**CD_1**
Sample Type:	**unknown**	*Control Program:*	**Perchlorate-IC11**
Recording Time:	**04/11/2008 14:40**	*Quantif. Method:*	**IC#4-CLO4-LOW**
Analyst:	**clv**	*Dilution Factor:*	**1.0000**

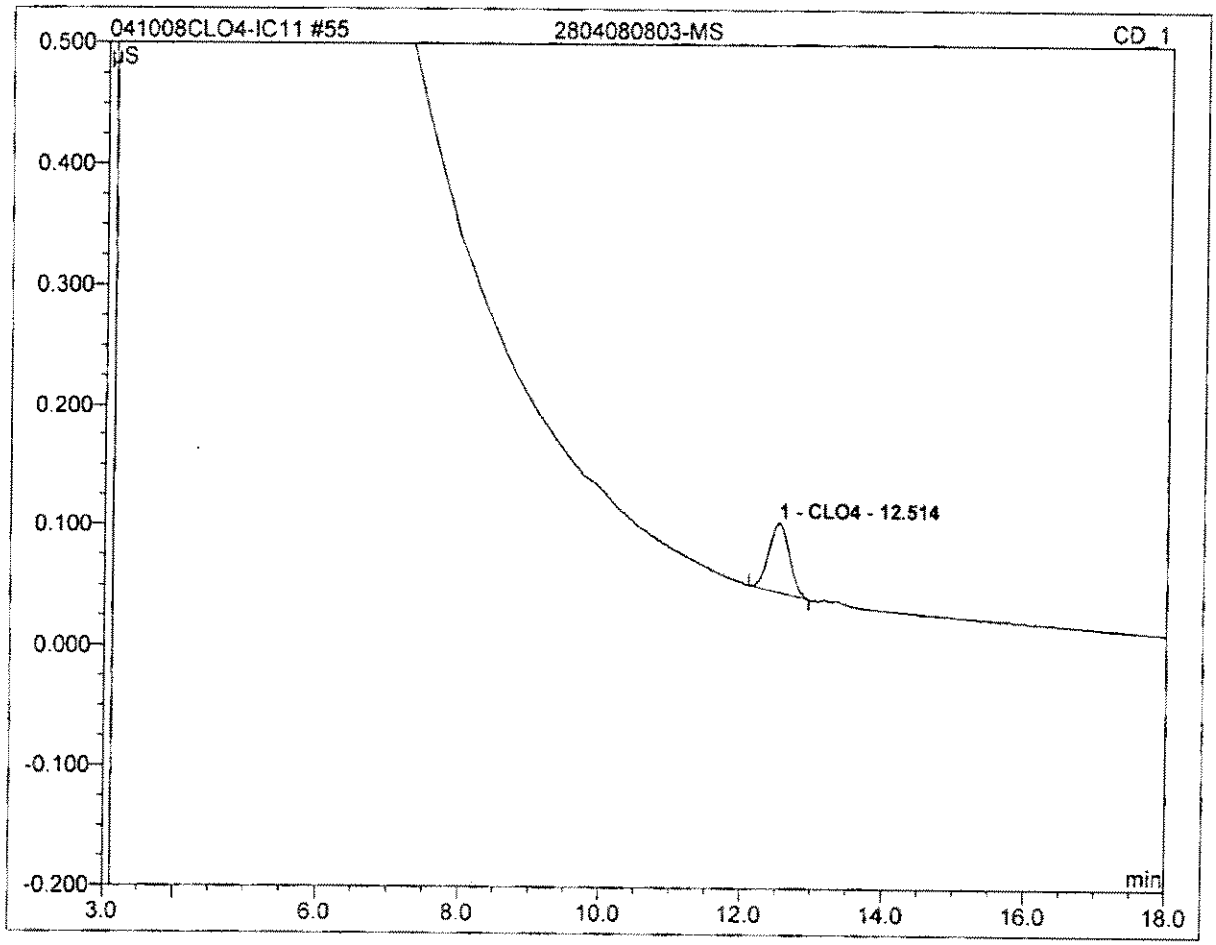


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	12.37	CLO4	0.001	0.000	100.00	0.856	BMB*
Total:			0.001	0.000	100.00	0.856	

55 2804080803-MS

25

Sample Name:	**2804080803-MS**	*Channel:*	**CD_1**
Sample Type:	**unknown**	*Control Program:*	**Perchlorate-IC11**
Recording Time:	**04/11/2008 15:03**	*Quantif. Method:*	**IC#4-CLO4-LOW**
Analyst:	**clv**	*Dilution Factor:*	**1.0000**

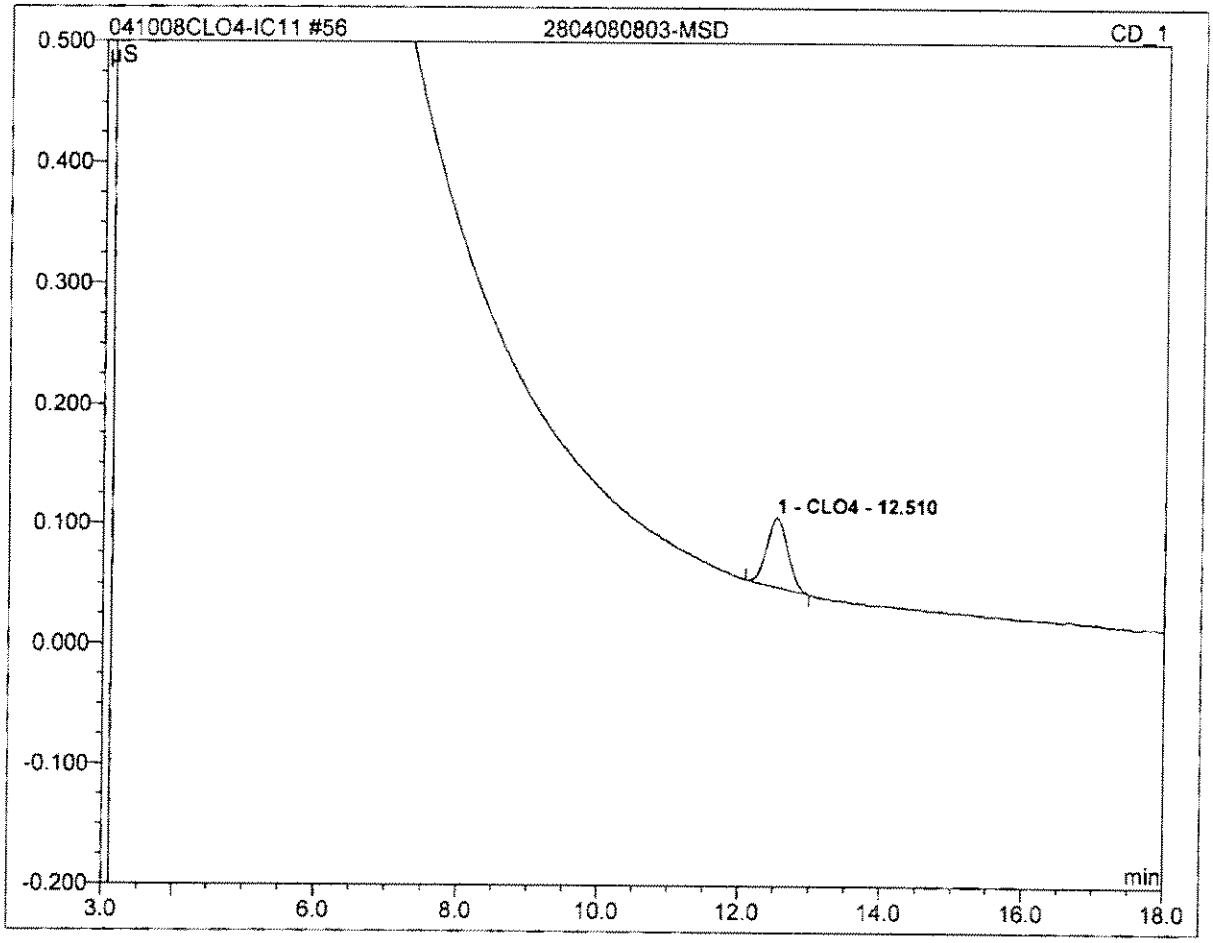


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	12.51	CLO4	0.058	0.019	100.00	22.769	BMB
Total:			0.058	0.019	100.00	22.769	

56 2804080803-MSD

25

Sample Name:	**2804080803-MSD**	*Channel:*	**CD_1**
Sample Type:	**unknown**	*Control Program:*	**Perchlorate-IC11**
Recording Time:	**04/11/2008 15:25**	*Quantif. Method:*	**IC#4-CLO4-LOW**
Analyst:	**clv**	*Dilution Factor:*	**1.0000**

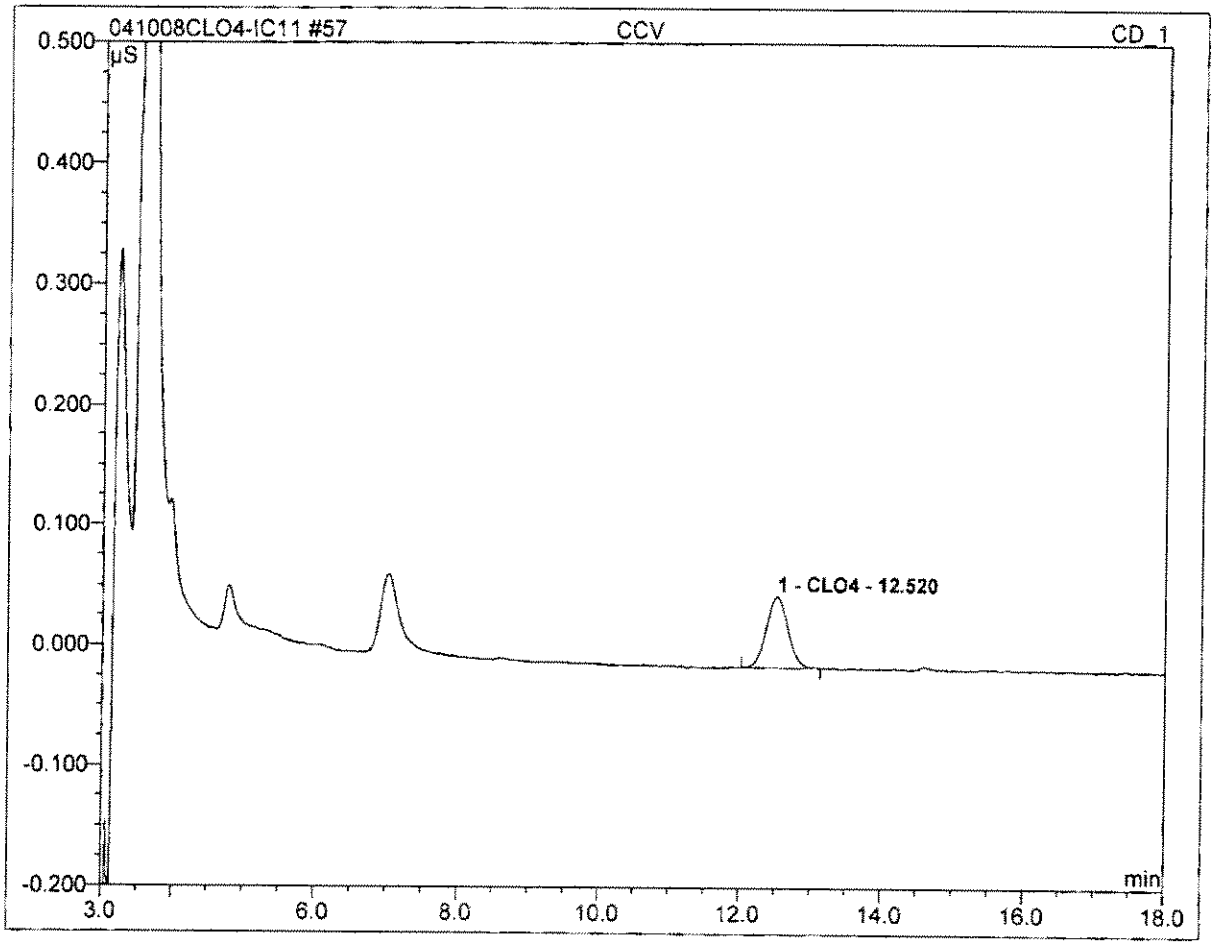


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	12.51	CLO4	0.058	0.020	100.00	23.267	BMB
Total:			0.058	0.020	100.00	23.267	

57 CCV

25

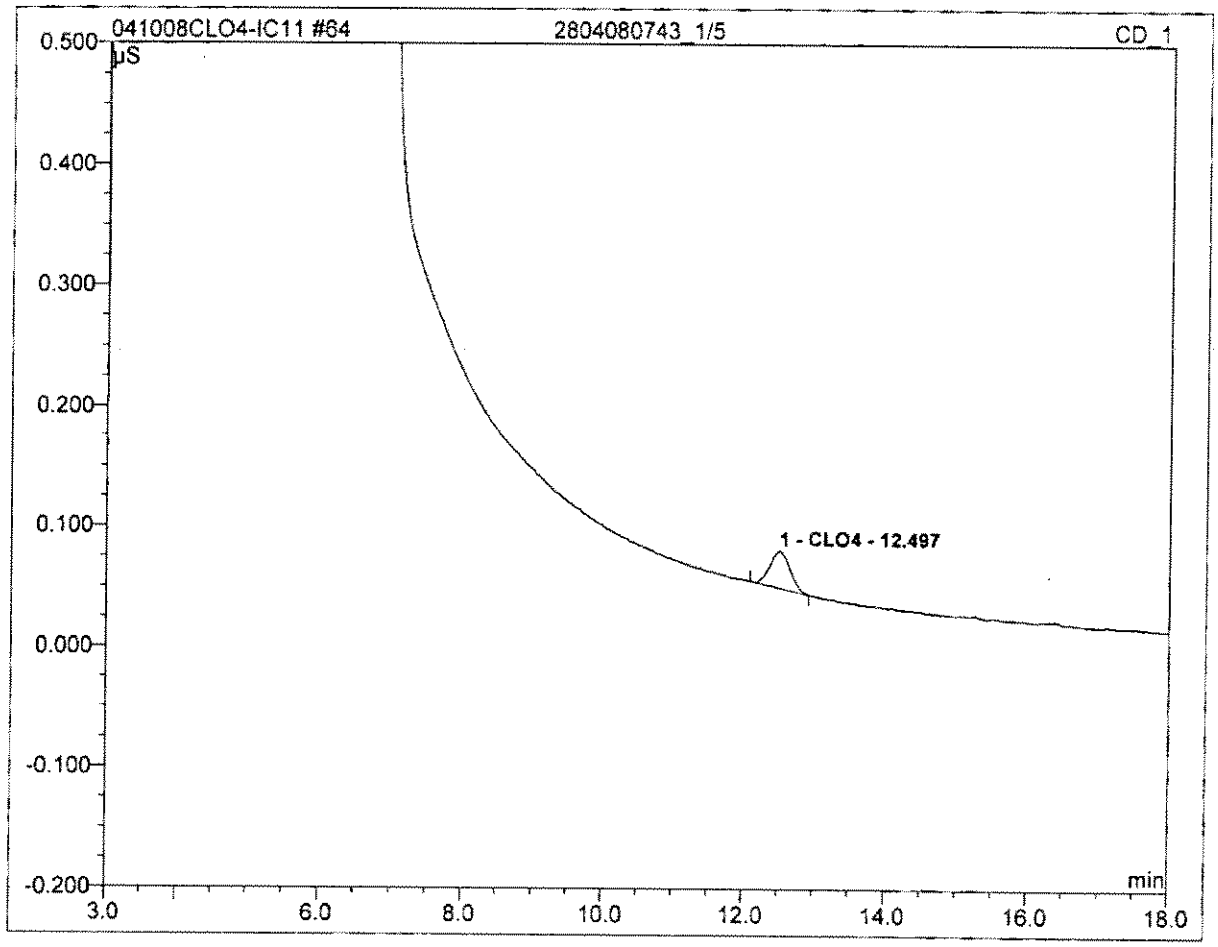
Sample Name:	**CCV**	*Channel:*	**CD_1**
Sample Type:	**unknown**	*Control Program:*	**Perchlorate-IC11**
Recording Time:	**04/11/2008 15:47**	*Quantif. Method:*	**IC#4-CLO4-LOW**
Analyst:	**clv**	*Dilution Factor:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	12.52	CLO4	0.059	0.021	100.00	24.546	BMB
Total:			0.059	0.021	100.00	24.546	

64 2804080743_1/5

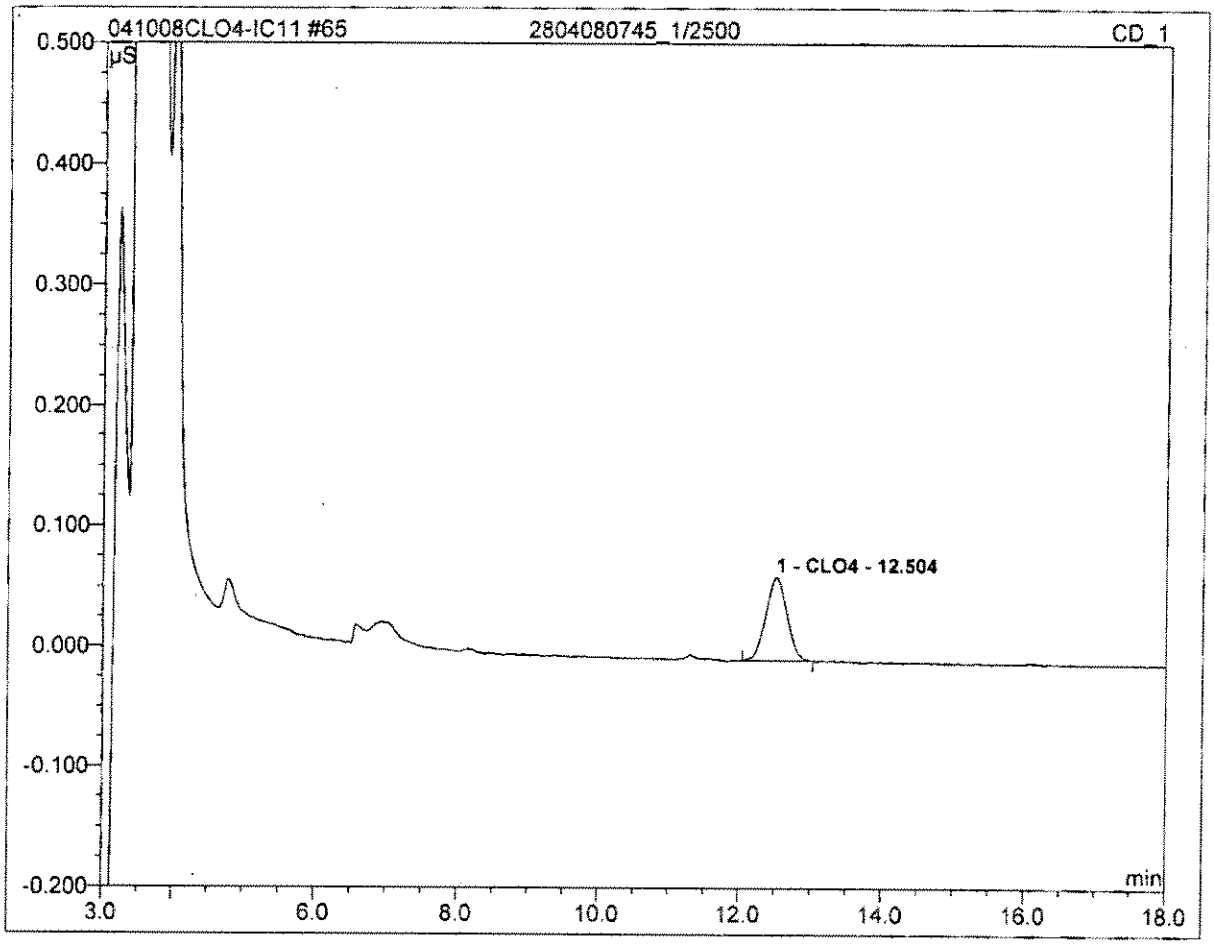
Sample Name:	**2804080743_1/5**	*Channel:*	**CD_1**
Sample Type:	**unknown**	*Control Program:*	**Perchlorate-IC11**
Recording Time:	**04/11/2008 18:24**	*Quantif. Method:*	**IC#4-CLO4-LOW**
Analyst:	**clv**	*Dilution Factor:*	**5.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	12.50	CLO4	0.031	0.010	100.00	61.354	BMB
Total:			0.031	0.010	100.00	61.354	

65 2804080745_1/2500

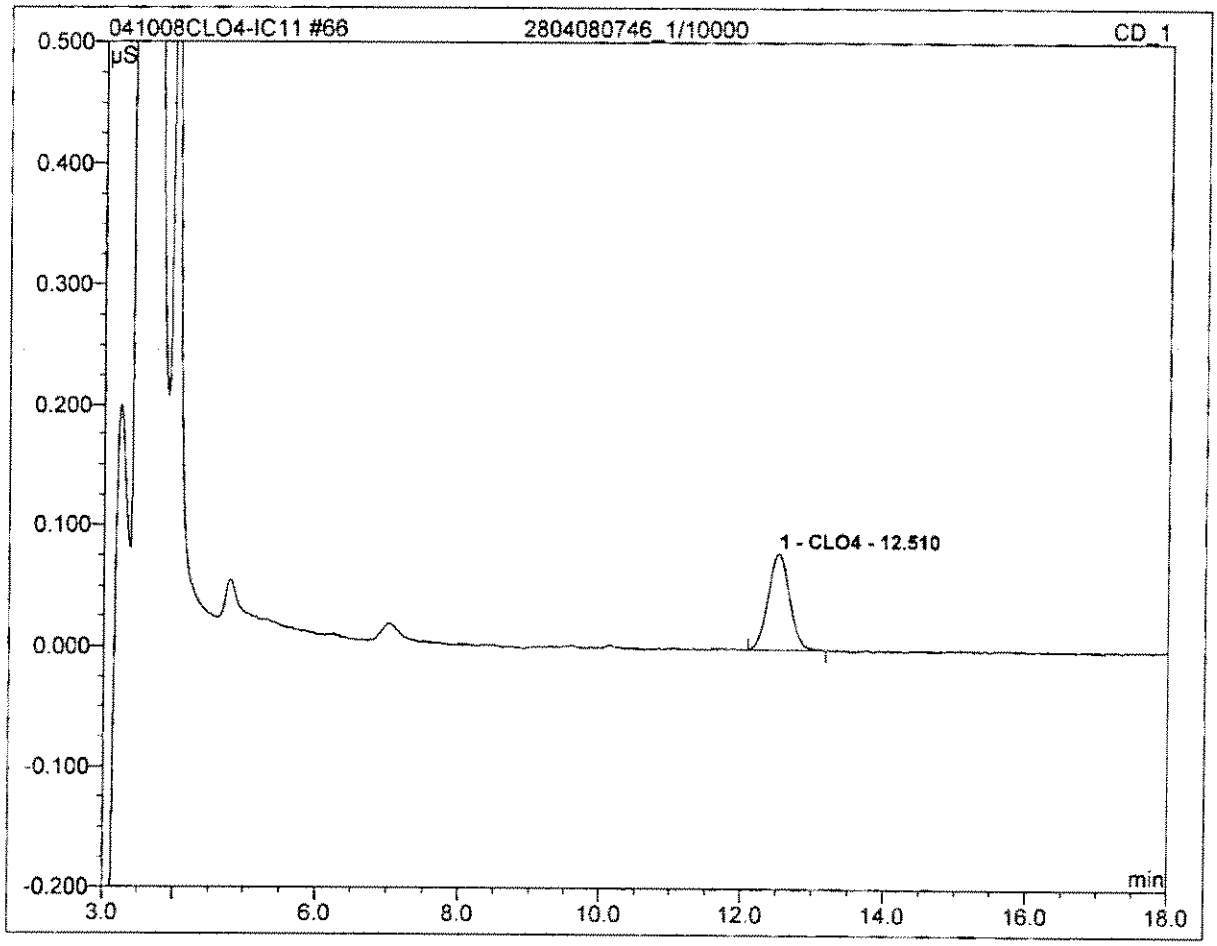
Sample Name:	**2804080745_1/2500**	*Channel:*	**CD_1**
Sample Type:	**unknown**	*Control Program:*	**Perchlorate-IC11**
Recording Time:	**04/11/2008 18:46**	*Quantif. Method:*	**IC#4-CLO4-LOW**
Analyst:	**clv**	*Dilution Factor:*	**2500.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	12.50	CLO4	0.069	0.024	100.00	70502.710	BMB
Total:			0.069	0.024	100.00	70502.710	

66 2804080746_1/10000

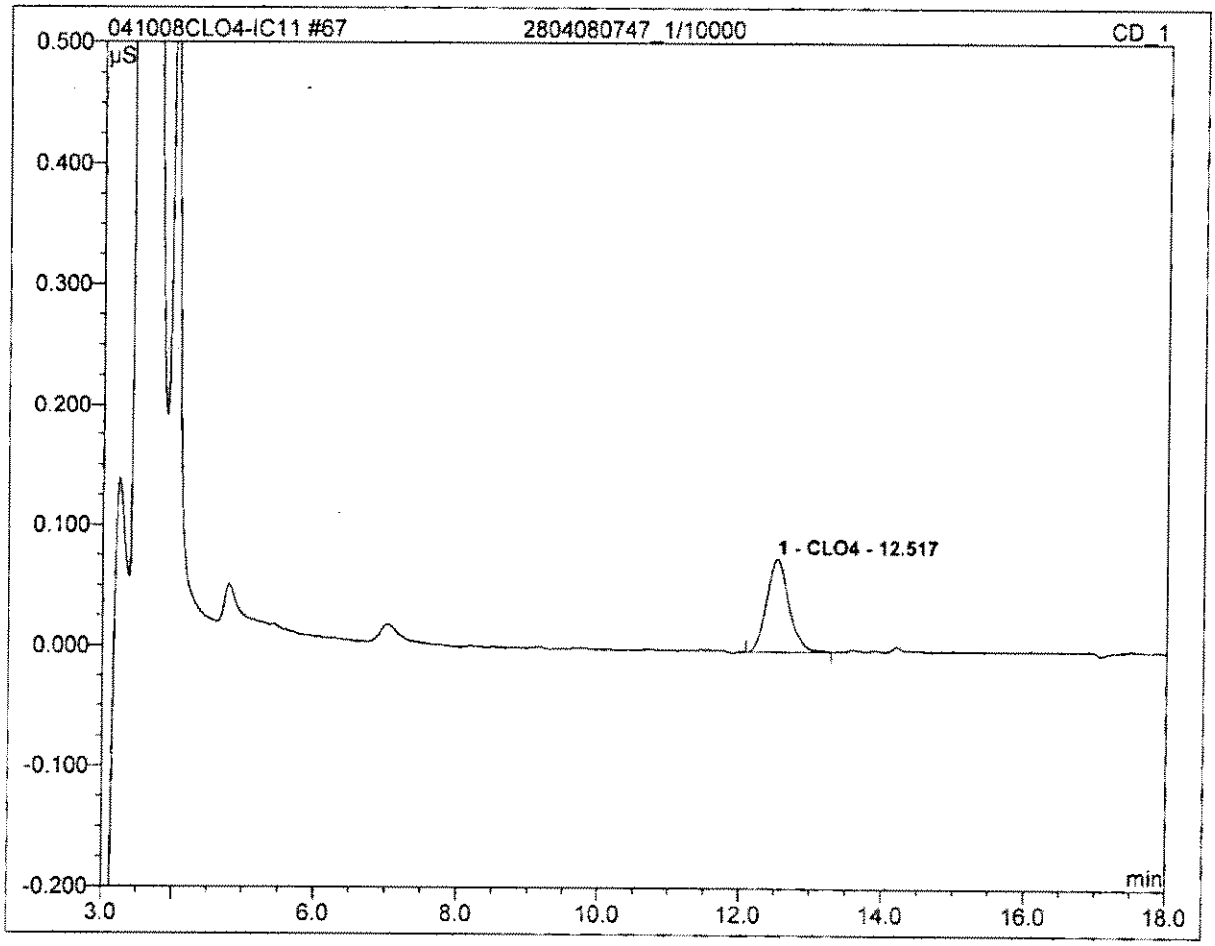
Sample Name:	**2804080746_1/10000**	*Channel:*	**CD_1**
Sample Type:	**unknown**	*Control Program:*	**Perchlorate-IC11**
Recording Time:	**04/11/2008 19:09**	*Quantif. Method:*	**IC#4-CLO4-LOW**
Analyst:	**clv**	*Dilution Factor:*	**10000.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	12.51	CLO4	0.080	0.028	100.00	327882.901	BMB
Total:			0.080	0.028	100.00	327882.901	

67 2804080747_1/10000

Sample Name:	**2804080747_1/10000**	*Channel:*	**CD_1**
Sample Type:	**unknown**	*Control Program:*	**Perchlorate-IC11**
Recording Time:	**04/11/2008 19:31**	*Quantif. Method:*	**IC#4-CLO4-LOW**
Analyst:	**clv**	*Dilution Factor:*	**10000.0000**

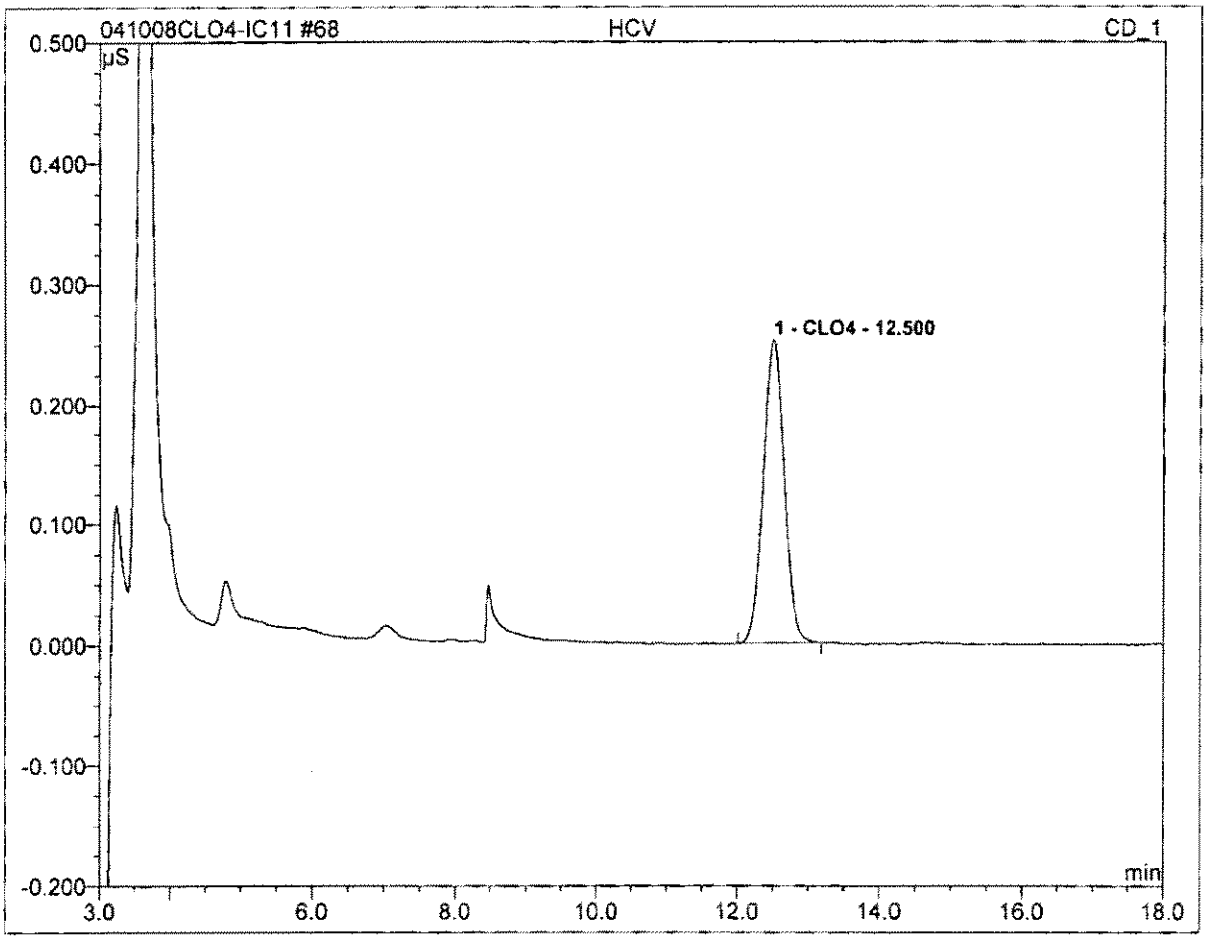


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	12.52	CLO4	0.077	0.028	100.00	328601.875	BMB
Total:			0.077	0.028	100.00	328601.875	

68 HCV

100

Sample Name:	**HCV**	*Channel:*	**CD_1**
Sample Type:	**unknown**	*Control Program:*	**Perchlorate-IC11**
Recording Time:	**04/11/2008 19:54**	*Quantif. Method:*	**IC#4-CLO4-LOW**
Analyst:	**clv**	*Dilution Factor:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	12.50	CLO4	0.252	0.087	100.00	100.358	BMB
Total:			0.252	0.087	100.00	100.358	

Perchlorate QC Checklist

rev: 27 Mar 03

Analysis Date: 4/11/08 **Analyst:** CLV **QC'd by** [illegible] **Date** 4/15/08

Instrument: IC1 **Calculated MCT Level:** 3155 umhos/cm

Original IPC conductance: 3030 umhos/cm **Daily IPC conductance:** 3032 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 (MBLANK, MRL, ICCSCV, IPC) to be analyzed with every batch (up to 20 samples) or part thereof

- ✓ MLBANK is analyzed before samples. Perchlorate, if present, is < or = half of the MRL.
- ✓ *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 = 1.6%

PDA = 3.0%

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

- — 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%.
- — 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
- — QIR needed for samples analyzed outside of hold time

Sample No.	Sample Name	Dil.Fac.	Comment	Time	Amount CLO4 CD_1	
1	autocal1	1.0		04.10.08 18:53	n.a.	
2	autocal2	1.0	2	04.10.08 19:15	2.4036	
3	autocal3	1.0	4	04.10.08 19:38	4.1158	
4	autocal4	1.0	10	04.10.08 20:00	10.3763	
5	autocal5	1.0	25	04.10.08 20:23	23.6594	
6	autocal6	1.0	50	04.10.08 20:45	50.3202	
7	autocal7	1.0	100	04.10.08 21:07	100.1247	
8	QCS	1.0	20	04.11.08 20:16	18.3204	91.6%
9	IPC	1.0	25	04.11.08 20:38	22.5407	90.2%
10	-MBLK	1.0		04.11.08 21:01	n.a.	ND≤½MRL
11	-MRLCHK-2	1.0	2	04.11.08 21:23	2.5727	129%
12	-MRLCHK-4	1.0	4	04.11.08 21:46	✓ 3.8599	96.5%
13	-LCS1	1.0	25	04.11.08 22:08	✓ 23.5948	94.4%
14	-LCS2	1.0	25	04.11.08 22:30	✓ 24.7651	99.1%
15	2804080748_1/100 DNR	100.0		04.11.08 22:53	346.9402	DNR
16	2804080749_1/10000	10000.0		04.11.08 23:15	✓ 287945.9756	
17	2804080750_1/5000	5000.0		04.11.08 23:38	✓ 122693.2457	
18	2804080751_1/10000	10000.0		04.12.08 00:00	✓ 222698.0468	
19	2804080752_1/500	500.0		04.12.08 00:22	✓ 10511.0881	
20	2804080753_1/500	500.0		04.12.08 00:45	✓ 11078.6060	
21	2804080753-MS	500.0	25	04.12.08 01:07	✓ 22620.2442	23.1/92.3%
22	2804080753-MSD	500.0	25	04.12.08 01:30	✓ 21995.3176	21.8/87.3%
23	2804080754_1/200	200.0		04.12.08 01:52	✓ 6669.1920	
24	2804080755_1/5	5.0	EC=4500	04.12.08 02:14	✓ n.a.	
25	2804080756_1/5	5.0	EC=8700	04.12.08 02:37	✓ n.a.	
26	2804080757_1/100	100.0		04.12.08 02:59	✓ 1931.6698	
27	CCV	1.0	25	04.12.08 03:22	24.2215	96.9%
28	2804080758_1/200	200.0		04.12.08 03:44	✓ 7722.8145	
29	2804080759_1/100	100.0		04.12.08 04:06	✓ 2732.0748	
30	2804080760_1/100 DNR	100.0		04.12.08 04:29	800.4905	DNR
31	2804080761_1/100 DNR	100.0		04.12.08 04:51	655.7981	DNR
32	2804080762_1/100	100.0		04.12.08 05:14	✓ 2040.2063	
33	2804080763_1/10000	10000.0		04.12.08 05:36	✓ 312806.4937	
34	2804090810	1.0		04.12.08 05:58	✓ n.a.	
35	2804090821	1.0		04.12.08 06:21	✓ n.a.	
36	2804100078	1.0		04.12.08 06:43	✓ n.a.	
37	2804100079	1.0		04.12.08 07:06	✓ n.a.	
38	HCV	1.0	100	04.12.08 07:28	100.7269	101%
39	IPC	1.0	25	04.12.08 07:50	21.7343	86.9%
40	-MBLK	1.0		04.12.08 08:13	n.a.	ND≤½MRL
41	-MRLCHK-2	1.0	2	04.12.08 08:35	✓ 2.3827	95.3% 119%
42	-MRLCHK-4	1.0	4	04.12.08 08:58	✓ 4.1757	104%
43	-LCS1	1.0	25	04.12.08 09:20	✓ 24.3583	97.4%
44	-LCS2	1.0	25	04.12.08 09:42	✓ 24.3054	97.2%

45	2804100080	1.0		04.12.08 10:05	n.a.	
46	2804100227	1.0		04.12.08 10:27	n.a.	
47	2804100228	1.0		04.12.08 10:50	n.a.	
48	2804100229	1.0		04.12.08 11:12	n.a.	
49	2804100239	1.0		04.12.08 11:34	n.a.	
50	2804100395	1.0		04.12.08 11:57	n.a.	
51	2804100397	1.0		04.12.08 12:19	n.a.	
52	2804100555	1.0		04.12.08 12:42	n.a.	
53	2804100557	1.0		04.12.08 13:04	n.a.	
54	2804100558	1.0		04.12.08 13:26	n.a.	
55	2804100558-MS	1.0	25	04.12.08 13:49	23.0854	92.3%
56	2804100558-MSD	1.0	25	04.12.08 14:11	23.6810	94.7%
57	CCV	1.0	25	04.12.08 16:45	24.4780	97.9%
58	2804100714 DNR	1.0		04.12.08 17:07	n.a.	
59	2804110089 DNR	1.0		04.12.08 17:30	6.1655	
60	2804110090 DNR	1.0		04.12.08 17:52	5.7615	
61	2804110091 DNR	1.0		04.12.08 18:14	4.1049	
62	2804110092 DNR	1.0		04.12.08 18:37	n.a.	
63	2804110107 DNR	1.0		04.12.08 18:59	n.a.	
64	2804110108 DNR	1.0		04.12.08 19:22	n.a.	
65	2804080748_1/10 DNR	10.0	RR	04.12.08 19:44	260.3730	
66	2804080760_1/10 DNR	10.0	RR	04.12.08 20:06	860.8402	
67	2804080761_1/10 DNR	10.0	RR	04.12.08 20:29	831.4212	
68	HCV DNR	1.0	100	04.12.08 20:51	82.5292	

DNR

VB 4/14/08

28 Dec 05; Rev 5
MWH Confidential

MWH Laboratories
750 Royal Oaks Drive, Suite 100
Monrovia, CA 91016-3629

CONDUCTIVITY MW SOP REVISION 5
SM2510B

Analysis Date: 4/09/08
Analyst: [signature]
Reviewed By:
LIMS Check By:

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

Time of Analysis Start: 2015 End:
MRL 2umhos/cm: Rill exp of solution:
KCl Std 1412 Rill 201819 exp of solution 9/08
TV = 1412 µmho/cm @ 25°C for 0.0100M
Reading: 1400
Instrument: YSI Model 3200 SN:01A0504 Year Acquired 2001 New

IPC = 3030

Run #	Sample Number	Sample ID	Client	Date Collected	Temp °C	pH	Scale (µmho/mmho)	Result: Instrument	Result: Reported (µmho/cm)	Comments
Blk	Blank				21	7	uS		0060	
STD	MRL 2umhos/cm									1-3—±50% of TV
STD	KCl - 1000 mhos/cm								1002	950-1050—±5% of TV
1	7804080748		KM					26N		
2	0749							94N		
3	0750							131N		
4	0751							132N		
5	0752							63N		
6	0753							64N		
7	0754							55N		
8	0755							45N		
9	0756							87N		
10	0757							440		
DUP	↓							44N		RPD < 5%
11	0758							59N		
12	0759							46N		
13	0760							37N		
14	0761							37N		
15	0762							39N		
16	0763		↓					96N		
17										
18										
19										
20										
DUP	7804080763		KM							
STD	KCl - 10 mhos/cm									RPD < 5%
										8-12—RPD < 20% of TV

% RPD = |S1-S2| * 100
(S1+S2)/2

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

Sequence: 041108CLO4-IC11
Operator: clv
Printed: 4/13/2008 2:27:08 PM

Title:
Datasource: Dionex_USPAS2SDIO2
Location: IC\IC11_CLO4\2008\APR
Timebase: IC11
#Samples: 68

Created: 4/11/2008 11:30:08 AM by clv
Last Update: 4/13/2008 2:10:54 PM by clv

No.	Name	Sample ID	Dil. Factor	Type	Comment	Status
1	autocal1		1.0000	Standard		Finished
2	autocal2	R201449 EXP 07/28/09	1.0000	Standard	2	Finished
3	autocal3		1.0000	Standard	4	Finished
4	autocal4		1.0000	Standard	10	Finished
5	autocal5		1.0000	Standard	25	Finished
6	autocal6		1.0000	Standard	50	Finished
7	autocal7		1.0000	Standard	100	Finished
8	QCS	R201789 EXP 07/10/09	1.0000	Unknown	20	Finished
9	IPC	EC=3155	1.0000	Unknown	25	Finished
10	-MBLK		1.0000	Unknown		Finished
11	-MRLCHK-2	2	1.0000	Unknown	2	Finished
12	-MRLCHK-4	4	1.0000	Unknown	4	Finished
13	-LCS1	25	1.0000	Unknown	25	Finished
14	-LCS2	25	1.0000	Unknown	25	Finished
15	2804080748_1/100 DNR	KM	100.0000	Unknown		Finished
16	2804080749_1/10000	KM	10000.0000	Unknown		Finished
17	2804080750_1/5000	KM	5000.0000	Unknown		Finished
18	2804080751_1/10000	KM	10000.0000	Unknown		Finished
19	2804080752_1/500	KM	500.0000	Unknown		Finished
20	2804080753_1/500	KM	500.0000	Unknown		Finished
21	2804080753-MS	25	500.0000	Unknown	25	Finished
22	2804080753-MSD	25	500.0000	Unknown	25	Finished
23	2804080754_1/200	KM	200.0000	Unknown		Finished
24	2804080755_1/5	KM	5.0000	Unknown	EC=4500	Finished
25	2804080756_1/5	KM	5.0000	Unknown	EC=8700	Finished
26	2804080757_1/100	KM	100.0000	Unknown		Finished
27	CCV	25	1.0000	Unknown	25	Finished
28	2804080758_1/200	KM	200.0000	Unknown		Finished
29	2804080759_1/100	KM	100.0000	Unknown		Finished
30	2804080760_1/100 DNR	KM	100.0000	Unknown		Finished
31	2804080761_1/100 DNR	KM	100.0000	Unknown		Finished
32	2804080762_1/100	KM	100.0000	Unknown		Finished
33	2804080763_1/10000	KM	10000.0000	Unknown		Finished
34	2804090810	WBD	1.0000	Unknown		Finished
35	2804090821	WBD	1.0000	Unknown		Finished
36	2804100078	SALWATER	1.0000	Unknown		Finished
37	2804100079	SALWATER	1.0000	Unknown		Finished
38	HCV	100	1.0000	Unknown	100	Finished
39	IPC	EC=3155	1.0000	Unknown	25	Finished
40	-MBLK		1.0000	Unknown		Finished
41	-MRLCHK-2	2	1.0000	Unknown	2	Finished
42	-MRLCHK-4	4	1.0000	Unknown	4	Finished

Sequence: 041108CLO4-IC11
Operator: clv

Title:
Datasource: Dionex_USPAS2SDIO2
Location: IC\IC11_CLO4\2008\APR
Timebase: IC11
#Samples: 68

Created: 4/11/2008 11:30:08 AM by clv
Last Update: 4/13/2008 2:10:54 PM by clv

No.	Name	Sample ID	Dil. Factor	Type	Comment	Status
43	-LCS1	25	1.0000	Unknown	25	Finished
44	-LCS2	25	1.0000	Unknown	25	Finished
45	2804100080	CALWATER	1.0000	Unknown		Finished
46	2804100227	VALENCIA	1.0000	Unknown		Finished
47	2804100228	VALENCIA	1.0000	Unknown		Finished
48	2804100229	VALENCIA	1.0000	Unknown		Finished
49	2804100239	DIXON	1.0000	Unknown		Finished
50	2804100395	NORFOLK	1.0000	Unknown		Finished
51	2804100397	NORFOLK	1.0000	Unknown		Finished
52	2804100555	CALWATER	1.0000	Unknown		Finished
53	2804100557	CALWATER	1.0000	Unknown		Finished
54	2804100558	CALWATER	1.0000	Unknown		Finished
55	2804100558-MS	25	1.0000	Unknown	25	Finished
56	2804100558-MSD	25	1.0000	Unknown	25	Finished
57	CCV	25	1.0000	Unknown	25	Finished
58	2804100714 DNR	WWD	1.0000	Unknown		Finished
59	2804110089 DNR	CALWATER	1.0000	Unknown		Finished
60	2804110090 DNR	CALWATER	1.0000	Unknown		Finished
61	2804110091 DNR	CALWATER	1.0000	Unknown		Finished
62	2804110092 DNR	CALWATER	1.0000	Unknown		Finished
63	2804110107 DNR	RWWMC	1.0000	Unknown		Finished
64	2804110108 DNR	RWWMC	1.0000	Unknown		Finished
65	2804080748_1/10 DNR	KM	10.0000	Unknown	RR	Finished
66	2804080760_1/10 DNR	KM	10.0000	Unknown	RR	Finished
67	2804080761_1/10 DNR	KM	10.0000	Unknown	RR	Finished
68	HCV DNR	100	1.0000	Unknown	100	Finished

Title:
Datasource: Dionex_USPAS2SDIO2
Location: IC\IC11_CLO4\2008\APR
Timebase: IC11 Created: 4/11/2008 11:30:08 AM by clv
#Samples: 68 Last Update: 4/13/2008 2:10:54 PM by clv

No.	Name	Program	Method	Inj. Date/Time	*Analyst
1	autocal1	Perchlorate-IC11	IC#4-CLO4-LOW	4/10/2008 6:53:31 PM	clv
2	autocal2	Perchlorate-IC11	IC#4-CLO4-LOW	4/10/2008 7:15:55 PM	clv
3	autocal3	Perchlorate-IC11	IC#4-CLO4-LOW	4/10/2008 7:38:20 PM	clv
4	autocal4	Perchlorate-IC11	IC#4-CLO4-LOW	4/10/2008 8:00:44 PM	clv
5	autocal5	Perchlorate-IC11	IC#4-CLO4-LOW	4/10/2008 8:23:08 PM	clv
6	autocal6	Perchlorate-IC11	IC#4-CLO4-LOW	4/10/2008 8:45:33 PM	clv
7	autocal7	Perchlorate-IC11	IC#4-CLO4-LOW	4/10/2008 9:07:57 PM	clv
8	QCS	Perchlorate-IC11	IC#4-CLO4-LOW	4/11/2008 8:16:31 PM	clv
9	IPC	Perchlorate-IC11	IC#4-CLO4-LOW	4/11/2008 8:38:54 PM	clv
10	-MBLK	Perchlorate-IC11	IC#4-CLO4-LOW	4/11/2008 9:01:18 PM	clv
11	-MRLCHK-2	Perchlorate-IC11	IC#4-CLO4-LOW	4/11/2008 9:23:42 PM	clv
12	-MRLCHK-4	Perchlorate-IC11	IC#4-CLO4-LOW	4/11/2008 9:46:05 PM	clv
13	-LCS1	Perchlorate-IC11	IC#4-CLO4-LOW	4/11/2008 10:08:29 PM	clv
14	-LCS2	Perchlorate-IC11	IC#4-CLO4-LOW	4/11/2008 10:30:52 PM	clv
15	2804080748_1/100 DNR	Perchlorate-IC11	IC#4-CLO4-LOW	4/11/2008 10:53:16 PM	clv
16	2804080749_1/10000	Perchlorate-IC11	IC#4-CLO4-LOW	4/11/2008 11:15:39 PM	clv
17	2804080750_1/5000	Perchlorate-IC11	IC#4-CLO4-LOW	4/11/2008 11:38:03 PM	clv
18	2804080751_1/10000	Perchlorate-IC11	IC#4-CLO4-LOW	4/12/2008 12:00:26 AM	clv
19	2804080752_1/500	Perchlorate-IC11	IC#4-CLO4-LOW	4/12/2008 12:22:50 AM	clv
20	2804080753_1/500	Perchlorate-IC11	IC#4-CLO4-LOW	4/12/2008 12:45:13 AM	clv
21	2804080753-MS	Perchlorate-IC11	IC#4-CLO4-LOW	4/12/2008 1:07:37 AM	clv
22	2804080753-MSD	Perchlorate-IC11	IC#4-CLO4-LOW	4/12/2008 1:30:00 AM	clv
23	2804080754_1/200	Perchlorate-IC11	IC#4-CLO4-LOW	4/12/2008 1:52:24 AM	clv
24	2804080755_1/5	Perchlorate-IC11	IC#4-CLO4-LOW	4/12/2008 2:14:47 AM	clv
25	2804080756_1/5	Perchlorate-IC11	IC#4-CLO4-LOW	4/12/2008 2:37:18 AM	clv
26	2804080757_1/100	Perchlorate-IC11	IC#4-CLO4-LOW	4/12/2008 2:59:42 AM	clv
27	CCV	Perchlorate-IC11	IC#4-CLO4-LOW	4/12/2008 3:22:06 AM	clv
28	2804080758_1/200	Perchlorate-IC11	IC#4-CLO4-LOW	4/12/2008 3:44:30 AM	clv
29	2804080759_1/100	Perchlorate-IC11	IC#4-CLO4-LOW	4/12/2008 4:06:54 AM	clv
30	2804080760_1/100 DNR	Perchlorate-IC11	IC#4-CLO4-LOW	4/12/2008 4:29:17 AM	clv
31	2804080761_1/100 DNR	Perchlorate-IC11	IC#4-CLO4-LOW	4/12/2008 4:51:41 AM	clv
32	2804080762_1/100	Perchlorate-IC11	IC#4-CLO4-LOW	4/12/2008 5:14:05 AM	clv
33	2804080763_1/10000	Perchlorate-IC11	IC#4-CLO4-LOW	4/12/2008 5:36:29 AM	clv
34	2804090810	Perchlorate-IC11	IC#4-CLO4-LOW	4/12/2008 5:58:53 AM	clv
35	2804090821	Perchlorate-IC11	IC#4-CLO4-LOW	4/12/2008 6:21:17 AM	clv
36	2804100078	Perchlorate-IC11	IC#4-CLO4-LOW	4/12/2008 6:43:40 AM	clv
37	2804100079	Perchlorate-IC11	IC#4-CLO4-LOW	4/12/2008 7:06:04 AM	clv
38	HCV	Perchlorate-IC11	IC#4-CLO4-LOW	4/12/2008 7:28:28 AM	clv
39	IPC	Perchlorate-IC11	IC#4-CLO4-LOW	4/12/2008 7:50:52 AM	clv
40	-MBLK	Perchlorate-IC11	IC#4-CLO4-LOW	4/12/2008 8:13:16 AM	clv
41	-MRLCHK-2	Perchlorate-IC11	IC#4-CLO4-LOW	4/12/2008 8:35:39 AM	clv
42	-MRLCHK-4	Perchlorate-IC11	IC#4-CLO4-LOW	4/12/2008 8:58:03 AM	clv

Sequence: 041108CLO4-IC11
Operator: clv

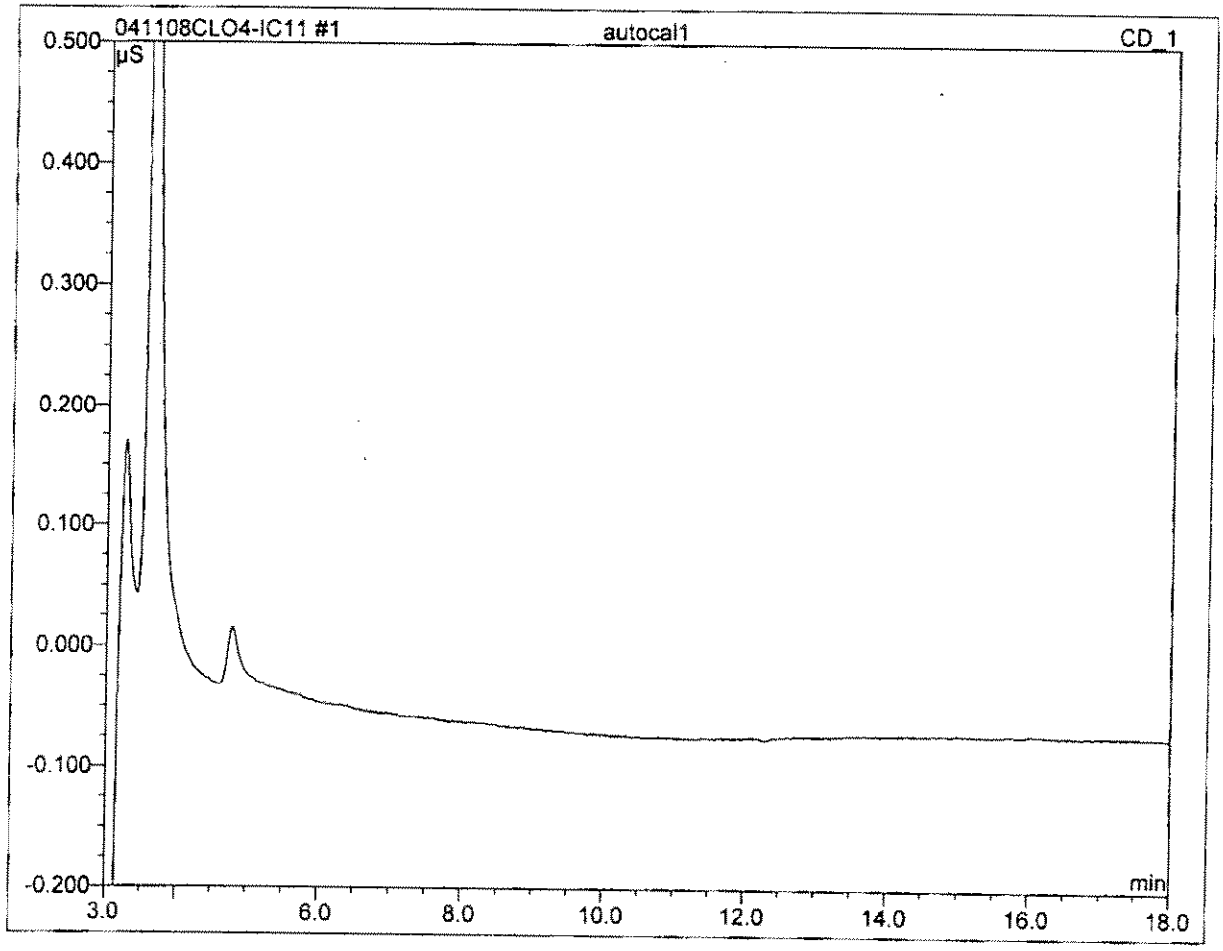
Title:
Datasource: Dionex_USPAS2SDIO2
Location: IC\IC11_CLO4\2008\APR
Timebase: IC11
#Samples: 68

Created: 4/11/2008 11:30:08 AM by clv
Last Update: 4/13/2008 2:10:54 PM by clv

No.	Name	Program	Method	Inj. Date/Time	*Analyst
43	-LCS1	Perchlorate-IC11	IC#4-CLO4-LOW	4/12/2008 9:20:27 AM	clv
44	-LCS2	Perchlorate-IC11	IC#4-CLO4-LOW	4/12/2008 9:42:51 AM	clv
45	2804100080	Perchlorate-IC11	IC#4-CLO4-LOW	4/12/2008 10:05:15 AM	clv
46	2804100227	Perchlorate-IC11	IC#4-CLO4-LOW	4/12/2008 10:27:38 AM	clv
47	2804100228	Perchlorate-IC11	IC#4-CLO4-LOW	4/12/2008 10:50:03 AM	clv
48	2804100229	Perchlorate-IC11	IC#4-CLO4-LOW	4/12/2008 11:12:26 AM	clv
49	2804100239	Perchlorate-IC11	IC#4-CLO4-LOW	4/12/2008 11:34:50 AM	clv
50	2804100395	Perchlorate-IC11	IC#4-CLO4-LOW	4/12/2008 11:57:14 AM	clv
51	2804100397	Perchlorate-IC11	IC#4-CLO4-LOW	4/12/2008 12:19:38 PM	clv
52	2804100555	Perchlorate-IC11	IC#4-CLO4-LOW	4/12/2008 12:42:02 PM	clv
53	2804100557	Perchlorate-IC11	IC#4-CLO4-LOW	4/12/2008 1:04:25 PM	clv
54	2804100558	Perchlorate-IC11	IC#4-CLO4-LOW	4/12/2008 1:26:49 PM	clv
55	2804100558-MS	Perchlorate-IC11	IC#4-CLO4-LOW	4/12/2008 1:49:13 PM	clv
56	2804100558-MSD	Perchlorate-IC11	IC#4-CLO4-LOW	4/12/2008 2:11:37 PM	clv
57	CCV	Perchlorate-IC11	IC#4-CLO4-LOW	4/12/2008 4:45:15 PM	clv
58	2804100714 DNR	Perchlorate-IC11	IC#4-CLO4-LOW	4/12/2008 5:07:39 PM	clv
59	2804110089 DNR	Perchlorate-IC11	IC#4-CLO4-LOW	4/12/2008 5:30:03 PM	clv
60	2804110090 DNR	Perchlorate-IC11	IC#4-CLO4-LOW	4/12/2008 5:52:27 PM	clv
61	2804110091 DNR	Perchlorate-IC11	IC#4-CLO4-LOW	4/12/2008 6:14:51 PM	clv
62	2804110092 DNR	Perchlorate-IC11	IC#4-CLO4-LOW	4/12/2008 6:37:15 PM	clv
63	2804110107 DNR	Perchlorate-IC11	IC#4-CLO4-LOW	4/12/2008 6:59:39 PM	clv
64	2804110108 DNR	Perchlorate-IC11	IC#4-CLO4-LOW	4/12/2008 7:22:03 PM	clv
65	2804080748_1/10 DNR	Perchlorate-IC11	IC#4-CLO4-LOW	4/12/2008 7:44:26 PM	clv
66	2804080760_1/10 DNR	Perchlorate-IC11	IC#4-CLO4-LOW	4/12/2008 8:06:50 PM	clv
67	2804080761_1/10 DNR	Perchlorate-IC11	IC#4-CLO4-LOW	4/12/2008 8:29:14 PM	clv
68	HCV DNR	Perchlorate-IC11	IC#4-CLO4-LOW	4/12/2008 8:51:39 PM	clv

1 autocal1

Sample Name:	**autocal1**	*Channel:*	**CD_1**
Sample Type:	**standard**	*Control Program:*	**Perchlorate-IC11**
Recording Time:	**04/10/2008 18:53**	*Quantif. Method:*	**IC#4-CLO4-LOW**
Analyst:	**clv**	*Dilution Factor:*	**1.0000**

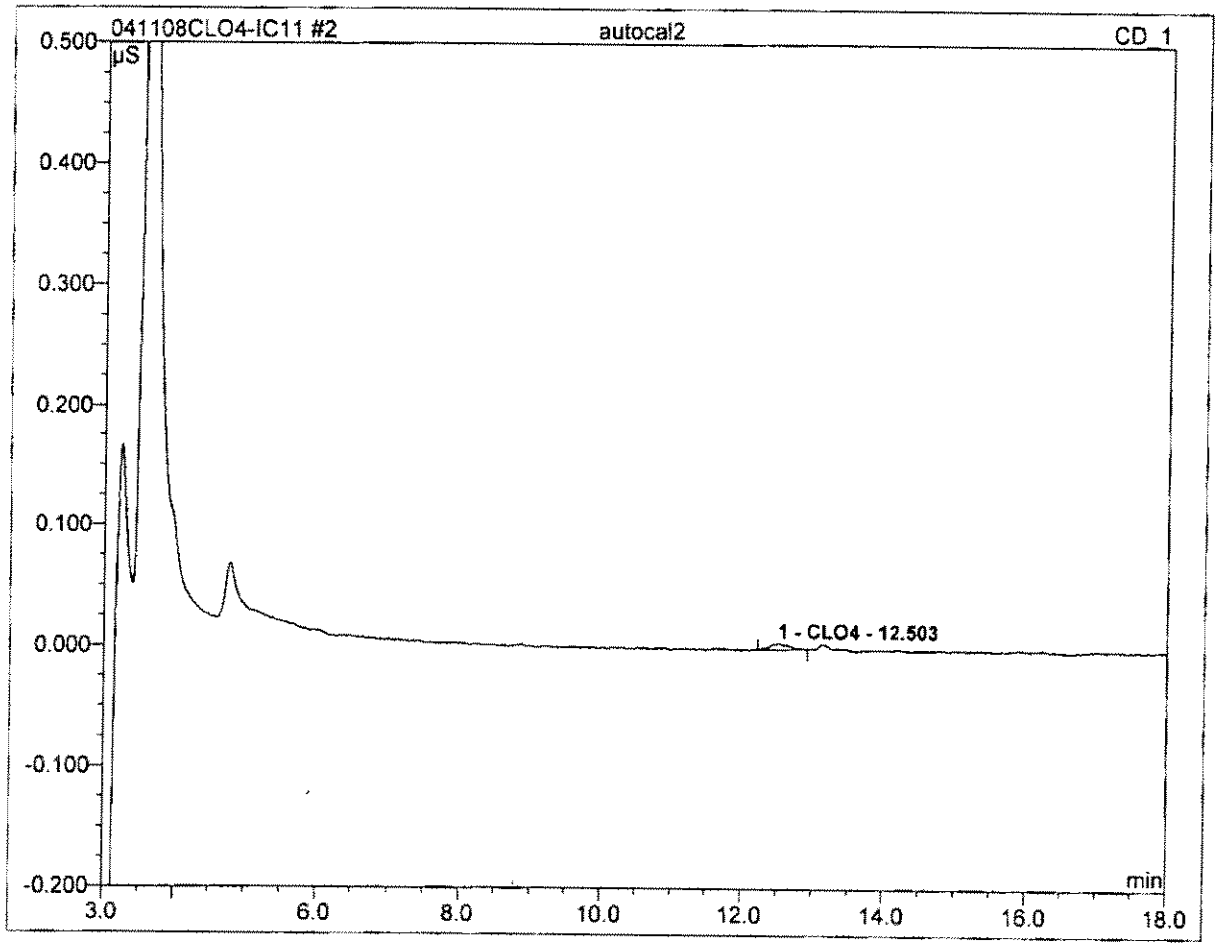


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
Total:			0.000	0.000	0.00	0.000	

2 autocal2

2

Sample Name:	**autocal2**	*Channel:*	**CD_1**
Sample Type:	**standard**	*Control Program:*	**Perchlorate-IC11**
Recording Time:	**04/10/2008 19:15**	*Quantif. Method:*	**IC#4-CLO4-LOW**
Analyst:	**clv**	*Dilution Factor:*	**1.0000**

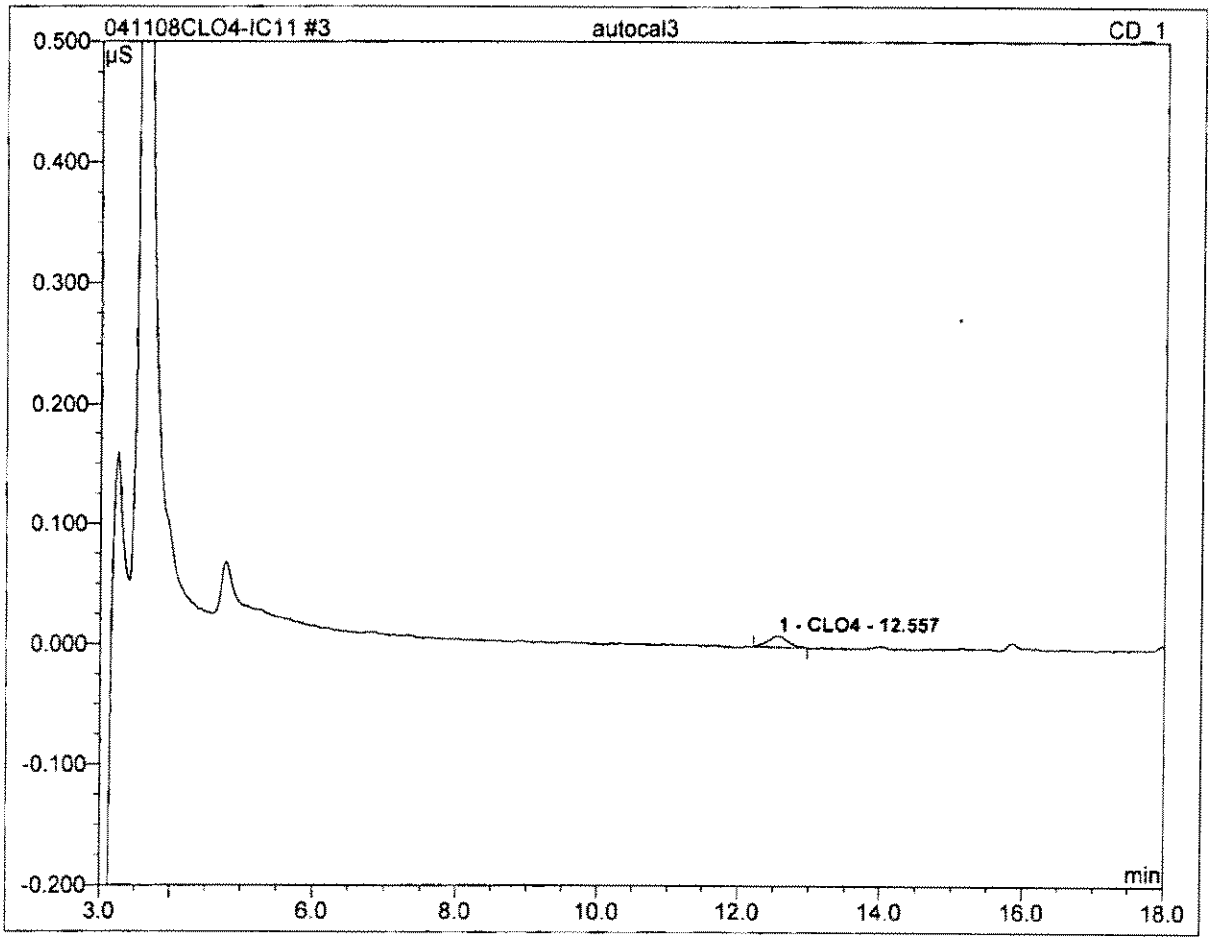


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	12.50	CLO4	0.005	0.002	100.00	2.404	BMB
Total:			0.005	0.002	100.00	2.404	

3 autocal3

4

Sample Name:	**autocal3**	*Channel:*	**CD_1**
Sample Type:	**standard**	*Control Program:*	**Perchlorate-IC11**
Recording Time:	**04/10/2008 19:38**	*Quantif. Method:*	**IC#4-CLO4-LOW**
Analyst:	**clv**	*Dilution Factor:*	**1.0000**

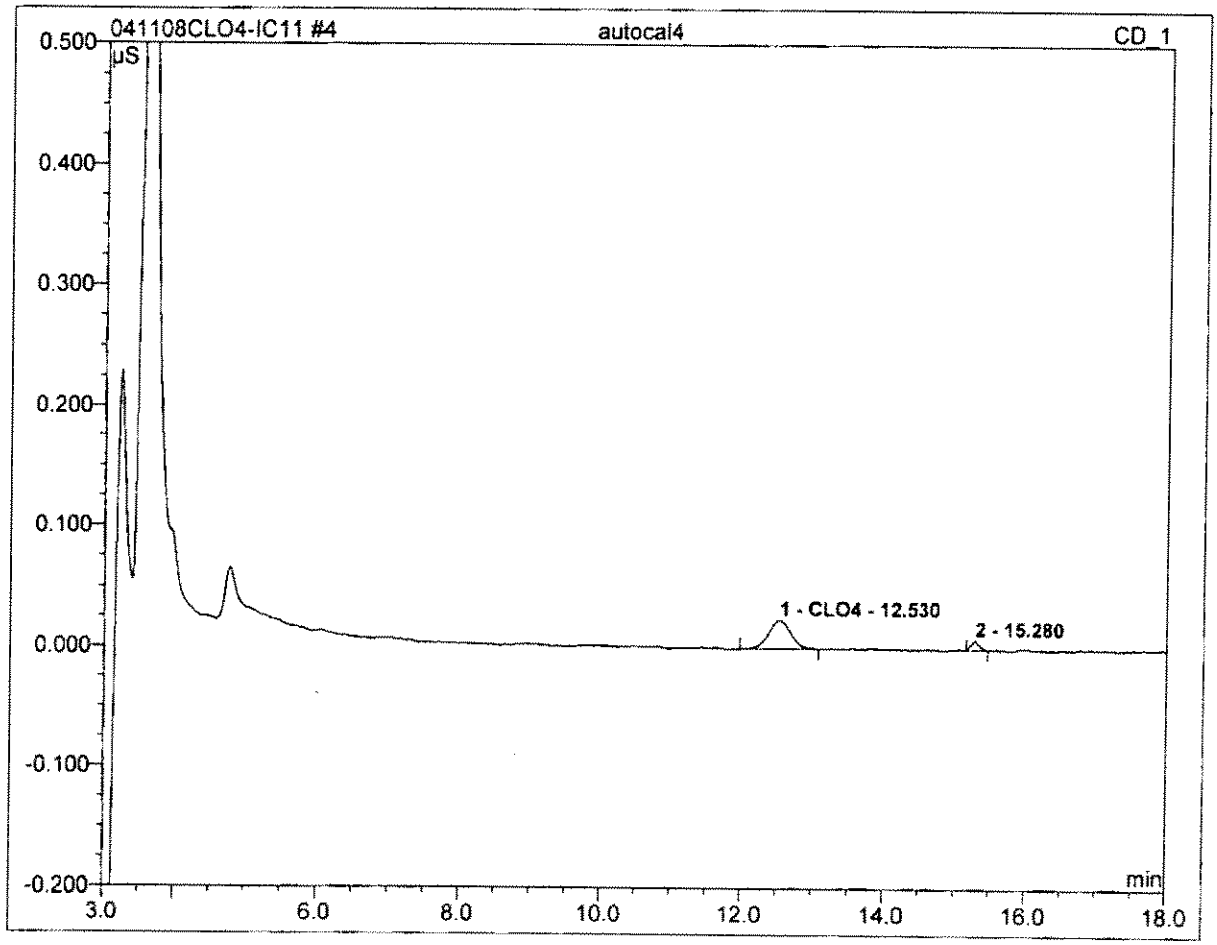


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	12.56	CLO4	0.009	0.003	100.00	4.116	BMB
Total:			0.009	0.003	100.00	4.116	

4 autocal4

10

Sample Name:	**autocal4**	*Channel:*	**CD_1**
Sample Type:	**standard**	*Control Program:*	**Perchlorate-IC11**
Recording Time:	**04/10/2008 20:00**	*Quantif. Method:*	**IC#4-CLO4-LOW**
Analyst:	**clv**	*Dilution Factor:*	**1.0000**

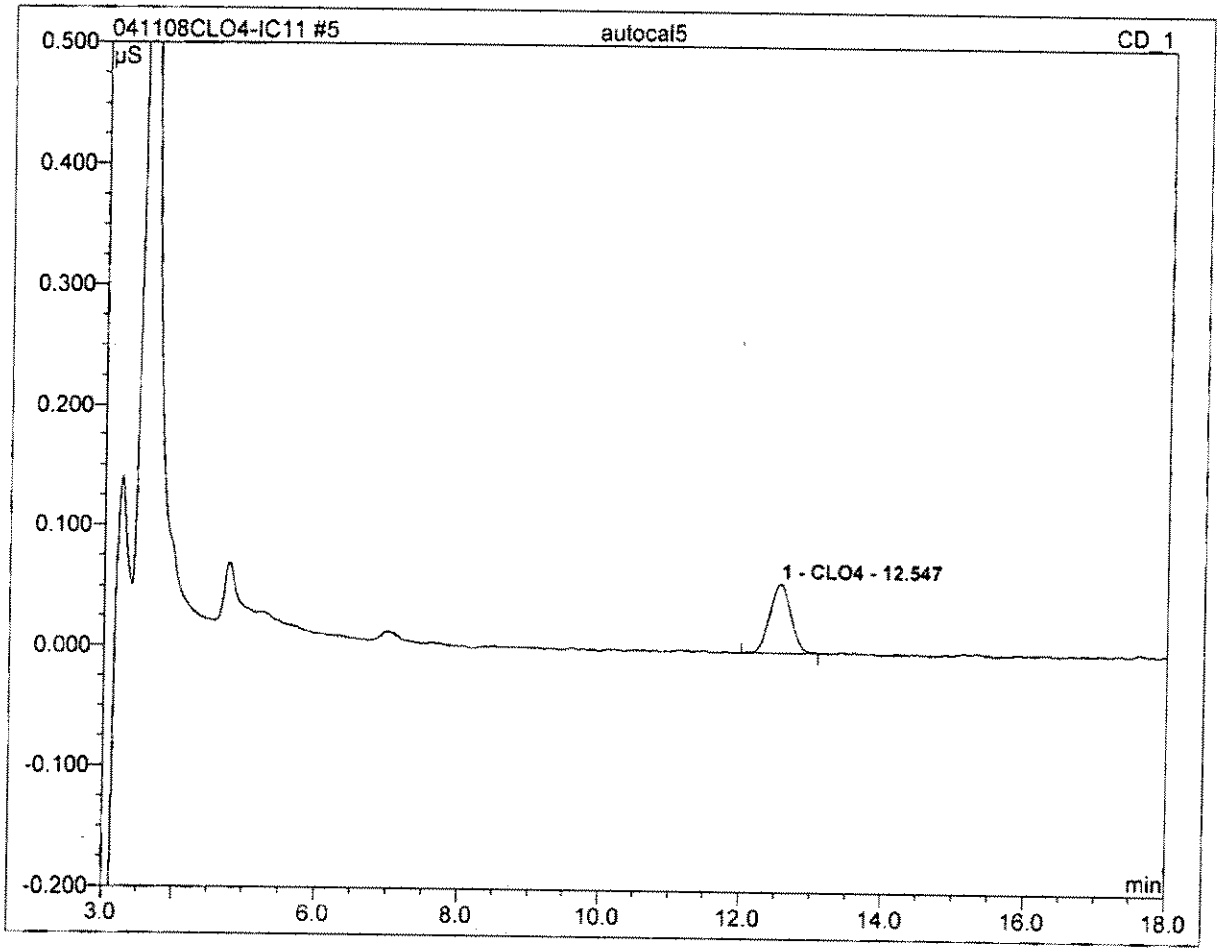


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	12.53	CLO4	0.024	0.009	89.57	10.376	BMB
Total:			0.024	0.009	89.57	10.376	

5 autocal5

25

Sample Name:	**autocal5**	*Channel:*	**CD_1**
Sample Type:	**standard**	*Control Program:*	**Perchlorate-IC11**
Recording Time:	**04/10/2008 20:23**	*Quantif. Method:*	**IC#4-CLO4-LOW**
Analyst:	**clv**	*Dilution Factor:*	**1.0000**

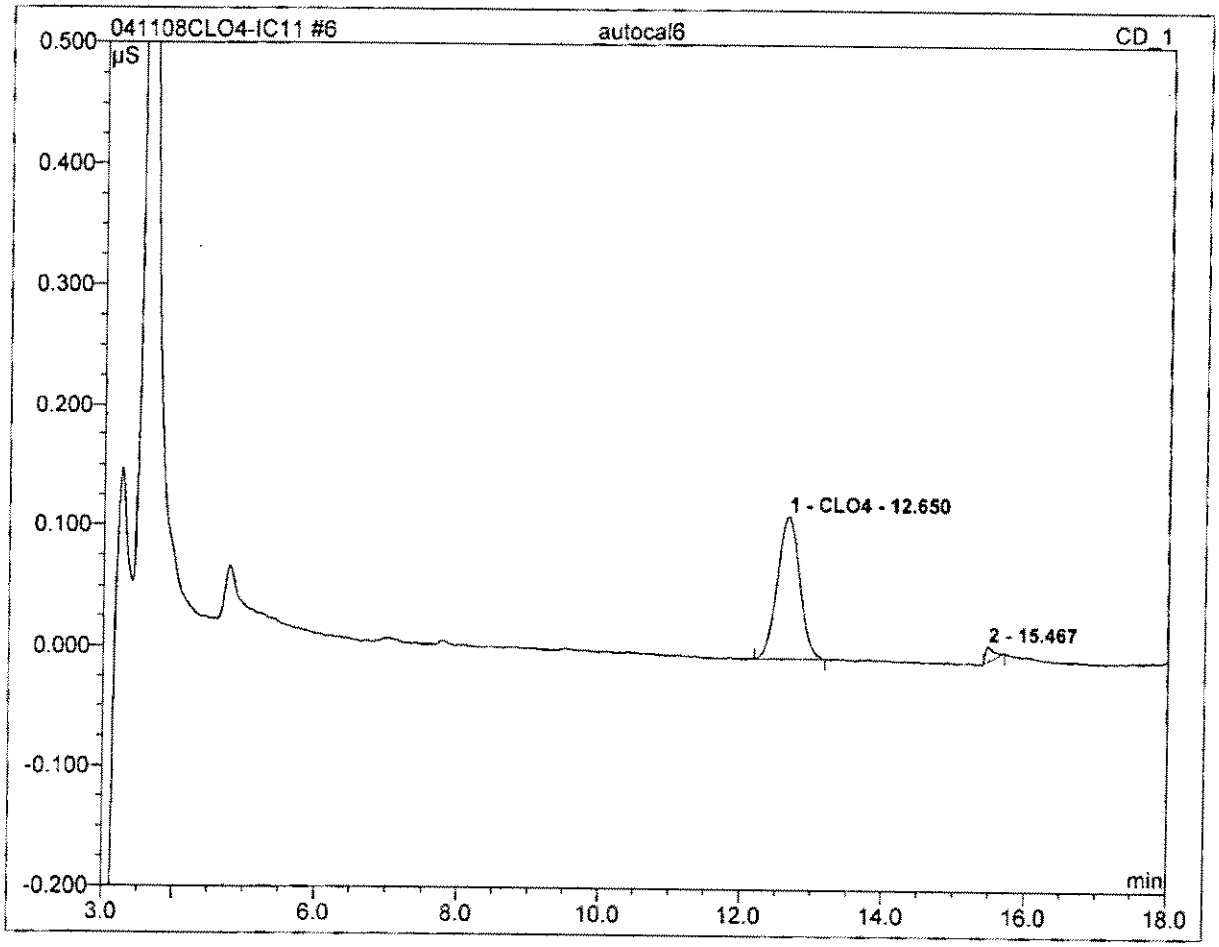


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	12.55	CLO4	0.058	0.020	100.00	23.659	BMB
Total:			0.058	0.020	100.00	23.659	

6 autocal6

50

Sample Name:	**autocal6**	*Channel:*	**CD_1**
Sample Type:	**standard**	*Control Program:*	**Perchlorate-IC11**
Recording Time:	**04/10/2008 20:45**	*Quantif. Method:*	**IC#4-CLO4-LOW**
Analyst:	**clv**	*Dilution Factor:*	**1.0000**

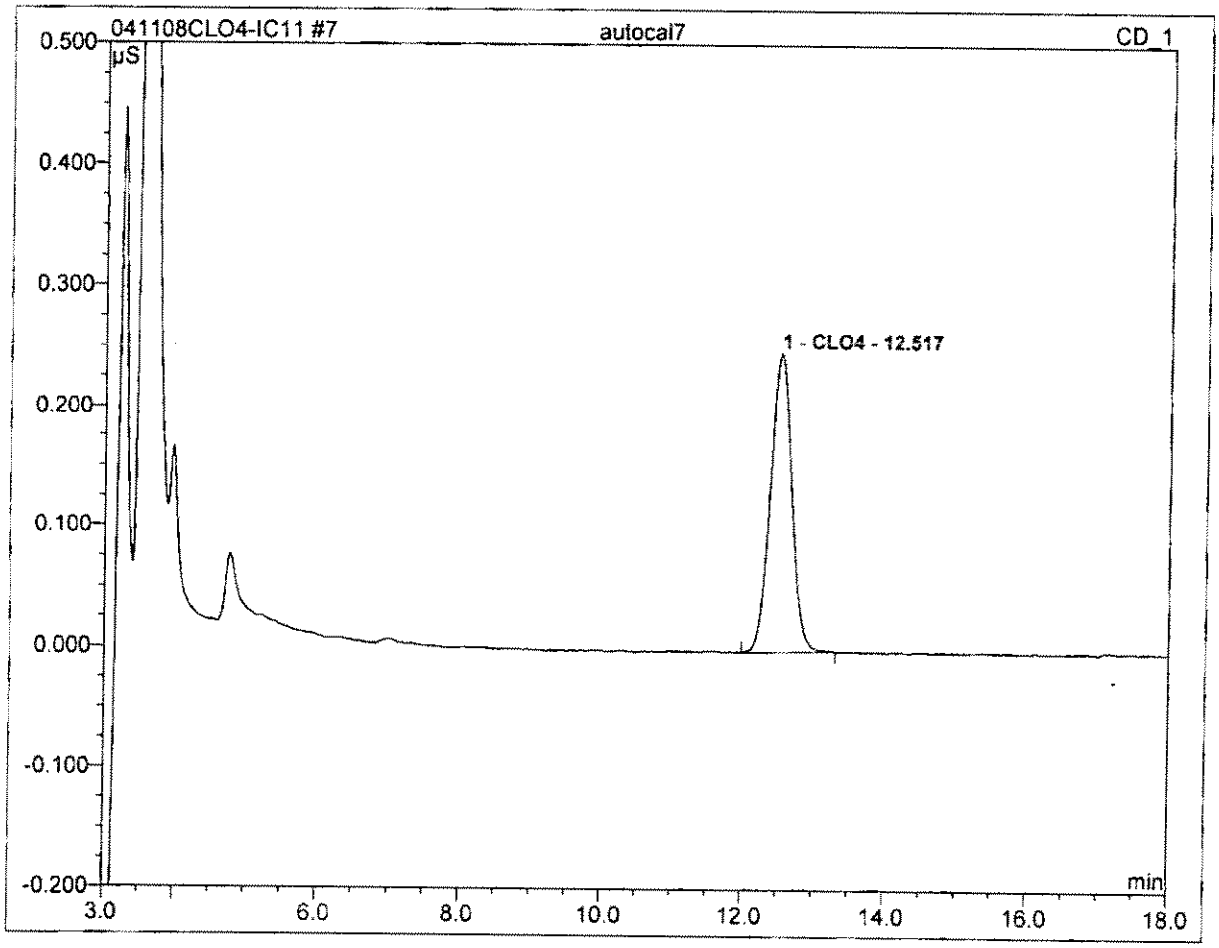


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	12.65	CLO4	0.118	0.043	96.30	50.320	BMB
Total:			0.118	0.043	96.30	50.320	

7 autocal7

100

Sample Name:	**autocal7**	*Channel:*	**CD_1**
Sample Type:	**standard**	*Control Program:*	**Perchlorate-IC11**
Recording Time:	**04/10/2008 21:07**	*Quantif. Method:*	**IC#4-CLO4-LOW**
Analyst:	**clv**	*Dilution Factor:*	**1.0000**

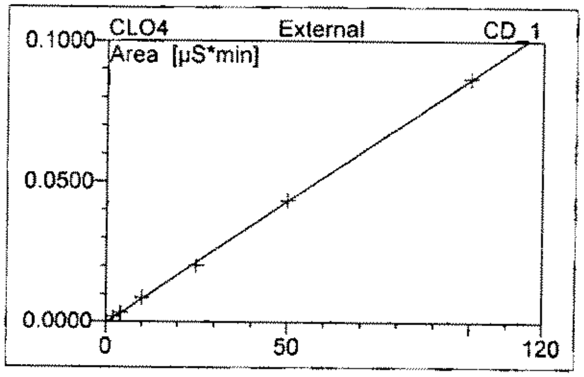


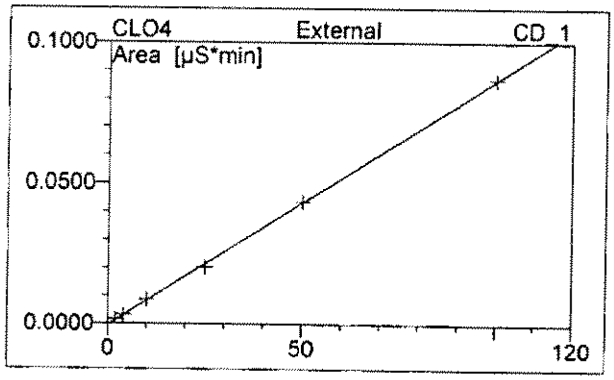
No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	12.52	CLO4	0.249	0.087	100.00	100.125	BMB
Total:			0.249	0.087	100.00	100.125	

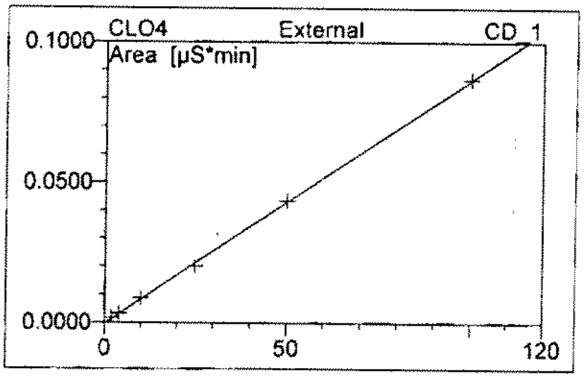
7 autocal7

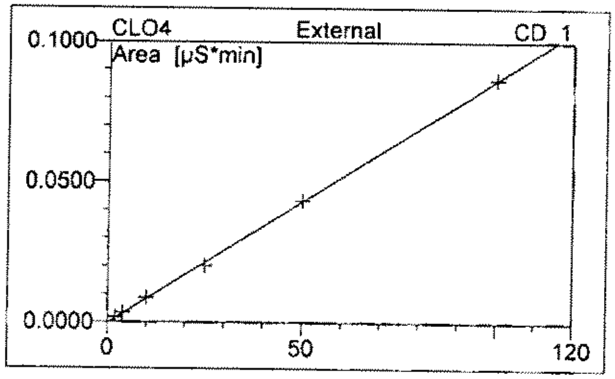
100

Sample Name:	**autocal7**	*Injection Volume:*	**20.0**
Vial Number:	**141**	*Channel:*	**CD_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**Perchlorate-IC11**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC#4-CLO4-LOW**	*Dilution Factor:*	**1.0000**
Recording Time:	**4/10/2008 21:07**	*Sample Weight:*	**1.0000**
Run Time (min):	**20.00**	*Sample Amount:*	**1.0000**







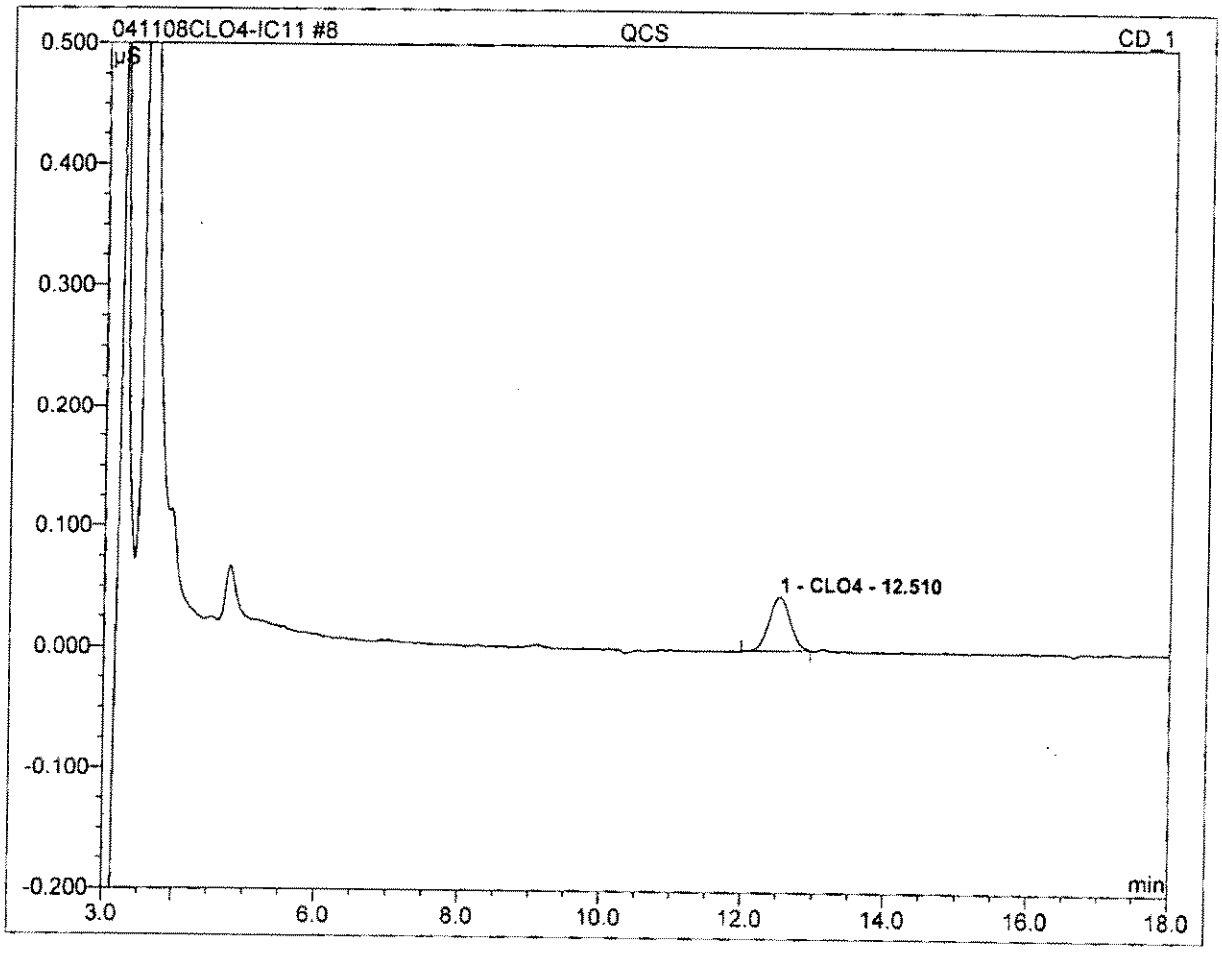


No.	Ret.Time min	Peak Name	Cal.Type	Points	Corr.Coeff. %	Offset	Slope	Curve
1	12.52	CLO4	LOff	6	99.9844	-0.0004	0.0009	0.0000
Average:					99.9844	-0.0004	0.0009	0.0000

8 QCS

20

Sample Name:	**QCS**	*Channel:*	**CD_1**
Sample Type:	**unknown**	*Control Program:*	**Perchlorate-IC11**
Recording Time:	**04/11/2008 20:16**	*Quantif. Method:*	**IC#4-CLO4-LOW**
Analyst:	**clv**	*Dilution Factor:*	**1.0000**

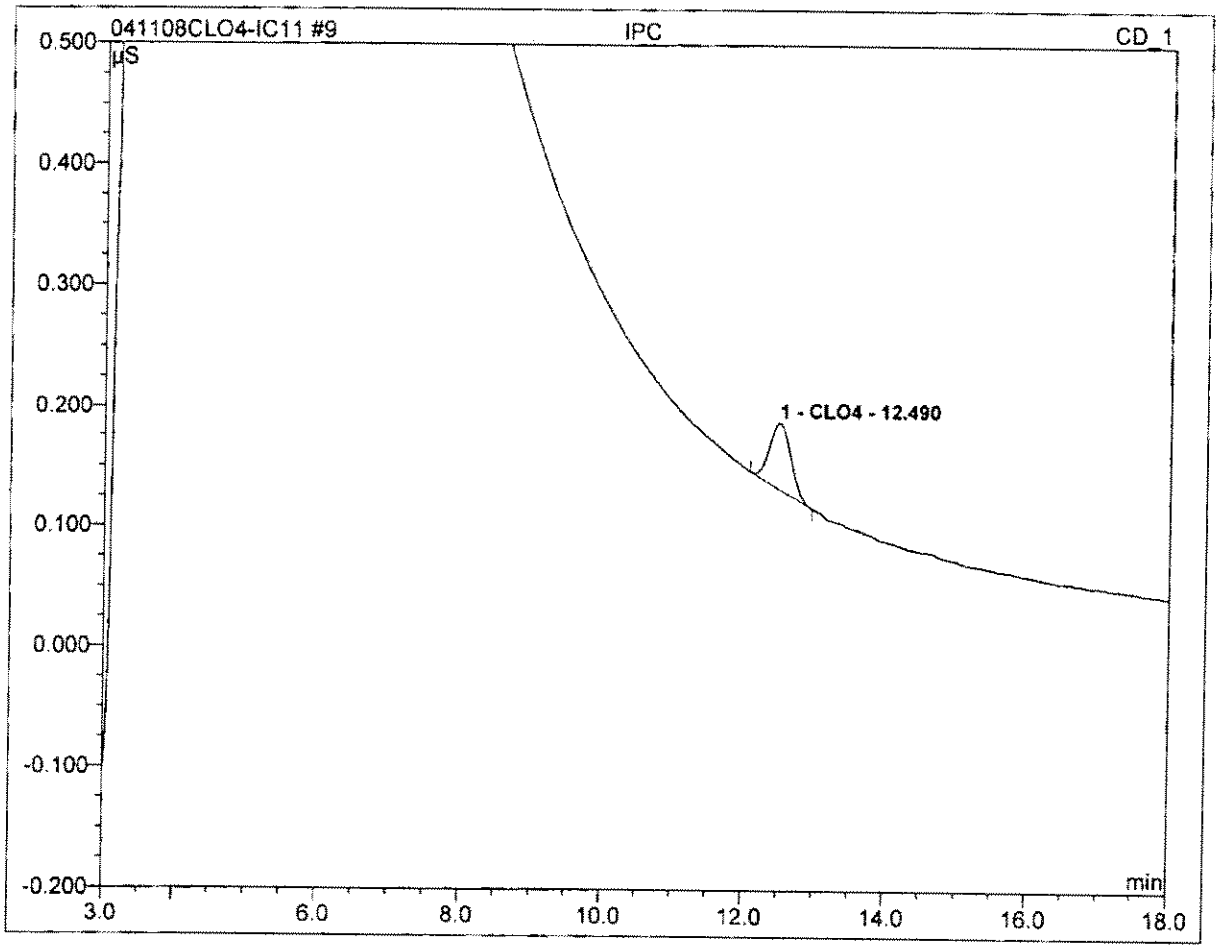


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	12.51	CLO4	0.045	0.016	100.00	18.320	BMB
Total:			0.045	0.016	100.00	18.320	

9 IPC

25

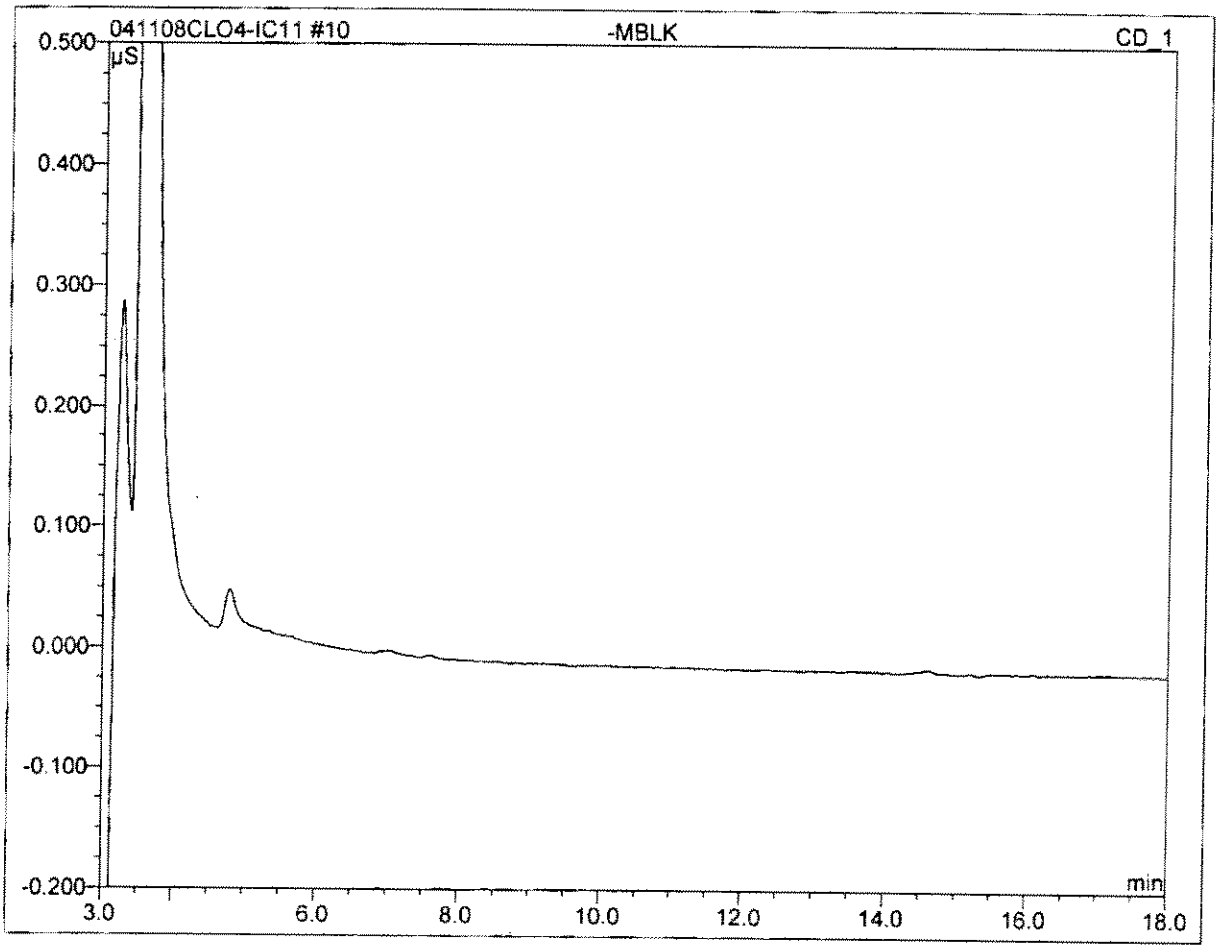
Sample Name:	**IPC**	*Channel:*	**CD_1**
Sample Type:	**unknown**	*Control Program:*	**Perchlorate-IC11**
Recording Time:	**04/11/2008 20:38**	*Quantif. Method:*	**IC#4-CLO4-LOW**
Analyst:	**clv**	*Dilution Factor:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	12.49	CLO4	0.056	0.019	100.00	22.541	BMB
Total:			0.056	0.019	100.00	22.541	

10 -MBLK

Sample Name:	**-MBLK**	*Channel:*	**CD_1**
Sample Type:	**unknown**	*Control Program:*	**Perchlorate-IC11**
Recording Time:	**04/11/2008 21:01**	*Quantif. Method:*	**IC#4-CLO4-LOW**
Analyst:	**clv**	*Dilution Factor:*	**1.0000**

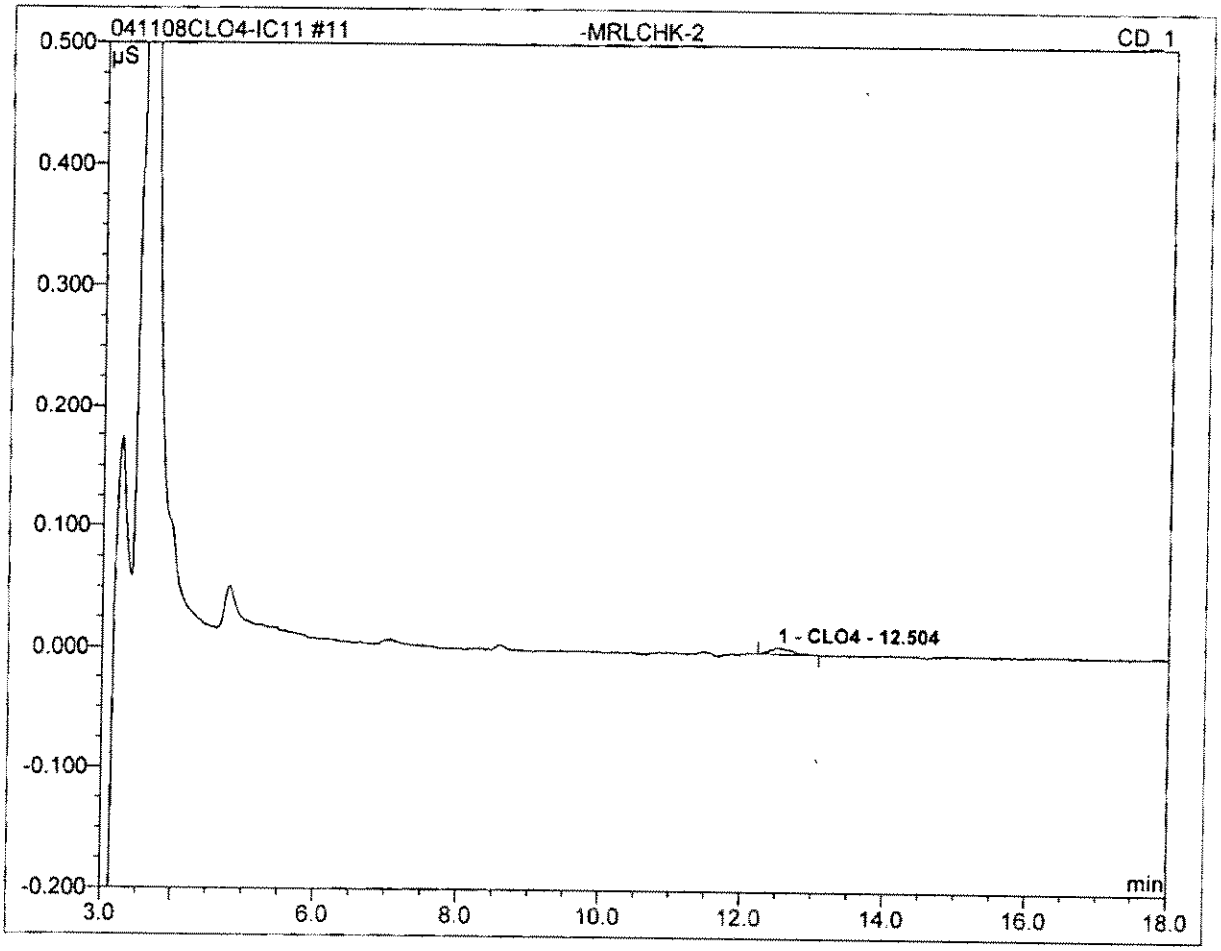


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
Total:			0.000	0.000	0.00	0.000	

11 -MRLCHK-2

2

Sample Name:	**-MRLCHK-2**	*Channel:*	**CD_1**
Sample Type:	**unknown**	*Control Program:*	**Perchlorate-IC11**
Recording Time:	**04/11/2008 21:23**	*Quantif. Method:*	**IC#4-CLO4-LOW**
Analyst:	**clv**	*Dilution Factor:*	**1.0000**

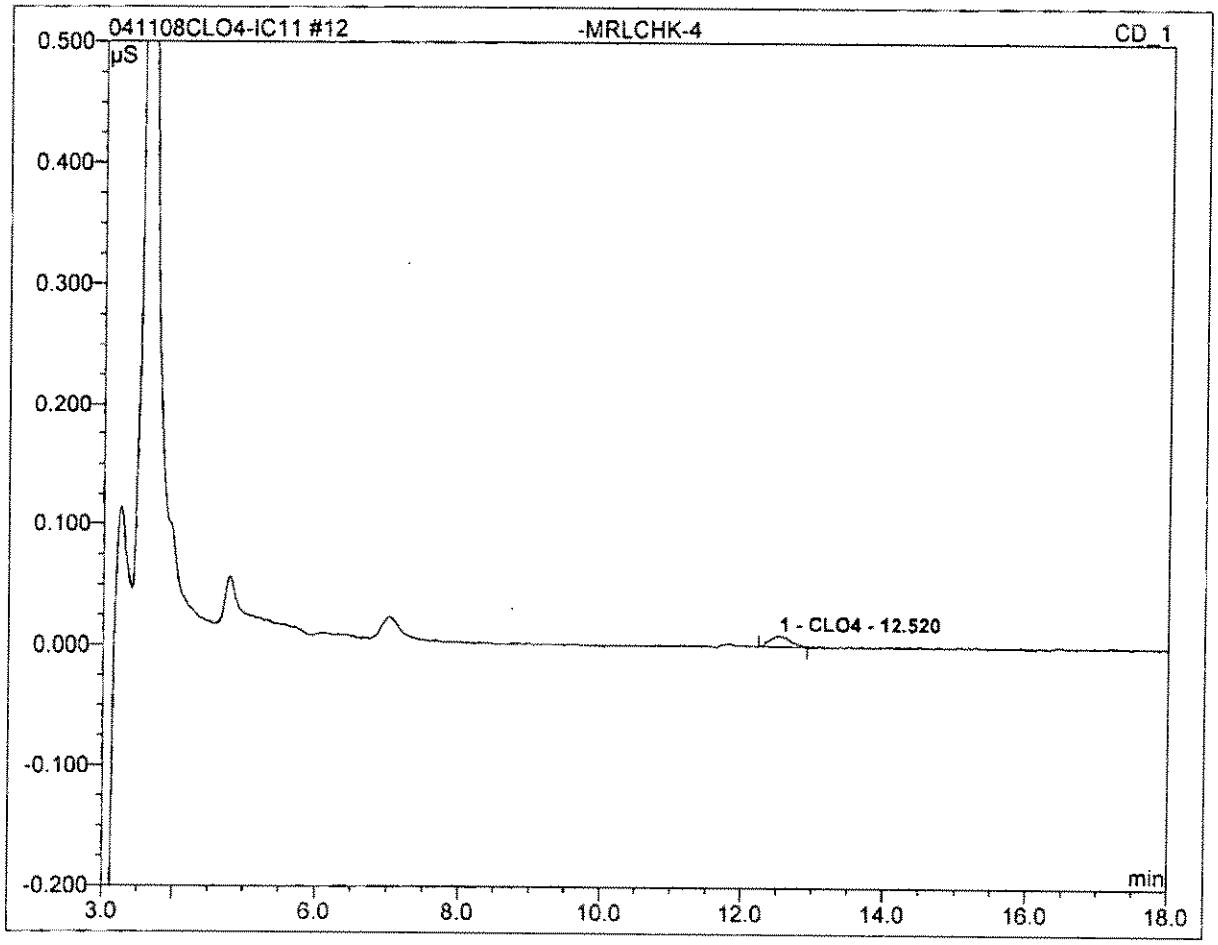


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	12.50	CLO4	0.005	0.002	100.00	2.573	BMB
Total:			0.005	0.002	100.00	2.573	

12 -MRLCHK-4

4

Sample Name:	**-MRLCHK-4**	*Channel:*	**CD_1**
Sample Type:	**unknown**	*Control Program:*	**Perchlorate-IC11**
Recording Time:	**04/11/2008 21:46**	*Quantif. Method:*	**IC#4-CLO4-LOW**
Analyst:	**clv**	*Dilution Factor:*	**1.0000**

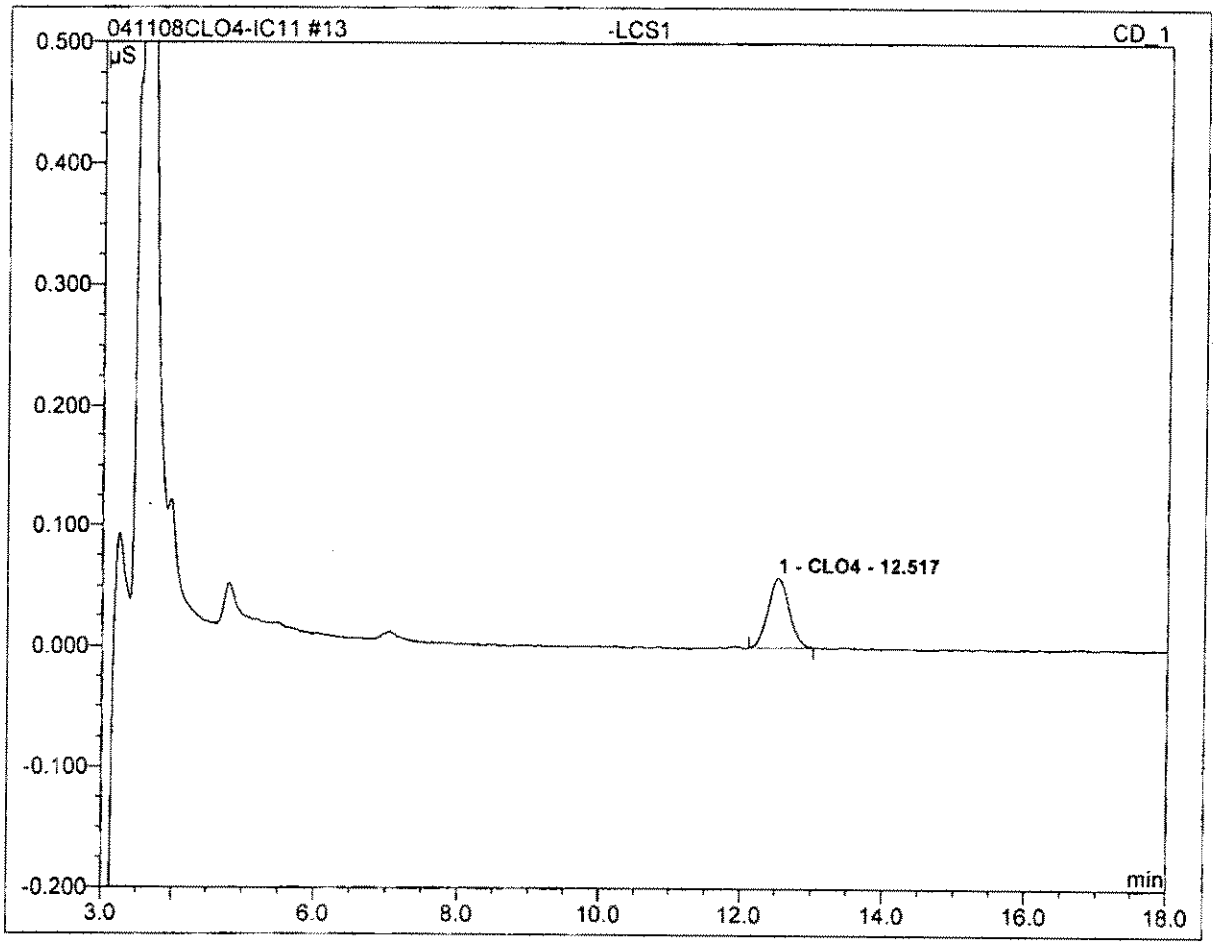


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	12.52	CLO4	0.009	0.003	100.00	3.860	BMB
Total:			0.009	0.003	100.00	3.860	

13 -LCS1

25

Sample Name:	**-LCS1**	*Channel:*	**CD_1**
Sample Type:	**unknown**	*Control Program:*	**Perchlorate-IC11**
Recording Time:	**04/11/2008 22:08**	*Quantif. Method:*	**IC#4-CLO4-LOW**
Analyst:	**clv**	*Dilution Factor:*	**1.0000**

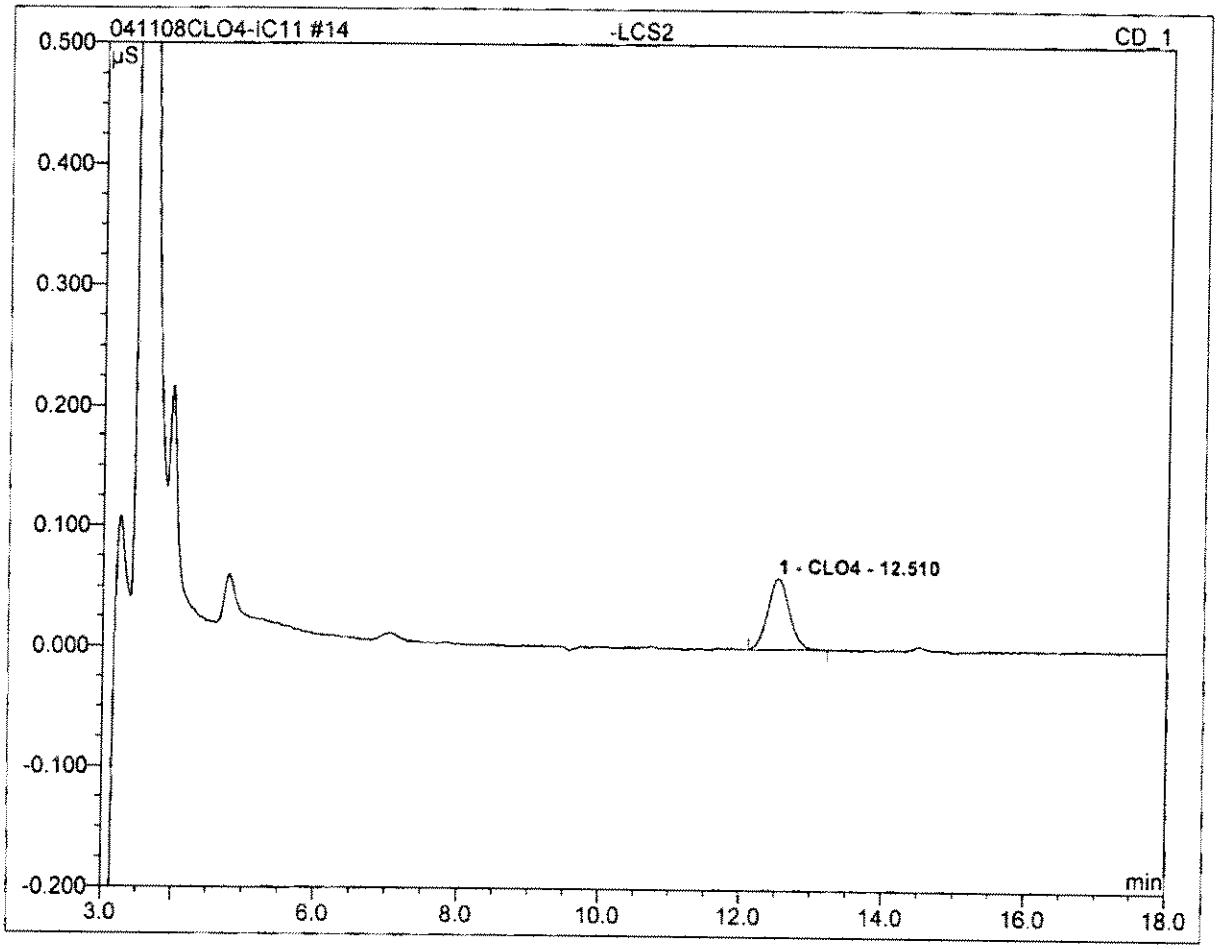


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	12.52	CLO4	0.058	0.020	100.00	23.595	BMB
Total:			0.058	0.020	100.00	23.595	

14 -LCS2

25

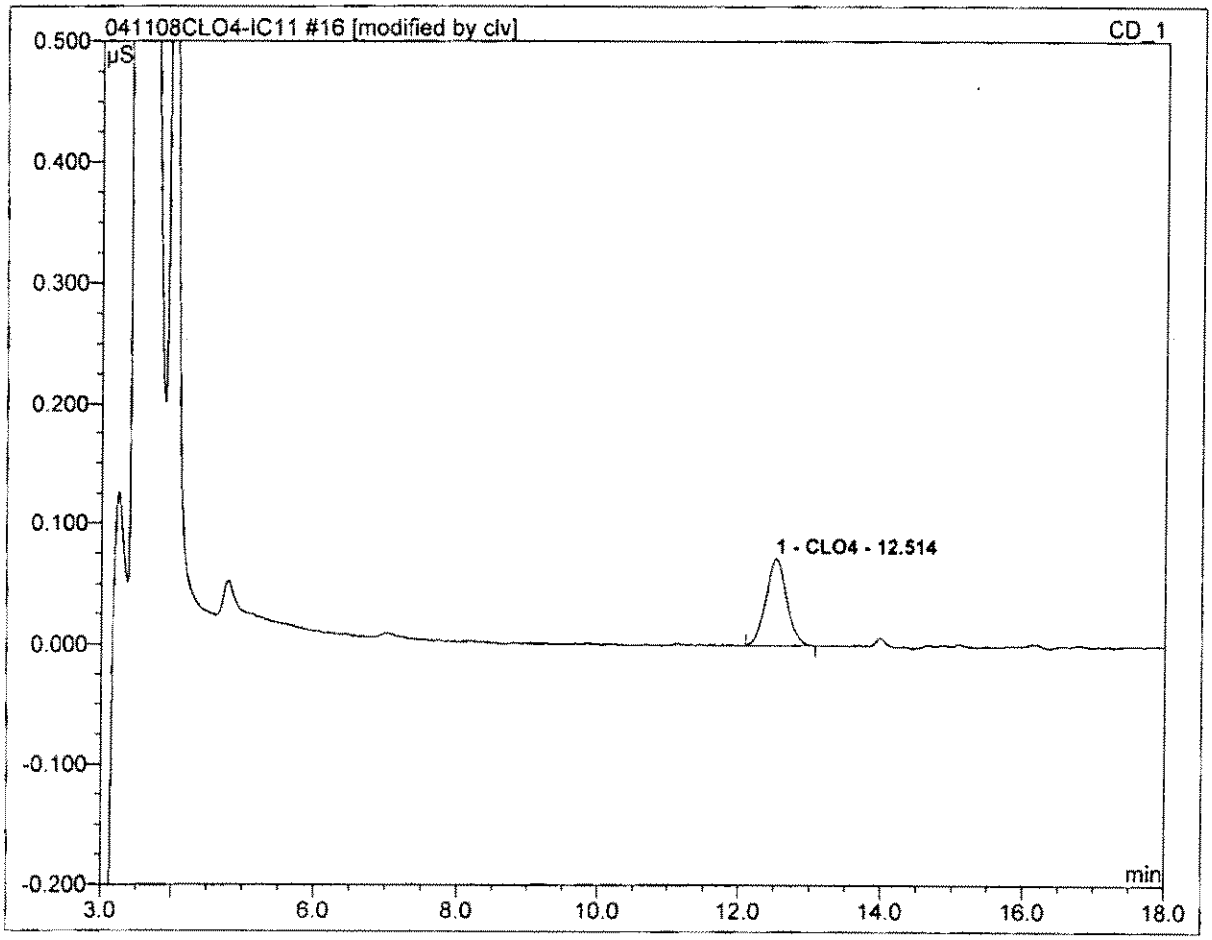
Sample Name:	**-LCS2**	*Channel:*	**CD_1**
Sample Type:	**unknown**	*Control Program:*	**Perchlorate-IC11**
Recording Time:	**04/11/2008 22:30**	*Quantif. Method:*	**IC#4-CLO4-LOW**
Analyst:	**clv**	*Dilution Factor:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	12.51	CLO4	0.059	0.021	100.00	24.765	BMB
Total:			0.059	0.021	100.00	24.765	

16 2804080749_1/10000

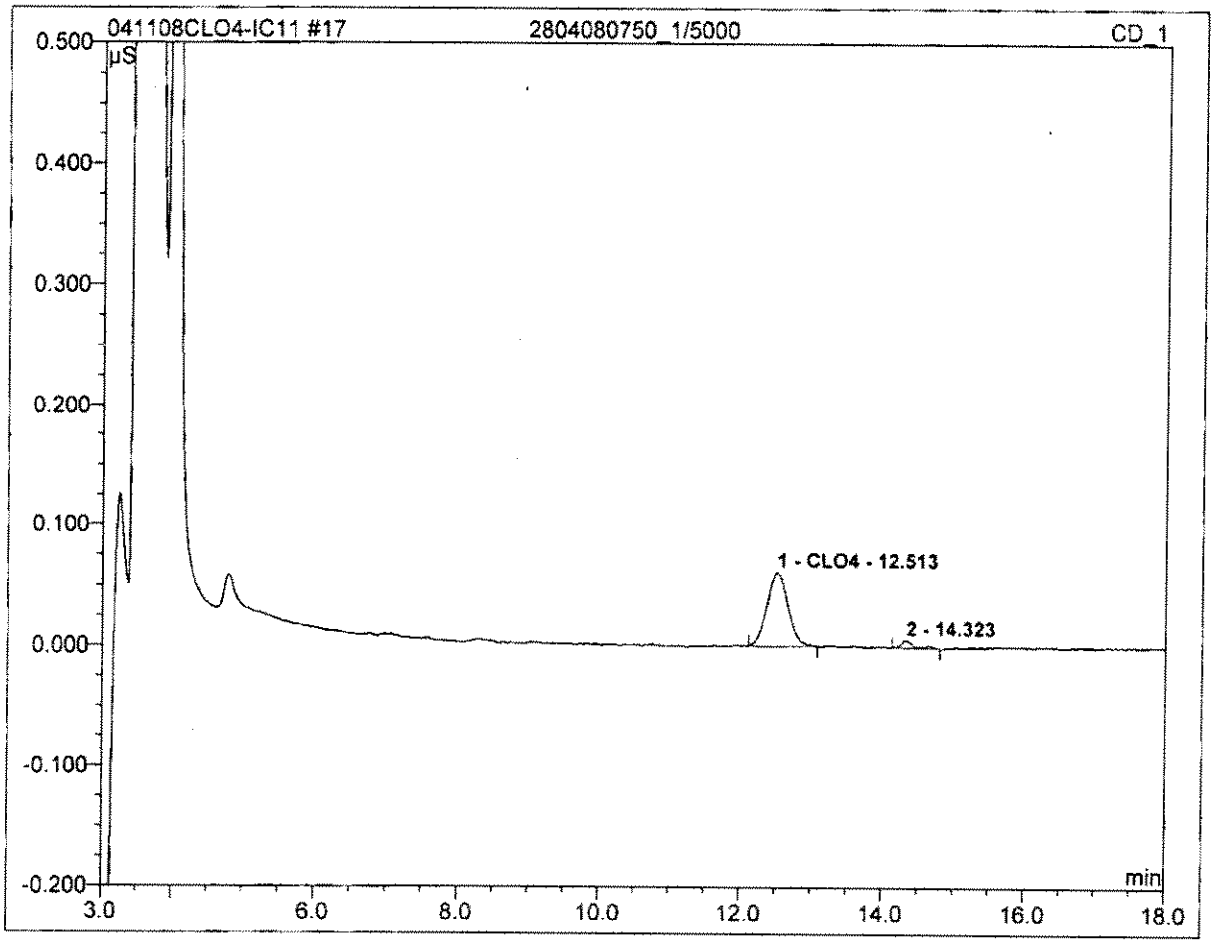
Sample Name:	**2804080749_1/10000**	*Channel:*	**CD_1**
Sample Type:	**unknown**	*Control Program:*	**Perchlorate-IC11**
Recording Time:	**04/11/2008 23:15**	*Quantif. Method:*	**IC#4-CLO4-LOW**
Analyst:	**clv**	*Dilution Factor:*	**10000.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	12.51	CLO4	0.072	0.025	100.00	287945.976	BMB*
Total:			0.072	0.025	100.00	287945.976	

17 2804080750_1/5000

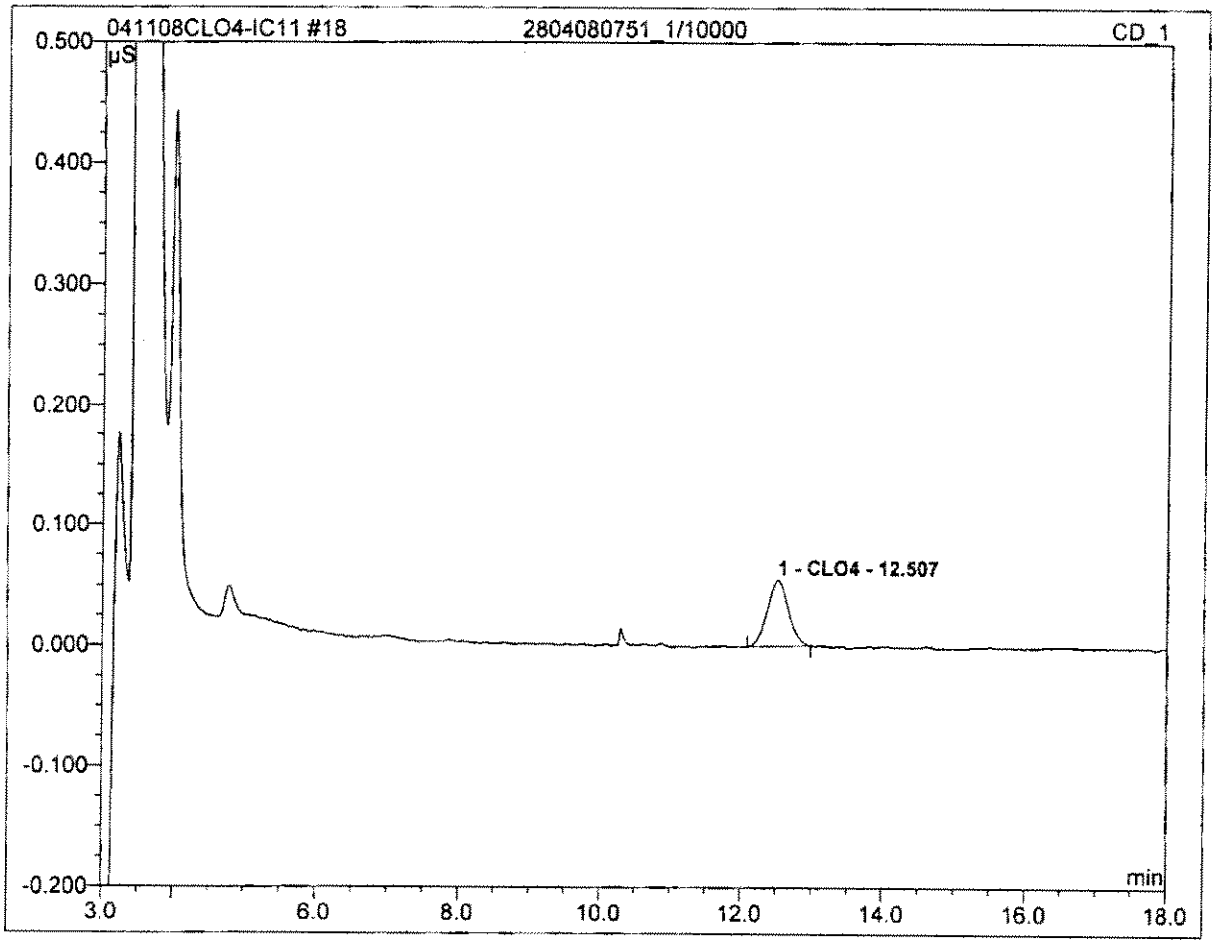
Sample Name:	**2804080750_1/5000**	*Channel:*	**CD_1**
Sample Type:	**unknown**	*Control Program:*	**Perchlorate-IC11**
Recording Time:	**04/11/2008 23:38**	*Quantif. Method:*	**IC#4-CLO4-LOW**
Analyst:	**clv**	*Dilution Factor:*	**5000.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	12.51	CLO4	0.061	0.021	94.05	122693.246	BMB
Total:			0.061	0.021	94.05	122693.246	

18 2804080751_1/10000

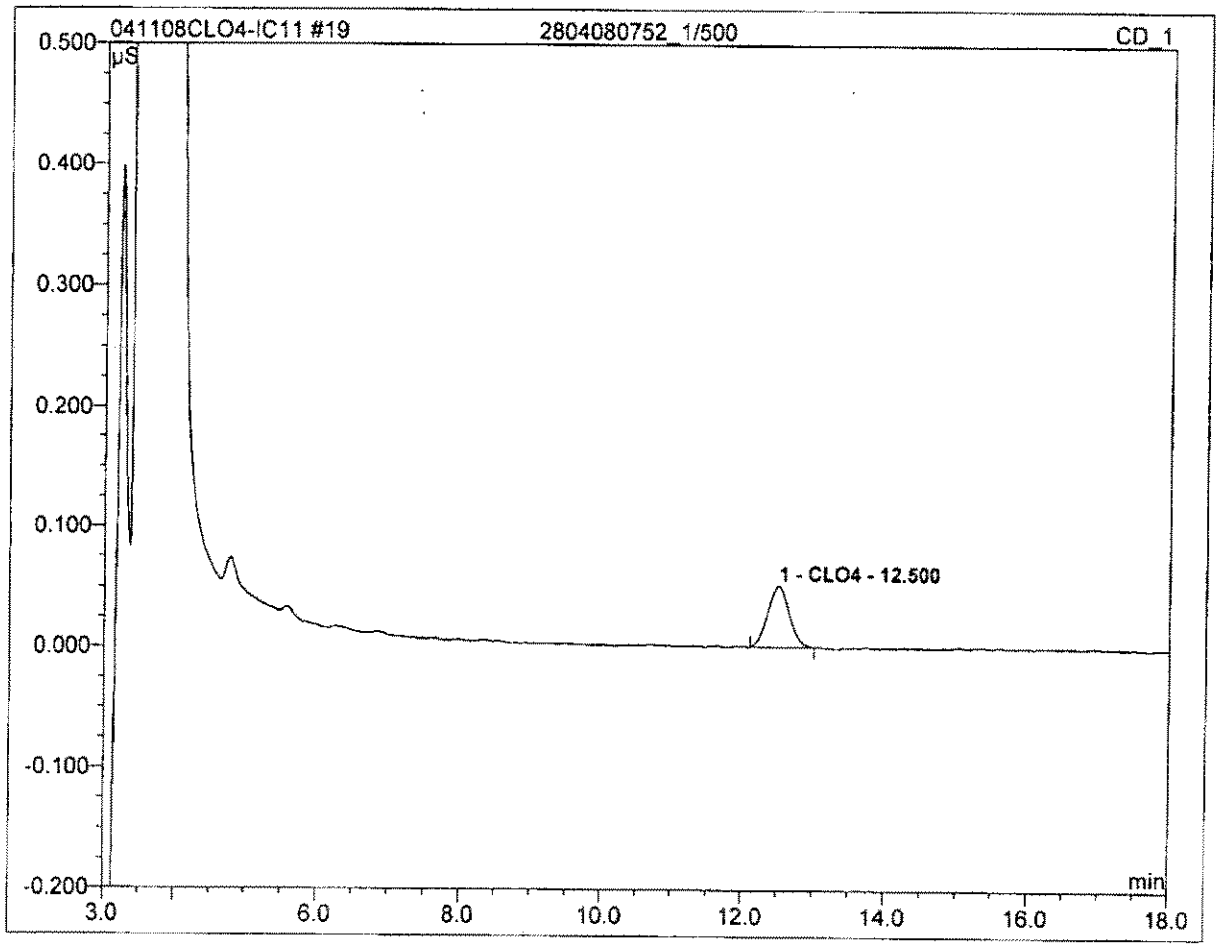
Sample Name:	**2804080751_1/10000**	*Channel:*	**CD_1**
Sample Type:	**unknown**	*Control Program:*	**Perchlorate-IC11**
Recording Time:	**04/12/2008 00:00**	*Quantif. Method:*	**IC#4-CLO4-LOW**
Analyst:	**clv**	*Dilution Factor:*	**10000.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	12.51	CLO4	0.055	0.019	100.00	222698.047	BMB
Total:			0.055	0.019	100.00	222698.047	

19 2804080752_1/500

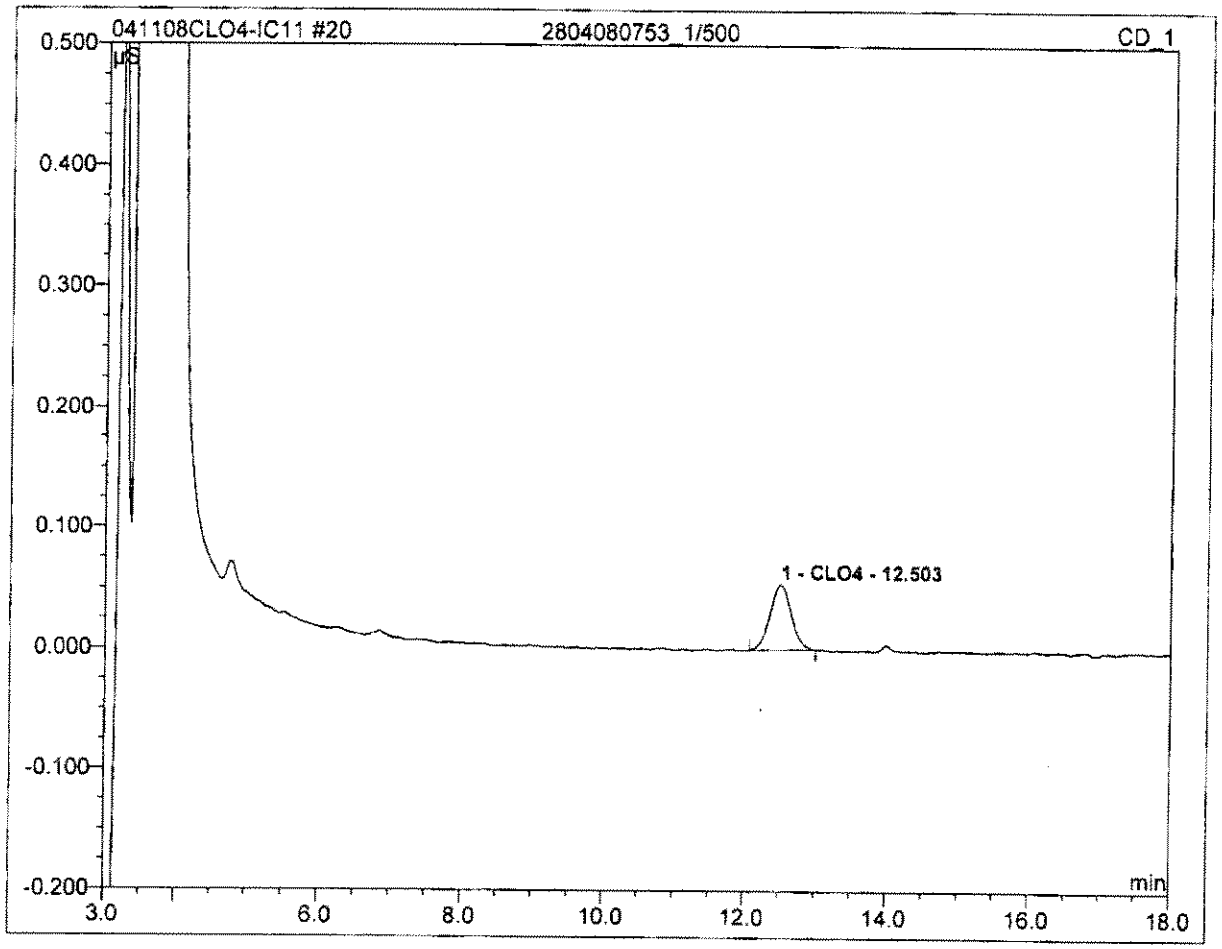
Sample Name:	**2804080752_1/500**	*Channel:*	**CD_1**
Sample Type:	**unknown**	*Control Program:*	**Perchlorate-IC11**
Recording Time:	**04/12/2008 00:22**	*Quantif. Method:*	**IC#4-CLO4-LOW**
Analyst:	**clv**	*Dilution Factor:*	**500.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	12.50	CLO4	0.051	0.018	100.00	10511.088	BMB
Total:			0.051	0.018	100.00	10511.088	

20 2804080753_1/500

Sample Name:	**2804080753_1/500**	*Channel:*	**CD_1**
Sample Type:	**unknown**	*Control Program:*	**Perchlorate-IC11**
Recording Time:	**04/12/2008 00:45**	*Quantif. Method:*	**IC#4-CLO4-LOW**
Analyst:	**clv**	*Dilution Factor:*	**500.0000**

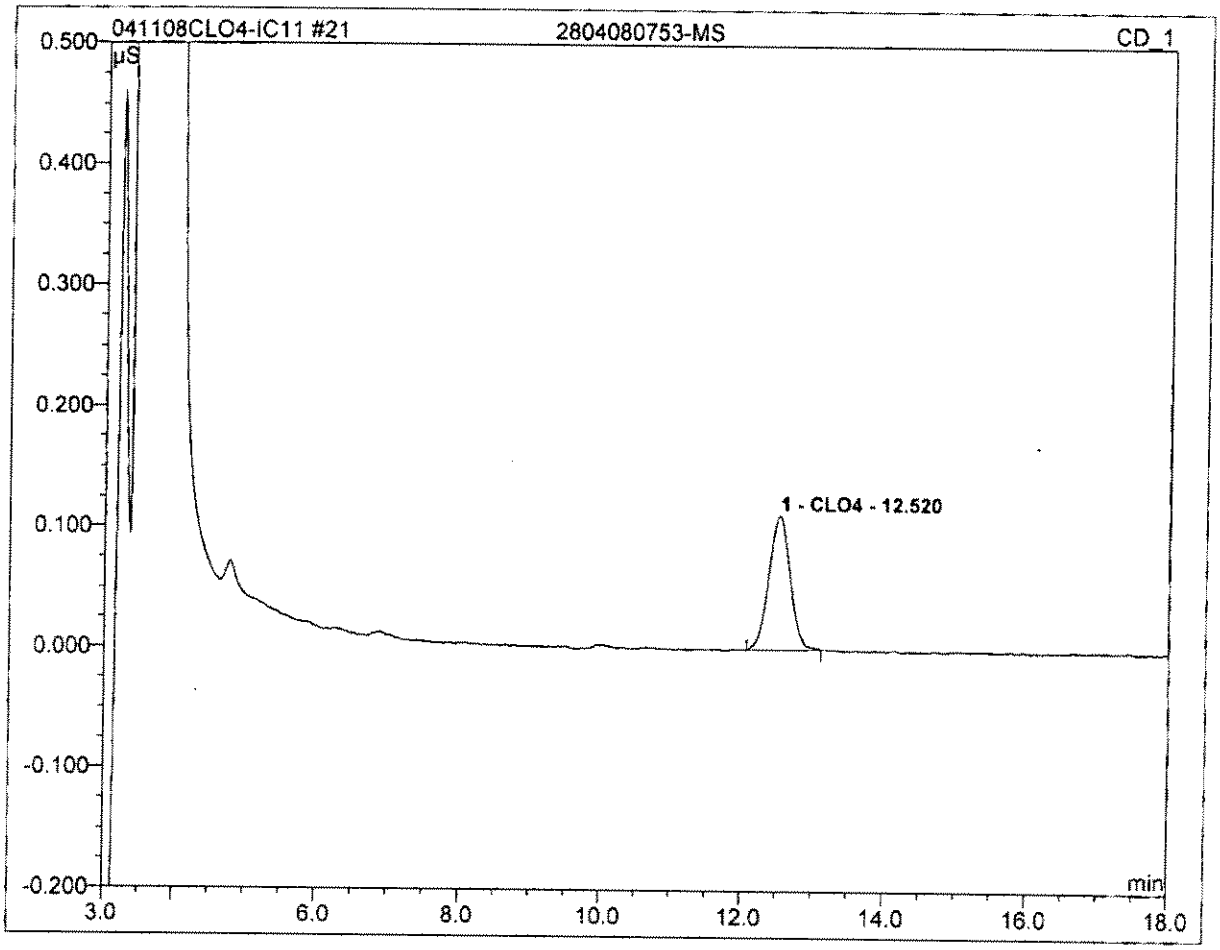


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	12.50	CLO4	0.054	0.019	100.00	11078.606	BMB
Total:			0.054	0.019	100.00	11078.606	

21 2804080753-MS

25

Sample Name:	**2804080753-MS**	*Channel:*	**CD_1**
Sample Type:	**unknown**	*Control Program:*	**Perchlorate-IC11**
Recording Time:	**04/12/2008 01:07**	*Quantif. Method:*	**IC#4-CLO4-LOW**
Analyst:	**clv**	*Dilution Factor:*	**500.0000**

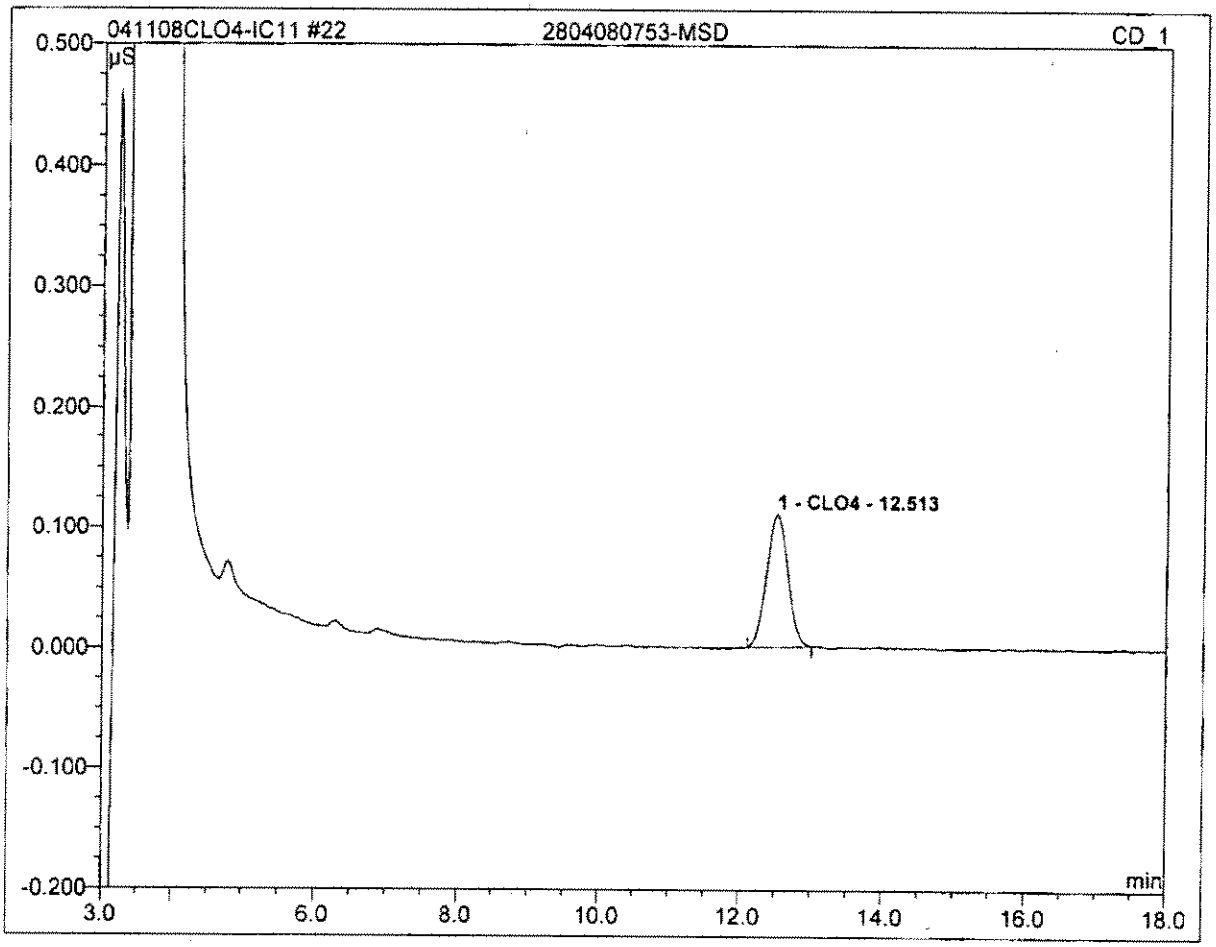


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	12.52	CLO4	0.112	0.039	100.00	22620.244	BMB
Total:			0.112	0.039	100.00	22620.244	

22 2804080753-MSD

25

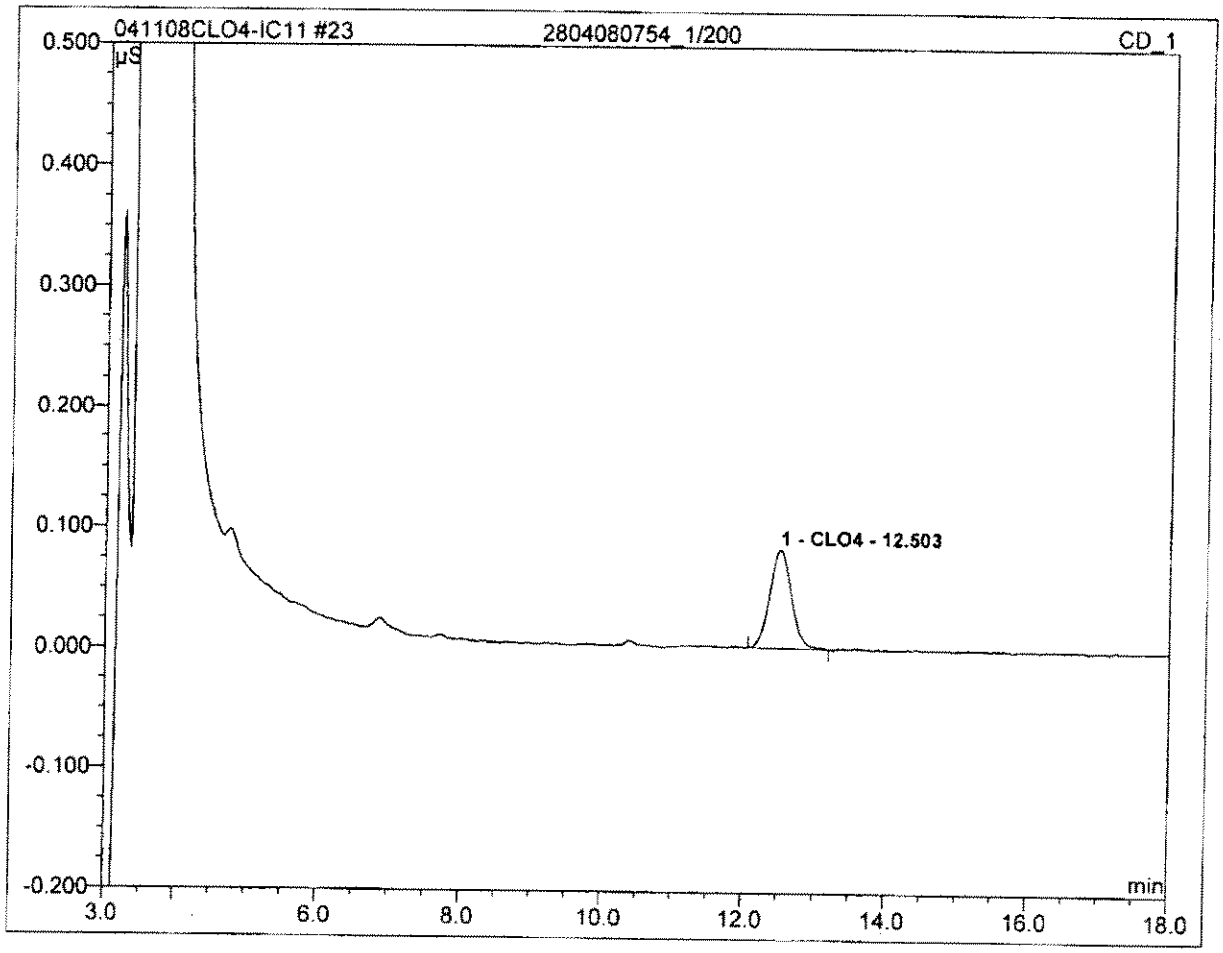
Sample Name:	**2804080753-MSD**	*Channel:*	**CD_1**
Sample Type:	**unknown**	*Control Program:*	**Perchlorate-IC11**
Recording Time:	**04/12/2008 01:30**	*Quantif. Method:*	**IC#4-CLO4-LOW**
Analyst:	**clv**	*Dilution Factor:*	**500.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	12.51	CLO4	0.110	0.038	100.00	21995.318	BMB
Total:			0.110	0.038	100.00	21995.318	

23 2804080754_1/200

Sample Name:	**2804080754_1/200**	*Channel:*	**CD_1**
Sample Type:	**unknown**	*Control Program:*	**Perchlorate-IC11**
Recording Time:	**04/12/2008 01:52**	*Quantif. Method:*	**IC#4-CLO4-LOW**
Analyst:	**clv**	*Dilution Factor:*	**200.0000**

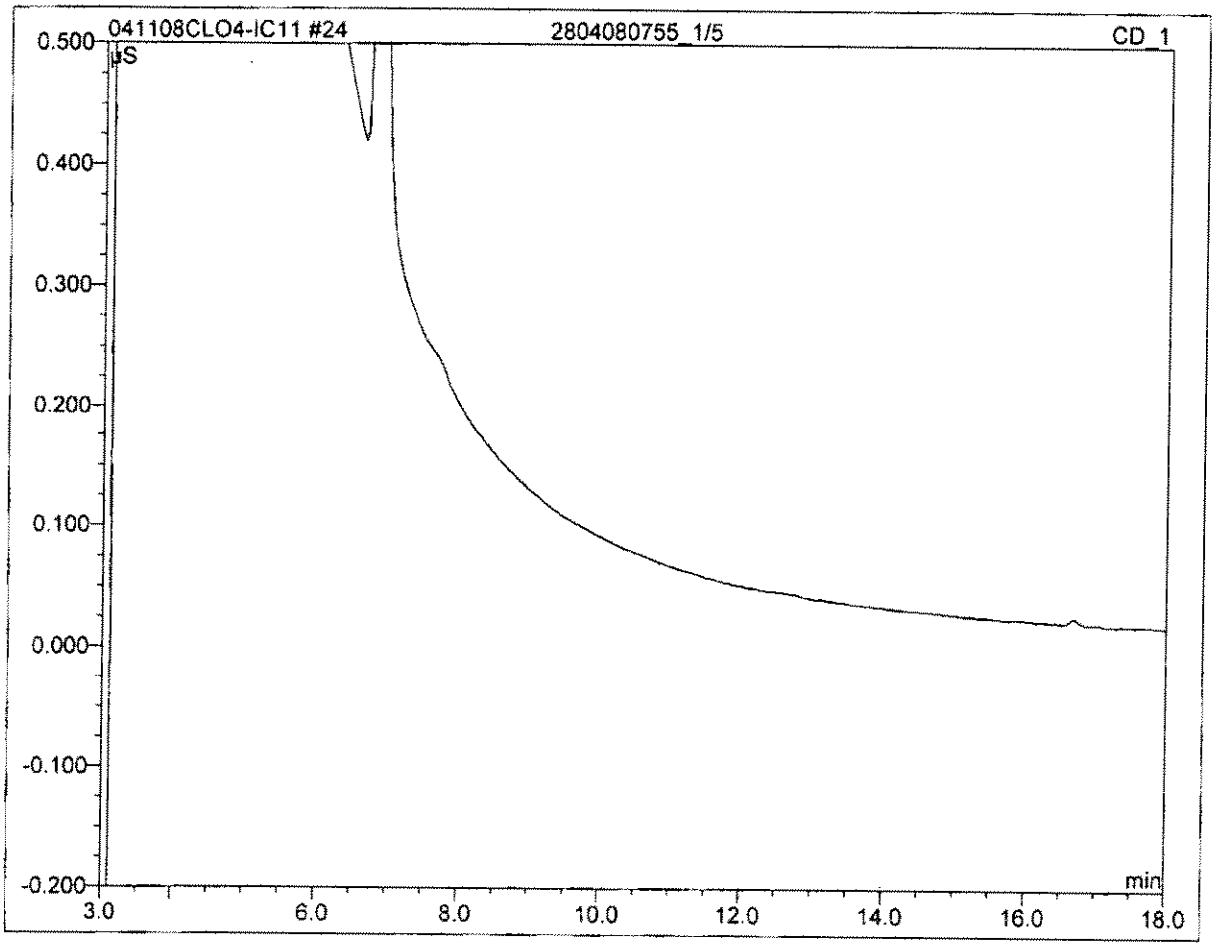


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	12.50	CLO4	0.081	0.029	100.00	6669.192	BMB
Total:			0.081	0.029	100.00	6669.192	

24 2804080755_1/5

EC=4500

Sample Name:	**2804080755_1/5**	*Channel:*	**CD_1**
Sample Type:	**unknown**	*Control Program:*	**Perchlorate-IC11**
Recording Time:	**04/12/2008 02:14**	*Quantif. Method:*	**IC#4-CLO4-LOW**
Analyst:	**clv**	*Dilution Factor:*	**5.0000**

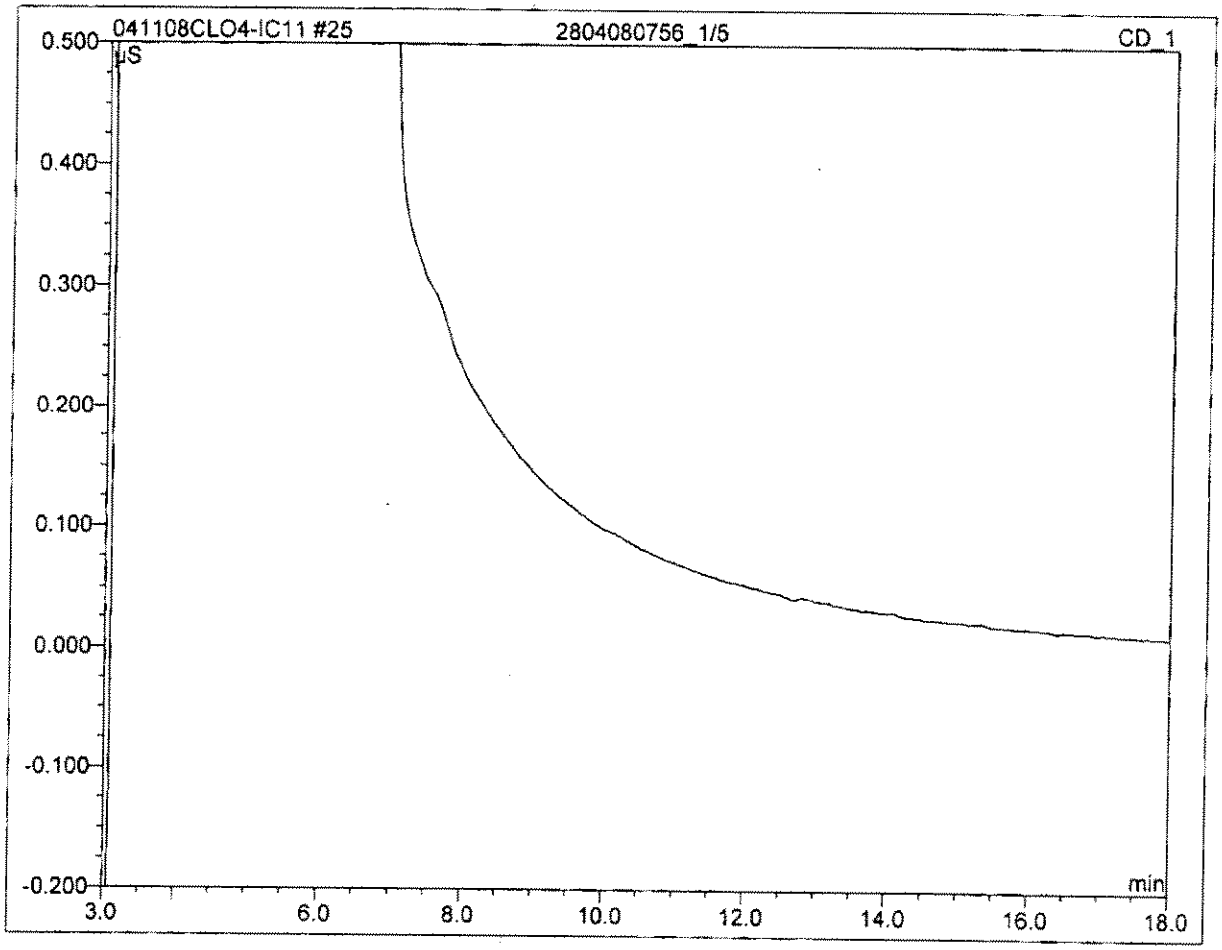


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
Total:			0.000	0.000	0.00	0.000	

25 2804080756_1/5

EC=8700

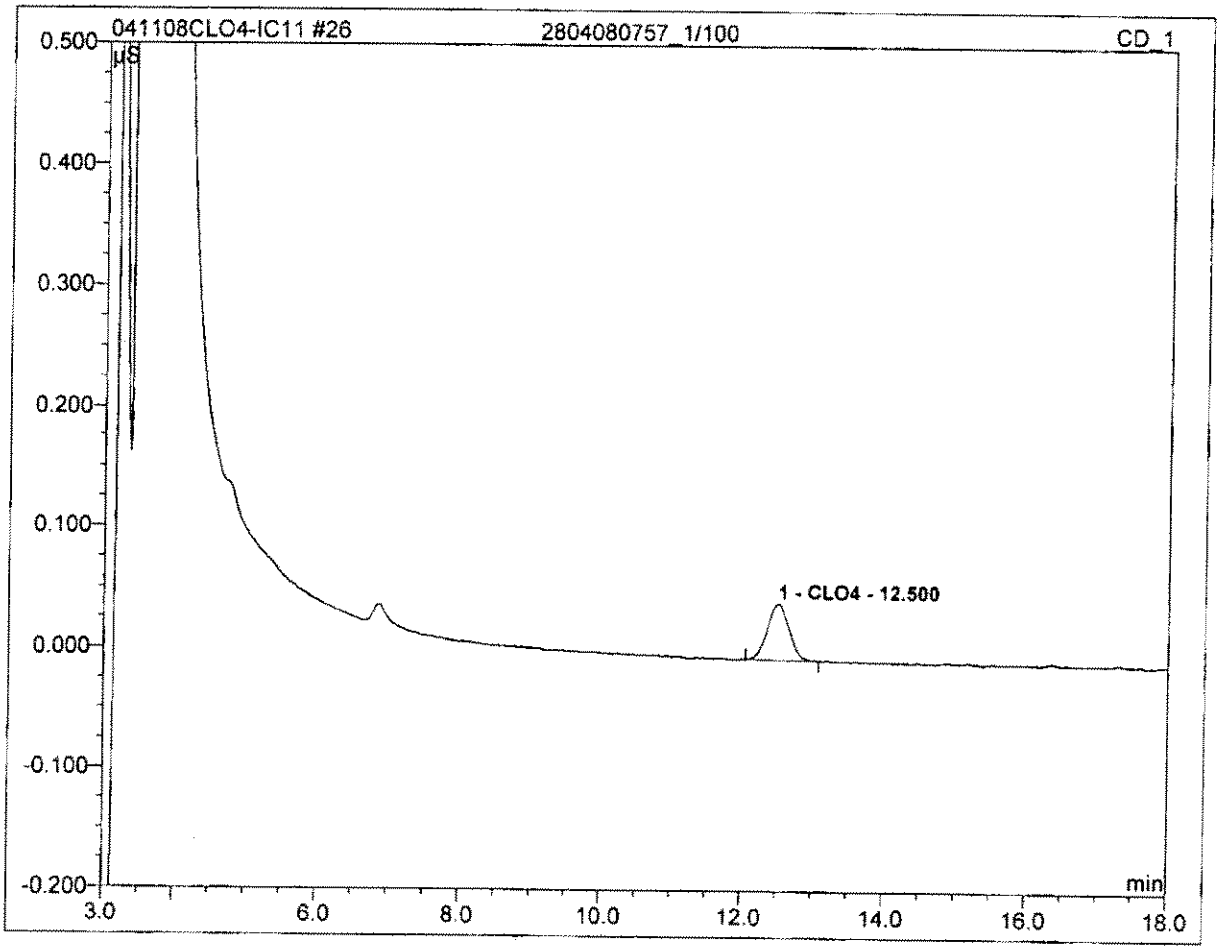
Sample Name:	**2804080756_1/5**	*Channel:*	**CD_1**
Sample Type:	**unknown**	*Control Program:*	**Perchlorate-IC11**
Recording Time:	**04/12/2008 02:37**	*Quantif. Method:*	**IC#4-CLO4-LOW**
Analyst:	**clv**	*Dilution Factor:*	**5.0000**



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

26 2804080757_1/100

Sample Name:	**2804080757_1/100**	*Channel:*	**CD_1**
Sample Type:	**unknown**	*Control Program:*	**Perchlorate-IC11**
Recording Time:	**04/12/2008 02:59**	*Quantif. Method:*	**IC#4-CLO4-LOW**
Analyst:	**clv**	*Dilution Factor:*	**100.0000**

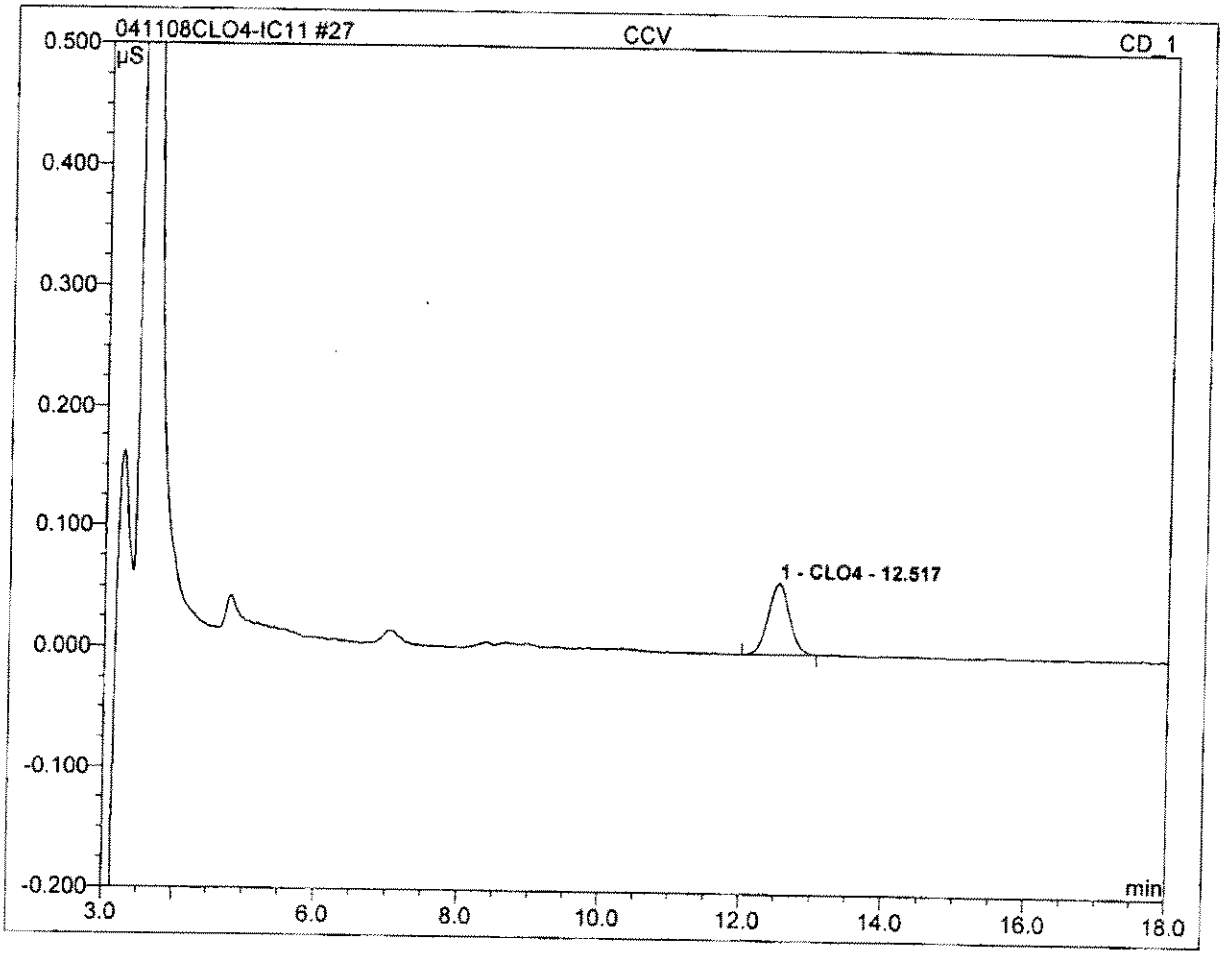


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	12.50	CLO4	0.047	0.016	100.00	1931.670	BMB
Total:			0.047	0.016	100.00	1931.670	

27 CCV

25

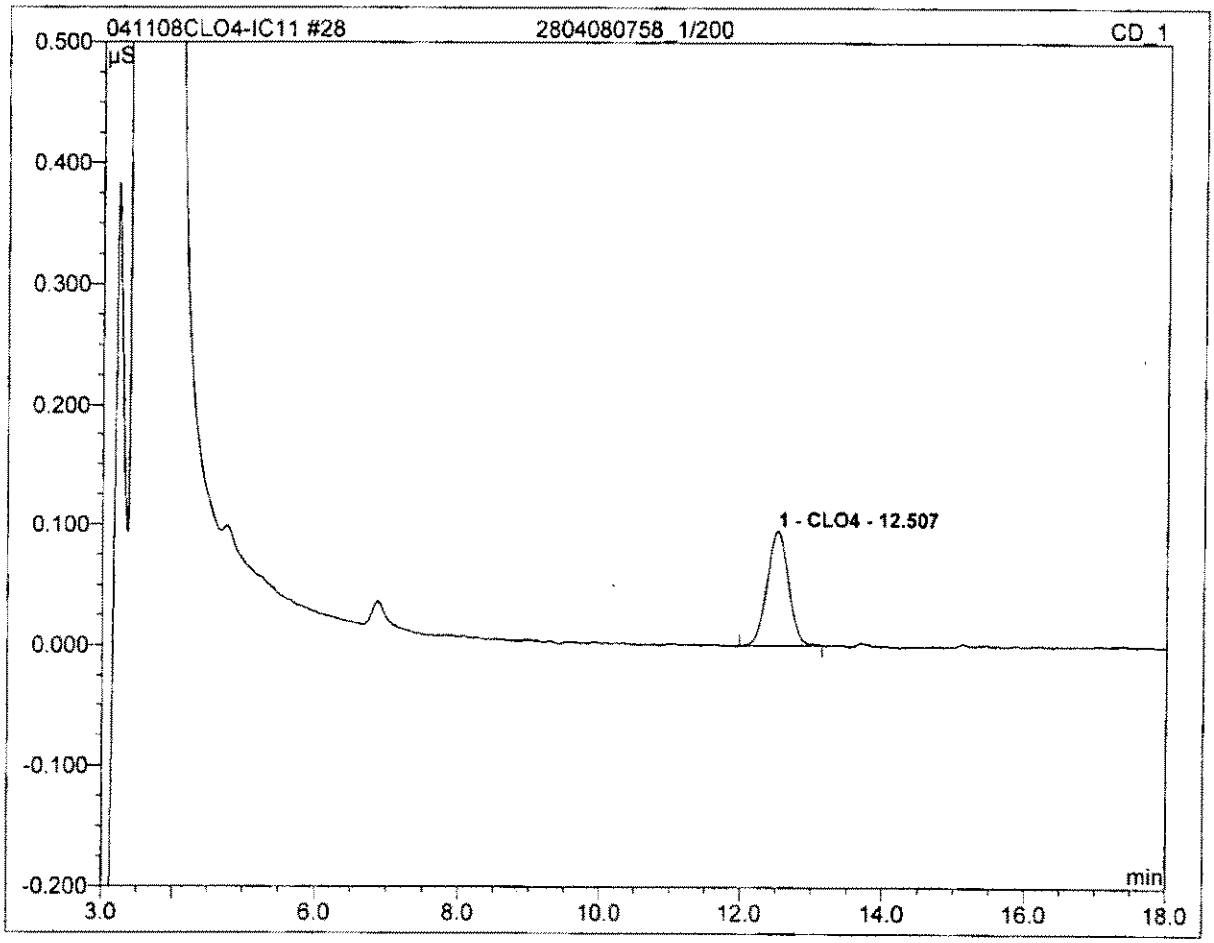
Sample Name:	**CCV**	*Channel:*	**CD_1**
Sample Type:	**unknown**	*Control Program:*	**Perchlorate-IC11**
Recording Time:	**04/12/2008 03:22**	*Quantif. Method:*	**IC#4-CLO4-LOW**
Analyst:	**clv**	*Dilution Factor:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	12.52	CLO4	0.059	0.021	100.00	24.222	BMB
Total:			0.059	0.021	100.00	24.222	

28 2804080758_1/200

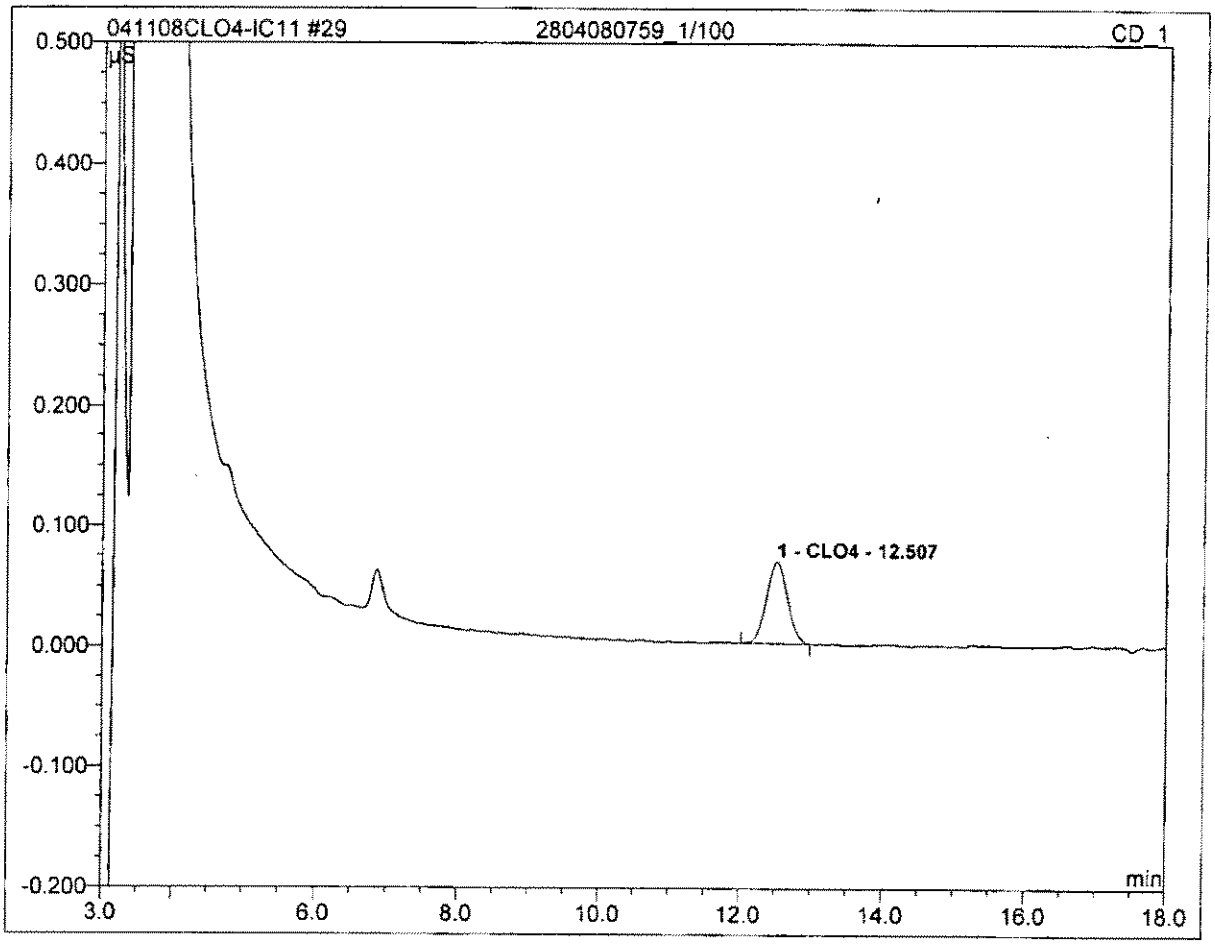
Sample Name:	**2804080758_1/200**	*Channel:*	**CD_1**
Sample Type:	**unknown**	*Control Program:*	**Perchlorate-IC11**
Recording Time:	**04/12/2008 03:44**	*Quantif. Method:*	**IC#4-CLO4-LOW**
Analyst:	**clv**	*Dilution Factor:*	**200.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	12.51	CLO4	0.095	0.033	100.00	7722.815	BMB
Total:			0.095	0.033	100.00	7722.815	

29 2804080759_1/100

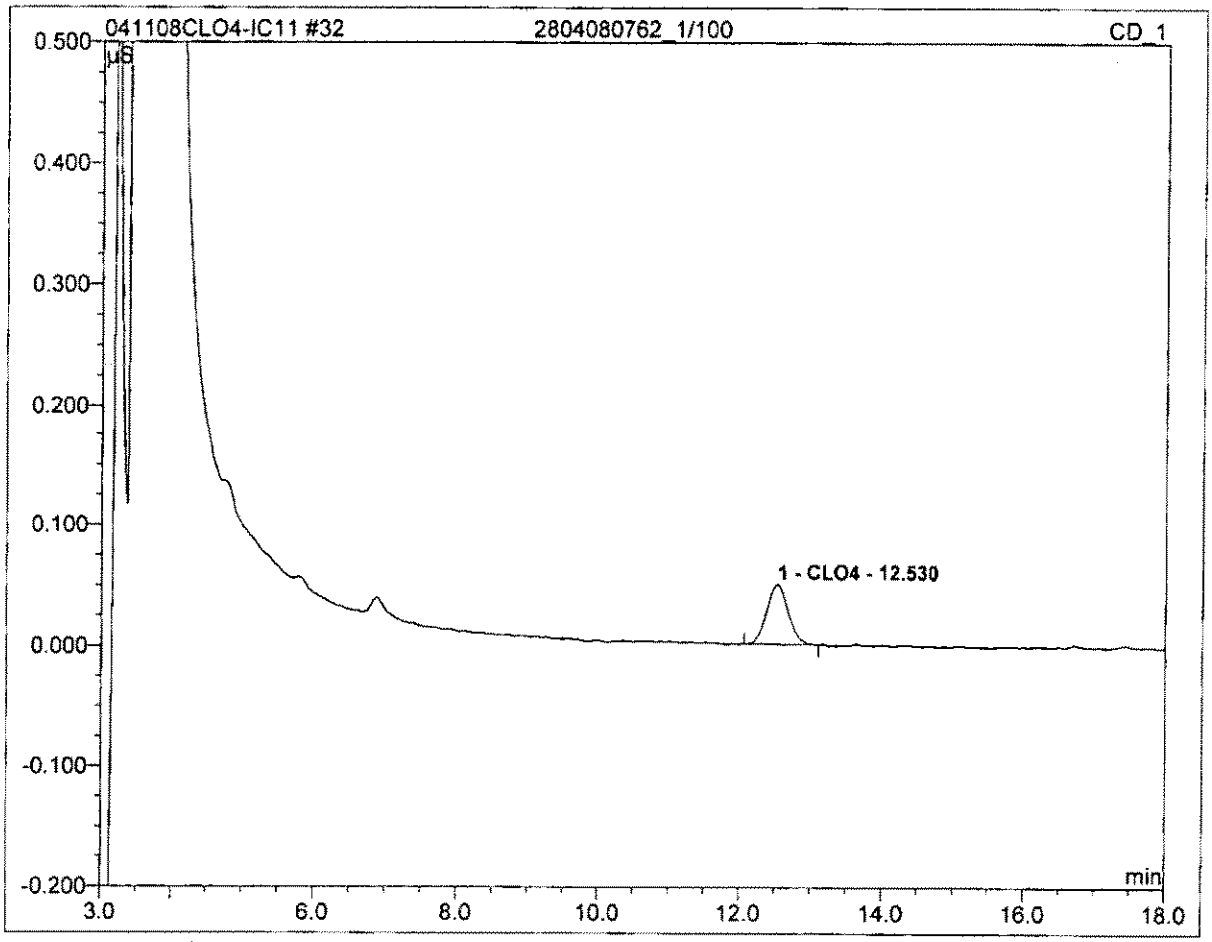
Sample Name:	**2804080759_1/100**	*Channel:*	**CD_1**
Sample Type:	**unknown**	*Control Program:*	**Perchlorate-IC11**
Recording Time:	**04/12/2008 04:06**	*Quantif. Method:*	**IC#4-CLO4-LOW**
Analyst:	**clv**	*Dilution Factor:*	**100.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	12.51	CLO4	0.068	0.023	100.00	2732.075	BMB
Total:			0.068	0.023	100.00	2732.075	

32 2804080762_1/100

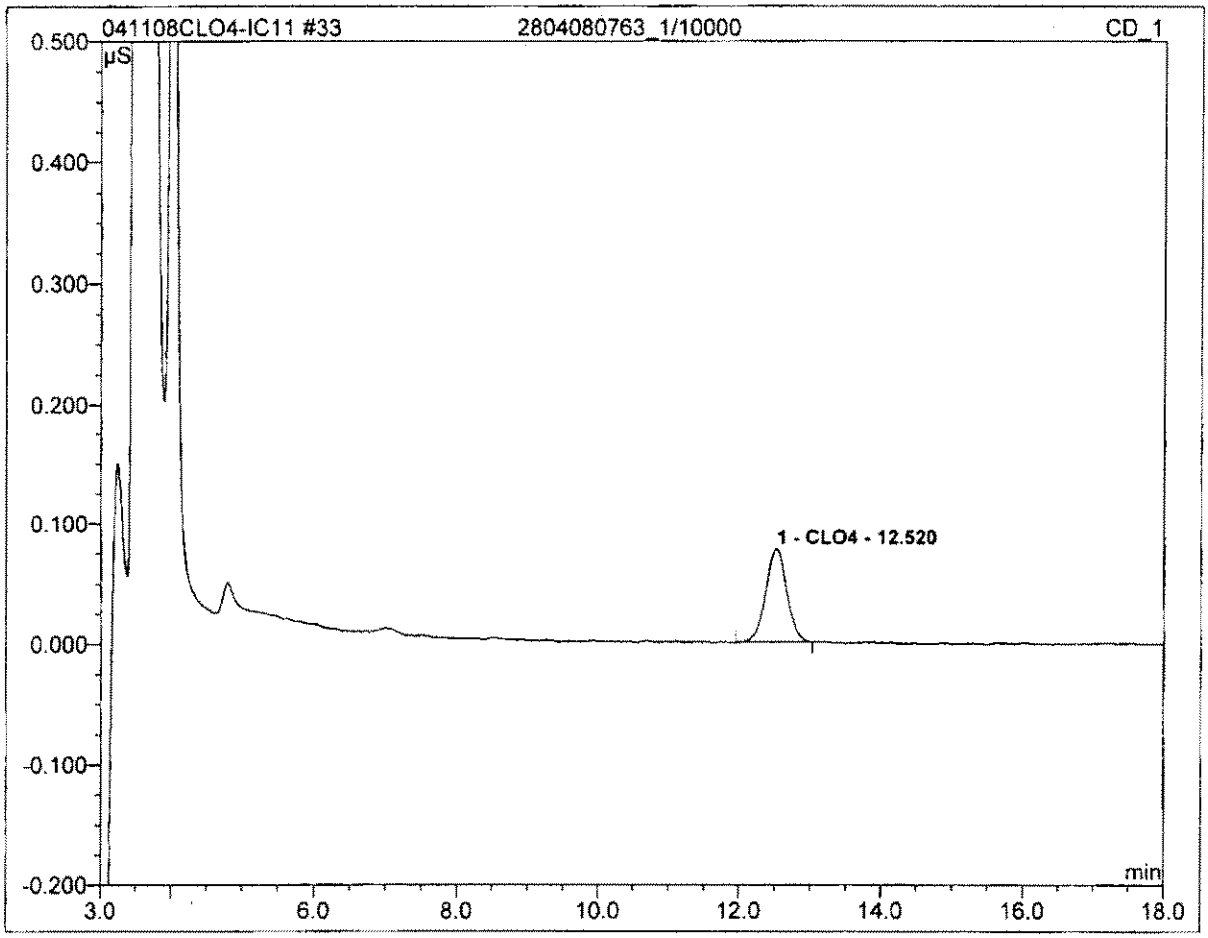
Sample Name:	**2804080762_1/100**	*Channel:*	**CD_1**
Sample Type:	**unknown**	*Control Program:*	**Perchlorate-IC11**
Recording Time:	**04/12/2008 05:14**	*Quantif. Method:*	**IC#4-CLO4-LOW**
Analyst:	**clv**	*Dilution Factor:*	**100.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	12.53	CLO4	0.050	0.017	100.00	2040.206	BMB
Total:			0.050	0.017	100.00	2040.206	

33 2804080763_1/10000

Sample Name:	**2804080763_1/10000**	*Channel:*	**CD_1**
Sample Type:	**unknown**	*Control Program:*	**Perchlorate-IC11**
Recording Time:	**04/12/2008 05:36**	*Quantif. Method:*	**IC#4-CLO4-LOW**
Analyst:	**clv**	*Dilution Factor:*	**10000.0000**

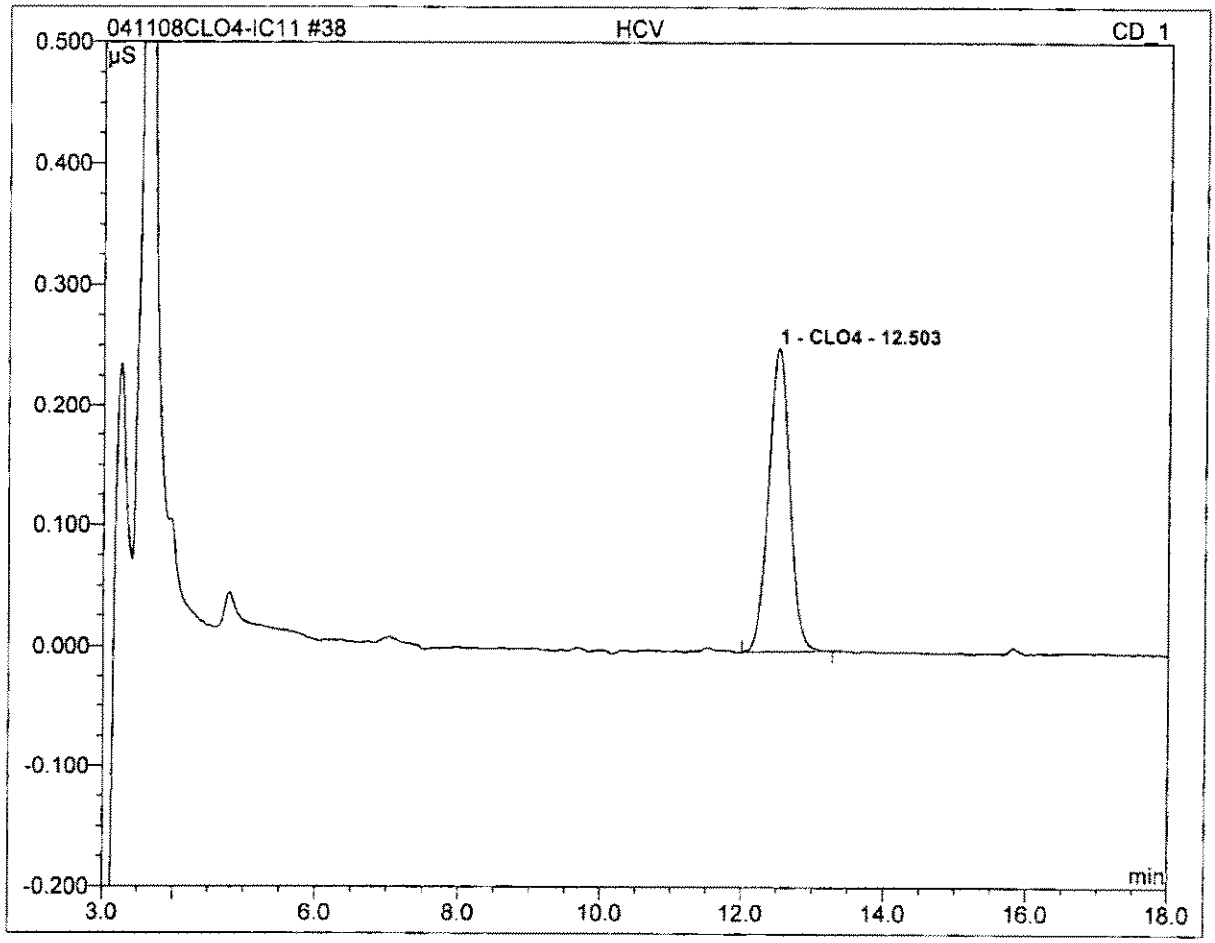


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	12.52	CLO4	0.077	0.027	100.00	312806.494	BMB
Total:			0.077	0.027	100.00	312806.494	

38 HCV

100

Sample Name:	**HCV**	*Channel:*	**CD_1**
Sample Type:	**unknown**	*Control Program:*	**Perchlorate-IC11**
Recording Time:	**04/12/2008 07:28**	*Quantif. Method:*	**IC#4-CLO4-LOW**
Analyst:	**clv**	*Dilution Factor:*	**1.0000**

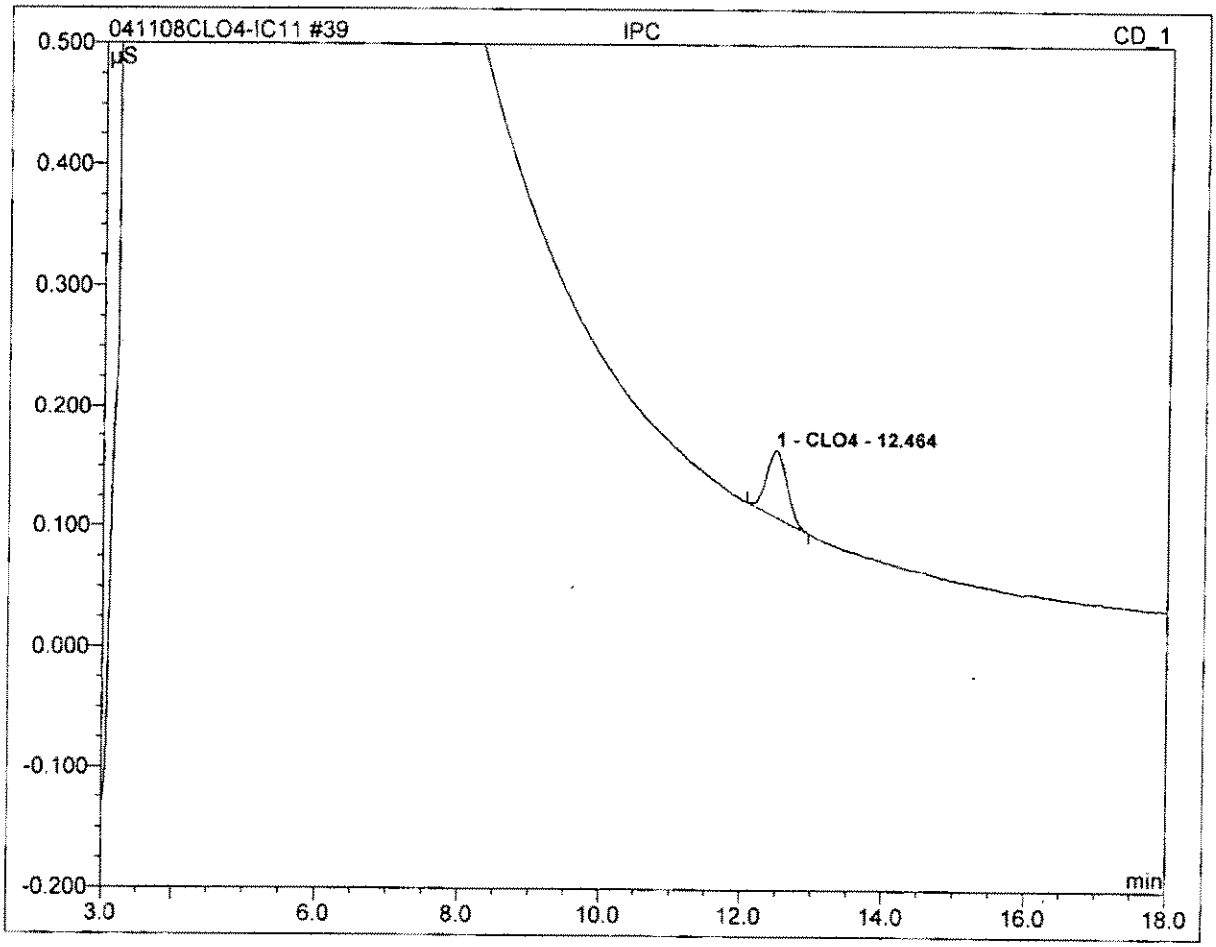


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	12.50	CLO4	0.252	0.087	100.00	100.727	BMB
Total:			0.252	0.087	100.00	100.727	

39 IPC

25

Sample Name:	**IPC**	*Channel:*	**CD_1**
Sample Type:	**unknown**	*Control Program:*	**Perchlorate-IC11**
Recording Time:	**04/12/2008 07:50**	*Quantif. Method:*	**IC#4-CLO4-LOW**
Analyst:	**clv**	*Dilution Factor:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	12.46	CLO4	0.055	0.019	100.00	21.734	BMB
Total:			0.055	0.019	100.00	21.734	

Perchlorate QC Checklist

rev: 27 Mar 03

Analysis Date: 4/13/08 **Analyst:** CM

QC'd by _____ **Date** 4/17/08

Instrument: IC 11 **Calculated MCT Level:** 3155 umhos/cm

Original IPC conductance: 3030 umhos/cm **Daily IPC conductance:** 3030 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 (MBLANK, MRL, ICCSCV, IPC) to be analyzed with every batch (up to 20 samples) or part thereof

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

✓ *L-ClO4 only*: ICCSCV at 2ppb is within 50%-150% (1-3ppb)

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

PDA/H = 3.1%

✓ 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

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

— 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%.

— 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

— QIR needed for samples analyzed outside of hold time

Sample No.	Sample Name	Dil.Fac.	Comment	Time	Amount CLO4 CD_1	
1	autocal1	1.0		04.10.08 18:53	n.a.	
2	autocal2	1.0	2	04.10.08 19:15	2.4036	
3	autocal3	1.0	4	04.10.08 19:38	4.1158	
4	autocal4	1.0	10	04.10.08 20:00	10.3763	
5	autocal5	1.0	25	04.10.08 20:23	23.6594	
6	autocal6	1.0	50	04.10.08 20:45	50.3202	
7	autocal7	1.0	100	04.10.08 21:07	100.1247	
8	QCS	1.0	20	04.13.08 14:07	18.6340	93.2%
9	HCV	1.0	CHECK	04.13.08 14:30	100.0268	100%
10	IPC	1.0	25	04.13.08 14:52	22.6378	90.6%
11	-MBLK	1.0		04.13.08 15:15	n.a.	ND<1/2MRL
12	-MRLCHK-2	1.0	2	04.13.08 15:37	2.2319	112%
13	-MRLCHK-4	1.0	4	04.13.08 15:59	4.4173	110%
14	-LCS1	1.0	25	04.13.08 16:22	24.6176	98.5%
15	-LCS2	1.0	25	04.13.08 16:44	24.8353	99.3%
16	2804100714	1.0	RR	04.13.08 17:07	n.a.	
17	2804110089	1.0	RR	04.13.08 17:29	6.4180	
18	2804110090	1.0	RR	04.13.08 17:51	6.1817	
19	2804110091	1.0	RR	04.13.08 18:14	3.7321	
20	2804110092	1.0	RR	04.13.08 18:36	n.a.	
21	2804080748_1/10	10.0	RR	04.13.08 18:59	193.0613	
22	2804080760_1/10	10.0	RR	04.13.08 19:21	862.1389	
23	2804080761_1/10	10.0	RR	04.13.08 19:43	828.9478	
24	2804110107	1.0	RR	04.13.08 20:06	n.a.	
25	2804110108	1.0	RR	04.13.08 20:28	n.a.	
26	2804110108-MS	1.0	25	04.13.08 20:51	22.8317	91.3%
27	2804110108-MSD	1.0	25	04.13.08 21:13	23.3888	93.6%
28	CCV	1.0	25	04.13.08 21:35	24.3665	97.5%
29	HCV	1.0	100	04.13.08 21:58	100.7693	101%

MWH Laboratories
750 Royal Oaks Drive, Suite 100
Monrovia, CA 91016-3629

CONDUCTIVITY MW SOP REVISION 5
SM2510B

Analysis Date: 4/09/08
Analyst: [signature]
Reviewed By:
LIMS Check By:

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

Time of Analysis Start: 2015 End:

MRL 2umhos/cm: Rθ exp of solution:
KCl Std 1412 Rθ 201819 exp of solution 9/08
TV = 1412 µmho/cm @ 25°C for 0.0100M
Reading: 1400
Instrument: YSI Model 3200 SN:01A0504, Year Acquired 2001 New

IPC = 3030

Run #	Sample Number	Sample ID	Client	Date Collected	Temp °C	pH	Scale (µmho/mmho)	Result: Instrument	Result: Reported (µmho/cm)	Comments
Blk	Blank				21	7	uS		0860	
STD	MRL 2umhos/cm									1-3—±50% of TV
STD	KCl - 1000 mhos/cm								1002	950-1050—±5% of TV
1	7809080748	✓	KM					260		
2	0749							940		
3	0750							1310		
4	0751							1320		
5	0752							630		
6	0753							670		
7	0754							550		
8	0755							450		
9	0756							870		
10	0757							4400		
DUP	↓							440		RPD < 5%
11	0758							5900		
12	0759							460		
13	0760	✓						370		
14	0761	✓						370		
15	0762							390		
16	0763		↓					960		
17										
18										
19										
20										
DUP	7809080763		KM					960		RPD < 5%
STD	KCl - 10 mhos/cm									8-12—RPD < 20% of TV

% RPD = |S1-S2| * 100 / (S1+S2)/2

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

Sequence: 041308CLO4-IC11
Operator: clv
Printed: 4/15/2008 9:05:11 AM

Title:
Datasource: Dionex_USPAS2SDIO2
Location: IC\IC11_CLO4\2008\APR
Timebase: IC11
#Samples: 29

Created: 4/13/2008 2:04:54 PM by clv
Last Update: 4/13/2008 4:32:04 PM by clv

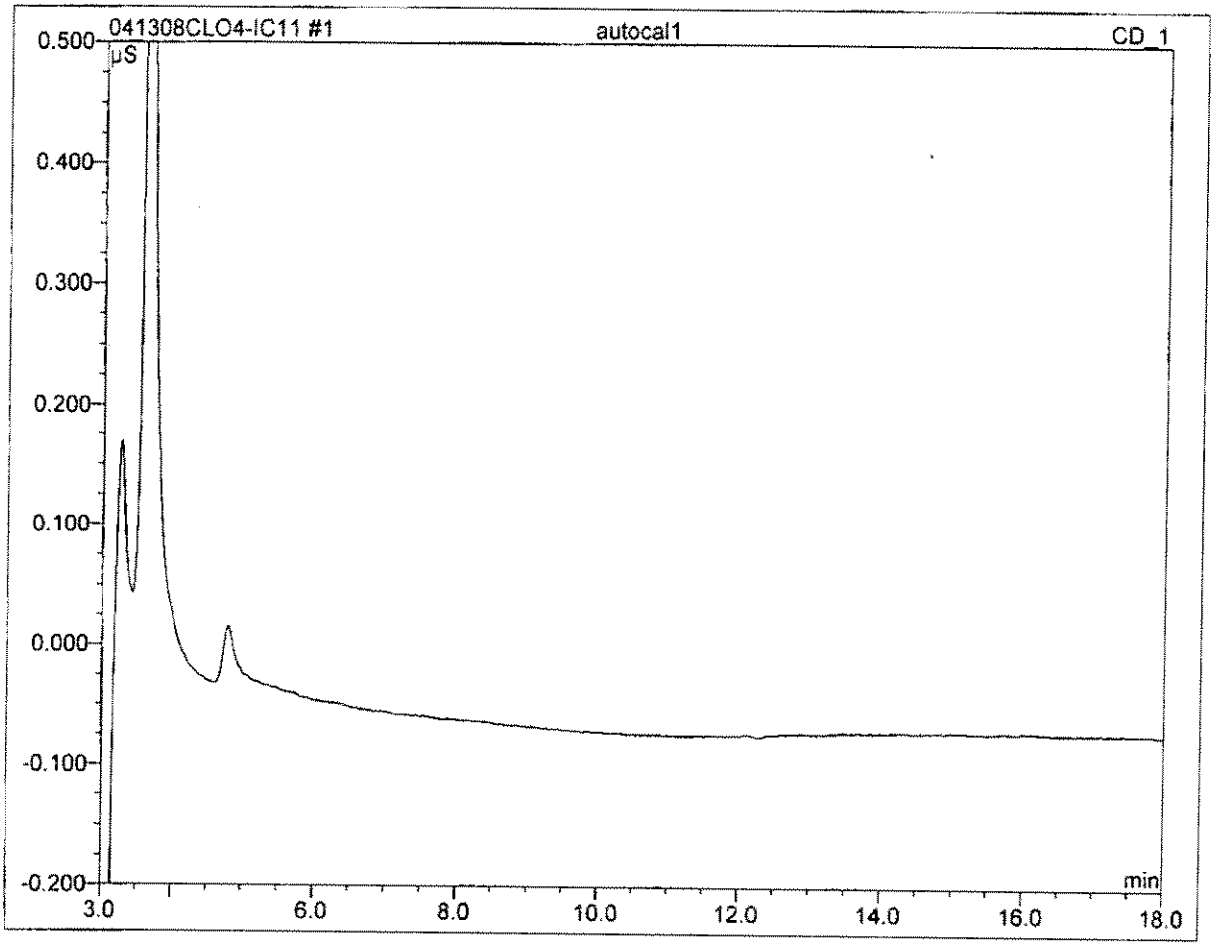
No.	Name	Sample ID	Dil. Factor	Type	Comment	Status	Program
1	autocal1		1.0000	Standard		Finished	Perchlorate-IC11
2	autocal2	R201449 EXP 07/28/09	1.0000	Standard	2	Finished	Perchlorate-IC11
3	autocal3		1.0000	Standard	4	Finished	Perchlorate-IC11
4	autocal4		1.0000	Standard	10	Finished	Perchlorate-IC11
5	autocal5		1.0000	Standard	25	Finished	Perchlorate-IC11
6	autocal6		1.0000	Standard	50	Finished	Perchlorate-IC11
7	autocal7		1.0000	Standard	100	Finished	Perchlorate-IC11
8	QCS	R201789 EXP 07/10/09	1.0000	Unknown	20	Finished	Perchlorate-IC11
9	HCV	100	1.0000	Unknown	CHECK	Finished	Perchlorate-IC11
10	IPC	EC=3155	1.0000	Unknown	25	Finished	Perchlorate-IC11
11	-MBLK		1.0000	Unknown		Finished	Perchlorate-IC11
12	-MRLCHK-2	2	1.0000	Unknown	2	Finished	Perchlorate-IC11
13	-MRLCHK-4	4	1.0000	Unknown	4	Finished	Perchlorate-IC11
14	-LCS1	25	1.0000	Unknown	25	Finished	Perchlorate-IC11
15	-LCS2	25	1.0000	Unknown	25	Finished	Perchlorate-IC11
16	2804100714	[illegible]	1.0000	Unknown	RR	Finished	Perchlorate-IC11
17	2804110089	[illegible]	1.0000	Unknown	RR	Finished	Perchlorate-IC11
18	2804110090	[illegible]	1.0000	Unknown	RR	Finished	Perchlorate-IC11
19	2804110091	[illegible]	1.0000	Unknown	RR	Finished	Perchlorate-IC11
20	2804110092	[illegible]	1.0000	Unknown	RR	Finished	Perchlorate-IC11
21	2804080748_1/10	KM	10.0000	Unknown	RR	Finished	Perchlorate-IC11
22	2804080760_1/10	KM	10.0000	Unknown	RR	Finished	Perchlorate-IC11
23	2804080761_1/10	KM	10.0000	Unknown	RR	Finished	Perchlorate-IC11
24	2804110107	[illegible]	1.0000	Unknown	RR	Finished	Perchlorate-IC11
25	2804110108	[illegible]	1.0000	Unknown	RR	Finished	Perchlorate-IC11
26	2804110108-MS	25	1.0000	Unknown	25	Finished	Perchlorate-IC11
27	2804110108-MSD	25	1.0000	Unknown	25	Finished	Perchlorate-IC11
28	CCV	25	1.0000	Unknown	25	Finished	Perchlorate-IC11
29	HCV	100	1.0000	Unknown	100	Finished	Perchlorate-IC11

Title:
Datasource: Dionex_USPAS2SDIO2
Location: IC\IC11_CLO4\2008\APR
Timebase: IC11
#Samples: 29
Created: 4/13/2008 2:04:54 PM by clv
Last Update: 4/13/2008 4:32:04 PM by clv

No.	Name	Method	Inj. Date/Time	*Analyst
1	autocal1	IC#4-CLO4-LOW	4/10/2008 6:53:31 PM	clv
2	autocal2	IC#4-CLO4-LOW	4/10/2008 7:15:55 PM	clv
3	autocal3	IC#4-CLO4-LOW	4/10/2008 7:38:20 PM	clv
4	autocal4	IC#4-CLO4-LOW	4/10/2008 8:00:44 PM	clv
5	autocal5	IC#4-CLO4-LOW	4/10/2008 8:23:08 PM	clv
6	autocal6	IC#4-CLO4-LOW	4/10/2008 8:45:33 PM	clv
7	autocal7	IC#4-CLO4-LOW	4/10/2008 9:07:57 PM	clv
8	QCS	IC#4-CLO4-LOW	4/13/2008 2:07:53 PM	clv
9	HCV	IC#4-CLO4-LOW	4/13/2008 2:30:17 PM	clv
10	IPC	IC#4-CLO4-LOW	4/13/2008 2:52:41 PM	clv
11	-MBLK	IC#4-CLO4-LOW	4/13/2008 3:15:05 PM	clv
12	-MRLCHK-2	IC#4-CLO4-LOW	4/13/2008 3:37:29 PM	clv
13	-MRLCHK-4	IC#4-CLO4-LOW	4/13/2008 3:59:53 PM	clv
14	-LCS1	IC#4-CLO4-LOW	4/13/2008 4:22:16 PM	clv
15	-LCS2	IC#4-CLO4-LOW	4/13/2008 4:44:40 PM	clv
16	2804100714	IC#4-CLO4-LOW	4/13/2008 5:07:04 PM	clv
17	2804110089	IC#4-CLO4-LOW	4/13/2008 5:29:28 PM	clv
18	2804110090	IC#4-CLO4-LOW	4/13/2008 5:51:52 PM	clv
19	2804110091	IC#4-CLO4-LOW	4/13/2008 6:14:16 PM	clv
20	2804110092	IC#4-CLO4-LOW	4/13/2008 6:36:39 PM	clv
21	2804080748_1/10	IC#4-CLO4-LOW	4/13/2008 6:59:03 PM	clv
22	2804080760_1/10	IC#4-CLO4-LOW	4/13/2008 7:21:27 PM	clv
23	2804080761_1/10	IC#4-CLO4-LOW	4/13/2008 7:43:51 PM	clv
24	2804110107	IC#4-CLO4-LOW	4/13/2008 8:06:15 PM	clv
25	2804110108	IC#4-CLO4-LOW	4/13/2008 8:28:39 PM	clv
26	2804110108-MS	IC#4-CLO4-LOW	4/13/2008 8:51:02 PM	clv
27	2804110108-MSD	IC#4-CLO4-LOW	4/13/2008 9:13:26 PM	clv
28	CCV	IC#4-CLO4-LOW	4/13/2008 9:35:50 PM	clv
29	HCV	IC#4-CLO4-LOW	4/13/2008 9:58:14 PM	clv

1 autocal1

Sample Name:	**autocal1**	*Channel:*	**CD_1**
Sample Type:	**standard**	*Control Program:*	**Perchlorate-IC11**
Recording Time:	**04/10/2008 18:53**	*Quantif. Method:*	**IC#4-CLO4-LOW**
Analyst:	**clv**	*Dilution Factor:*	**1.0000**

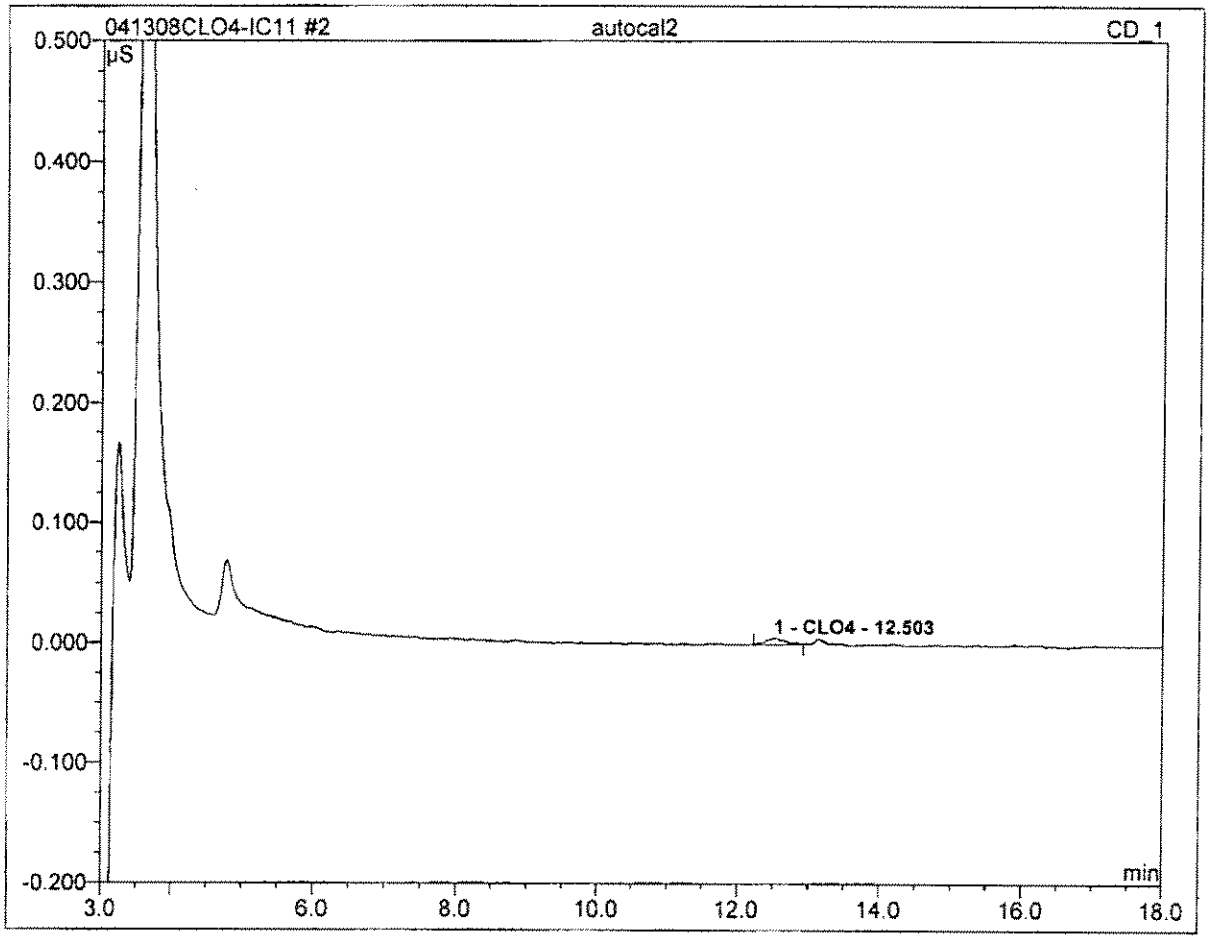


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
Total:			0.000	0.000	0.00	0.000	

2 autocal2

2

Sample Name:	**autocal2**	*Channel:*	**CD_1**
Sample Type:	**standard**	*Control Program:*	**Perchlorate-IC11**
Recording Time:	**04/10/2008 19:15**	*Quantif. Method:*	**IC#4-CLO4-LOW**
Analyst:	**clv**	*Dilution Factor:*	**1.0000**

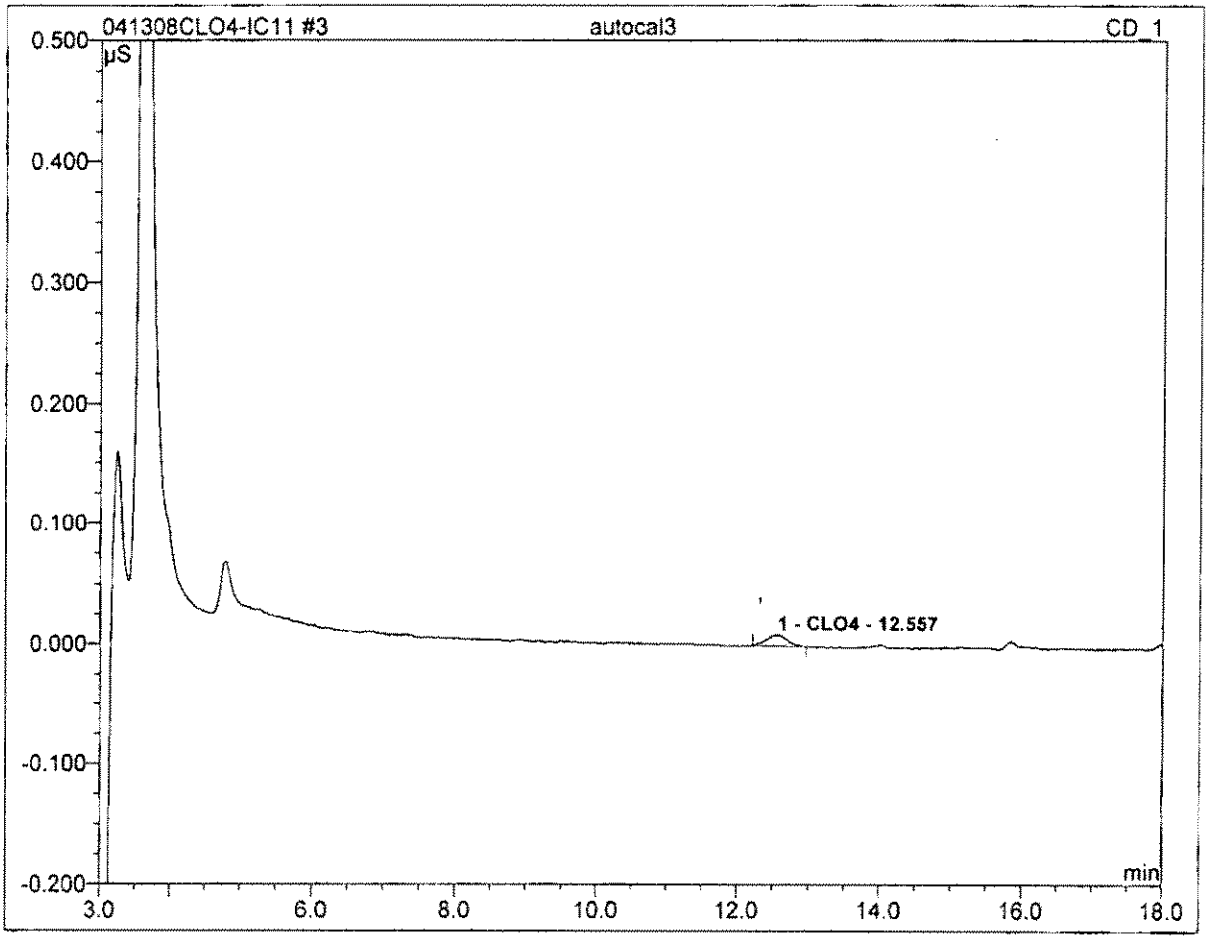


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	12.50	CLO4	0.005	0.002	100.00	2.404	BMB
Total:			0.005	0.002	100.00	2.404	

3 autocal3

4

Sample Name:	**autocal3**	*Channel:*	**CD_1**
Sample Type:	**standard**	*Control Program:*	**Perchlorate-IC11**
Recording Time:	**04/10/2008 19:38**	*Quantif. Method:*	**IC#4-CLO4-LOW**
Analyst:	**clv**	*Dilution Factor:*	**1.0000**

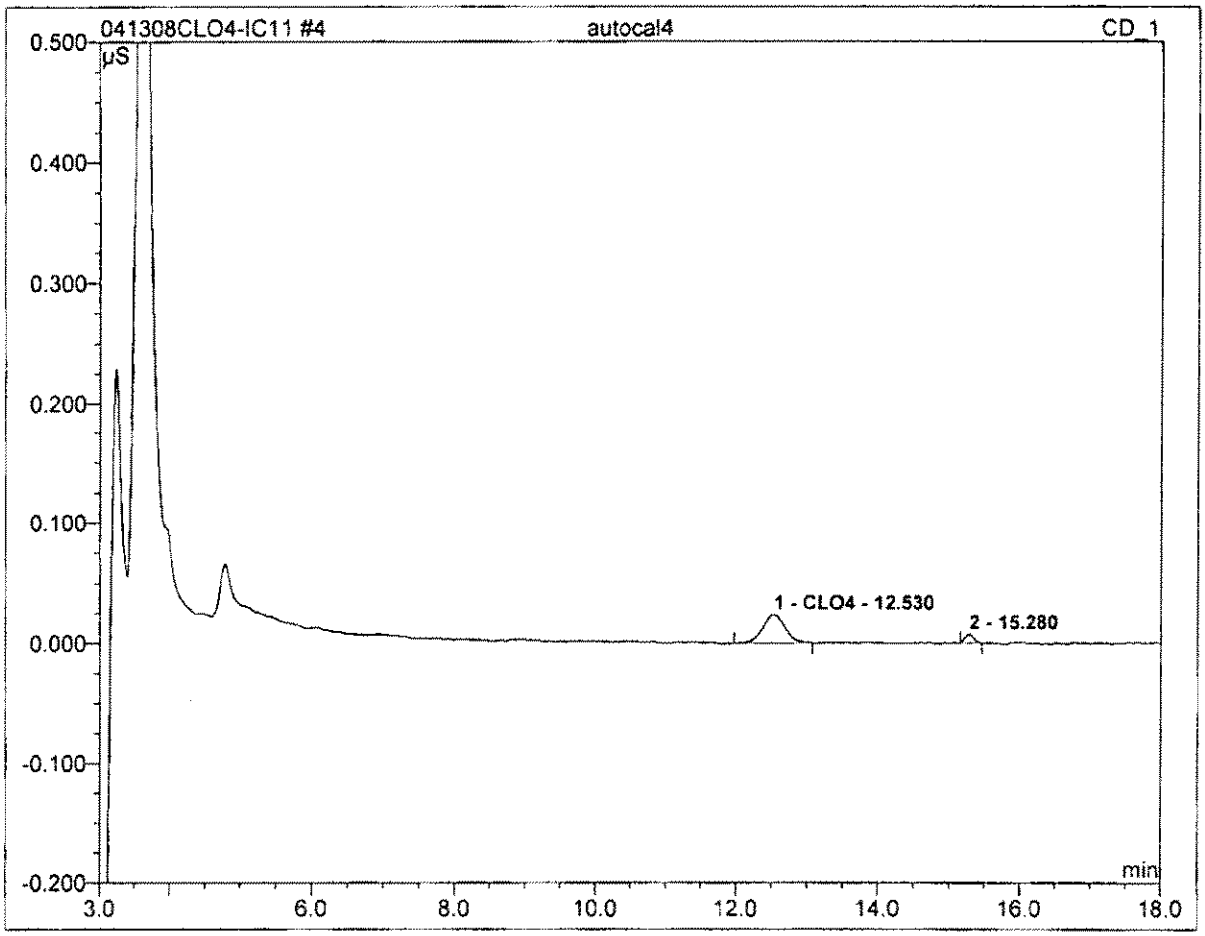


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	12.56	CLO4	0.009	0.003	100.00	4.116	BMB
Total:			0.009	0.003	100.00	4.116	

4 autocal4

10

Sample Name:	**autocal4**	*Channel:*	**CD_1**
Sample Type:	**standard**	*Control Program:*	**Perchlorate-IC11**
Recording Time:	**04/10/2008 20:00**	*Quantif. Method:*	**IC#4-CLO4-LOW**
Analyst:	**clv**	*Dilution Factor:*	**1.0000**

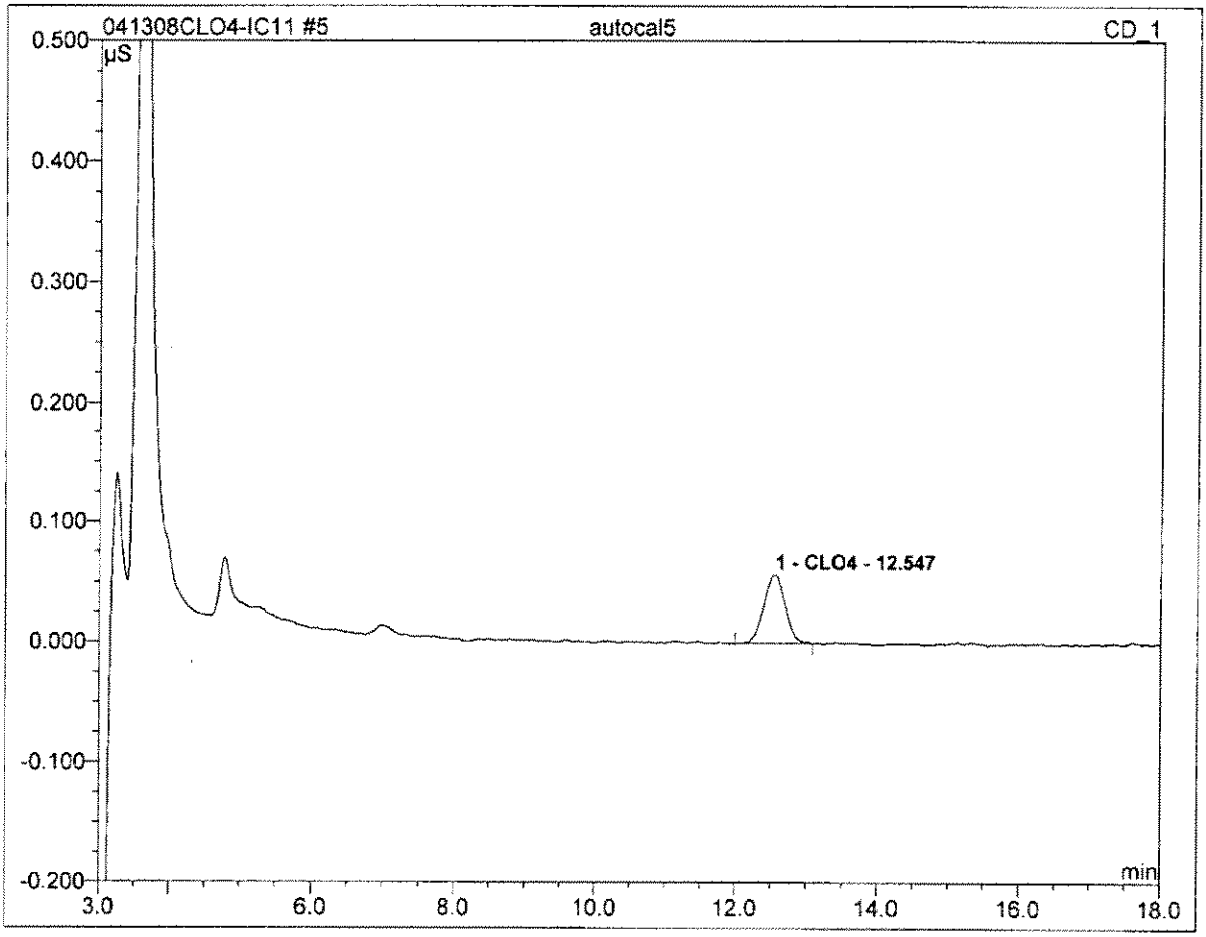


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	12.53	CLO4	0.024	0.009	89.57	10.376	BMB
Total:			0.024	0.009	89.57	10.376	

5 autocal5

25

Sample Name:	**autocal5**	*Channel:*	**CD_1**
Sample Type:	**standard**	*Control Program:*	**Perchlorate-IC11**
Recording Time:	**04/10/2008 20:23**	*Quantif. Method:*	**IC#4-CLO4-LOW**
Analyst:	**clv**	*Dilution Factor:*	**1.0000**

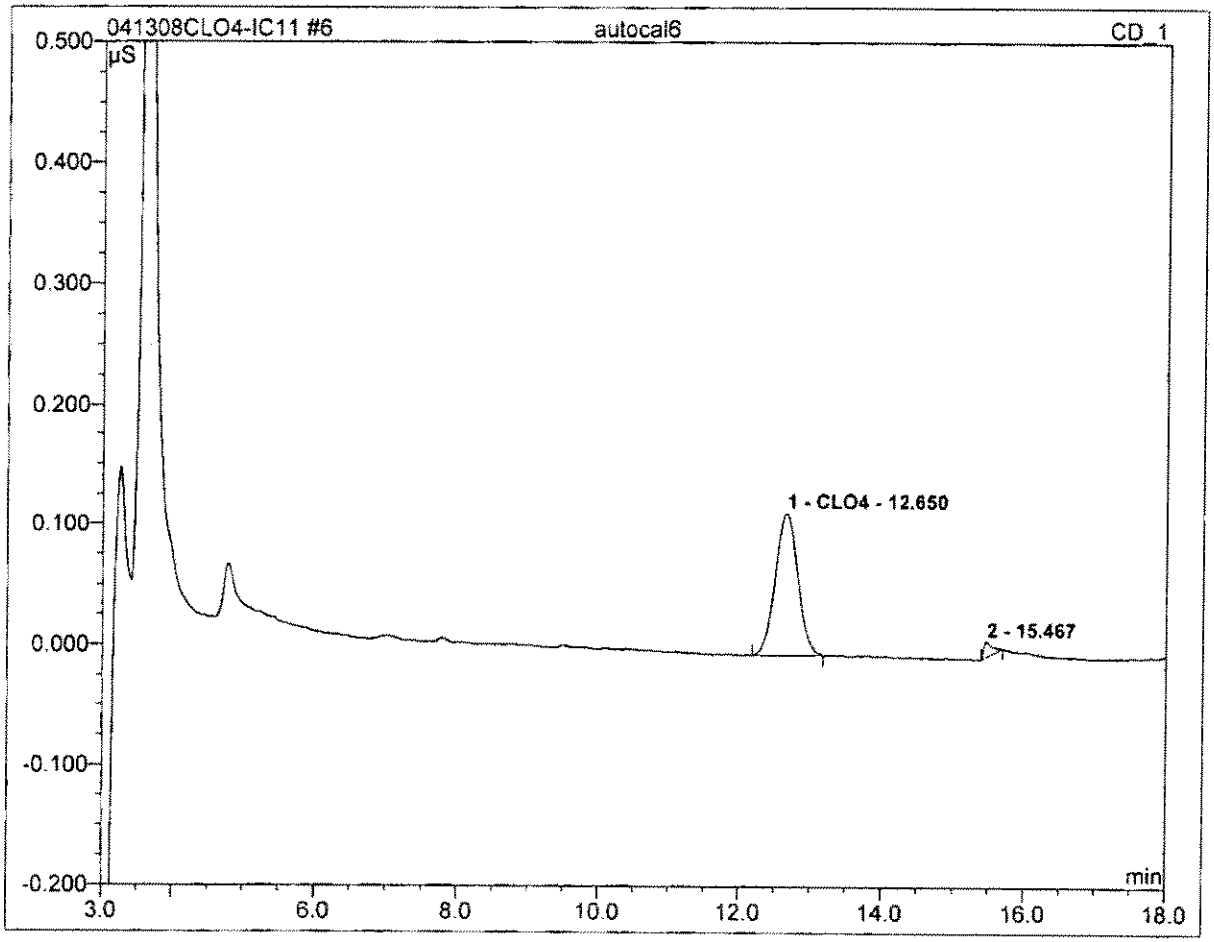


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	12.55	CLO4	0.058	0.020	100.00	23.659	BMB
Total:			0.058	0.020	100.00	23.659	

6 autocal6

50

Sample Name:	**autocal6**	*Channel:*	**CD_1**
Sample Type:	**standard**	*Control Program:*	**Perchlorate-IC11**
Recording Time:	**04/10/2008 20:45**	*Quantif. Method:*	**IC#4-CLO4-LOW**
Analyst:	**clv**	*Dilution Factor:*	**1.0000**

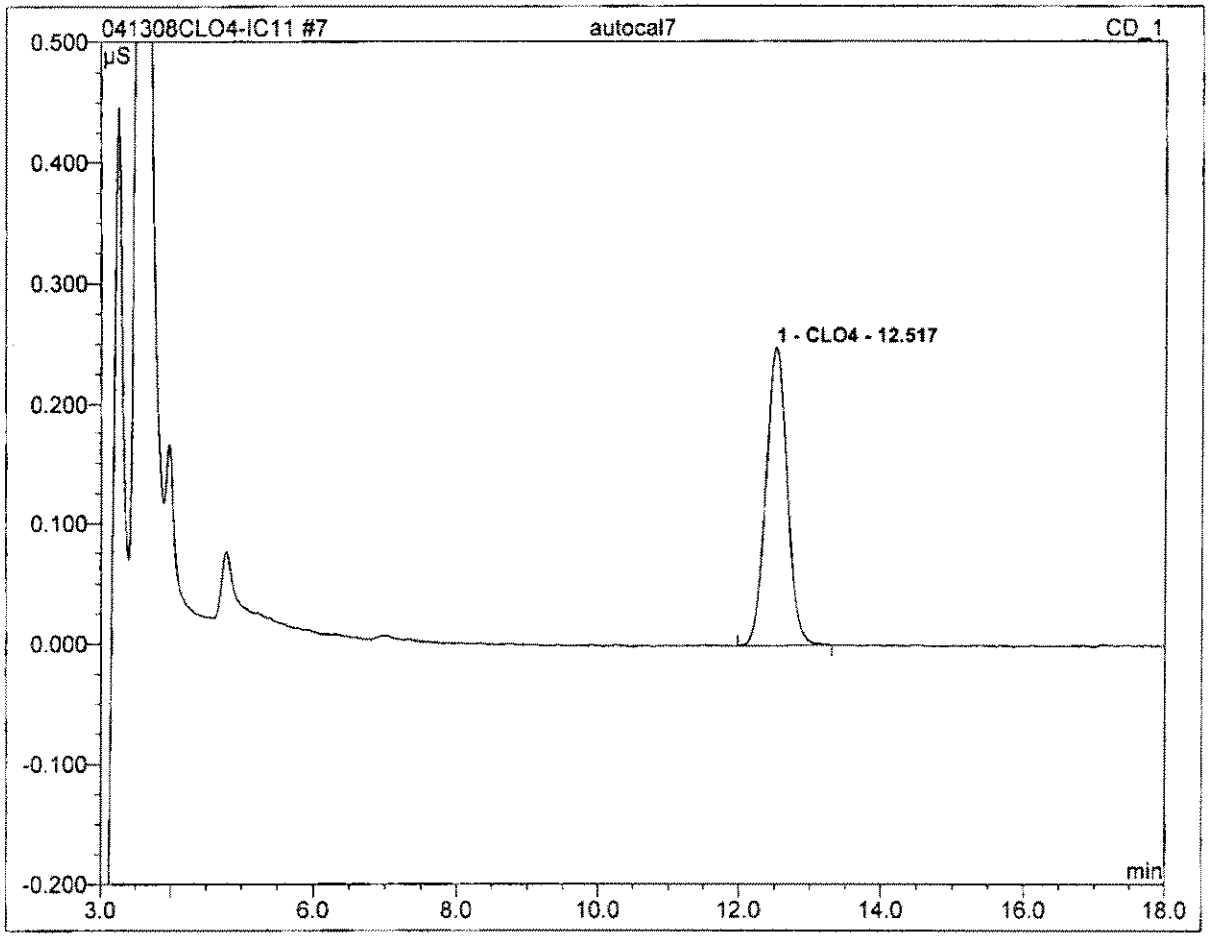


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	12.65	CLO4	0.118	0.043	96.30	50.320	BMB
Total:			0.118	0.043	96.30	50.320	

7 autocal7

100

Sample Name:	**autocal7**	*Channel:*	**CD_1**
Sample Type:	**standard**	*Control Program:*	**Perchlorate-IC11**
Recording Time:	**04/10/2008 21:07**	*Quantif. Method:*	**IC#4-CLO4-LOW**
Analyst:	**clv**	*Dilution Factor:*	**1.0000**

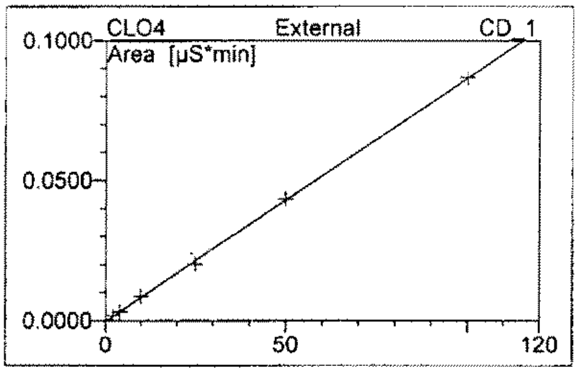


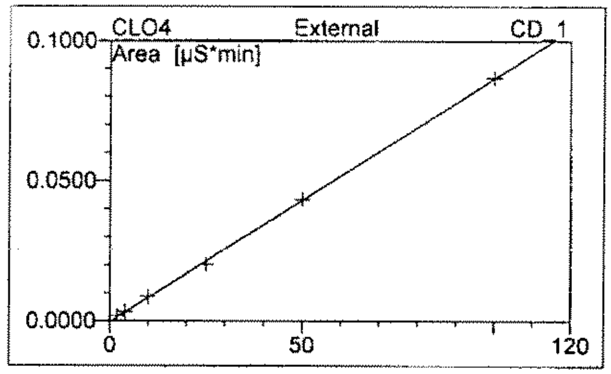
No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	12.52	CLO4	0.249	0.087	100.00	100.125	BMB
Total:			0.249	0.087	100.00	100.125	

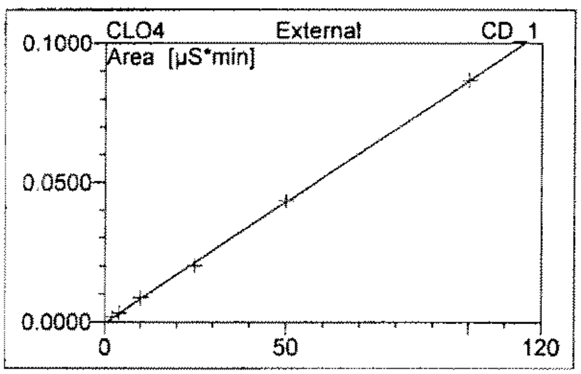
7 autocal7

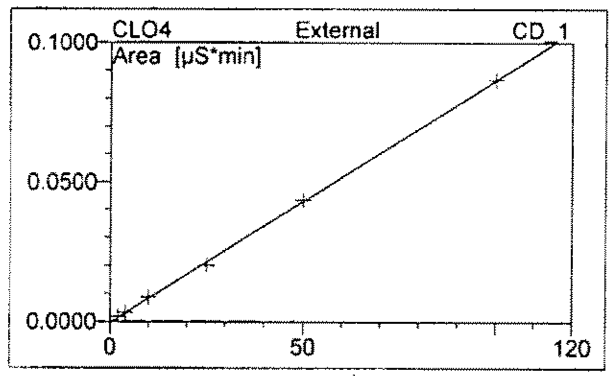
100

Sample Name:	**autocal7**	*Injection Volume:*	**20.0**
Vial Number:	**141**	*Channel:*	**CD_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**Perchlorate-IC11**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC#4-CLO4-LOW**	*Dilution Factor:*	**1.0000**
Recording Time:	**4/10/2008 21:07**	*Sample Weight:*	**1.0000**
Run Time (min):	**20.00**	*Sample Amount:*	**1.0000**







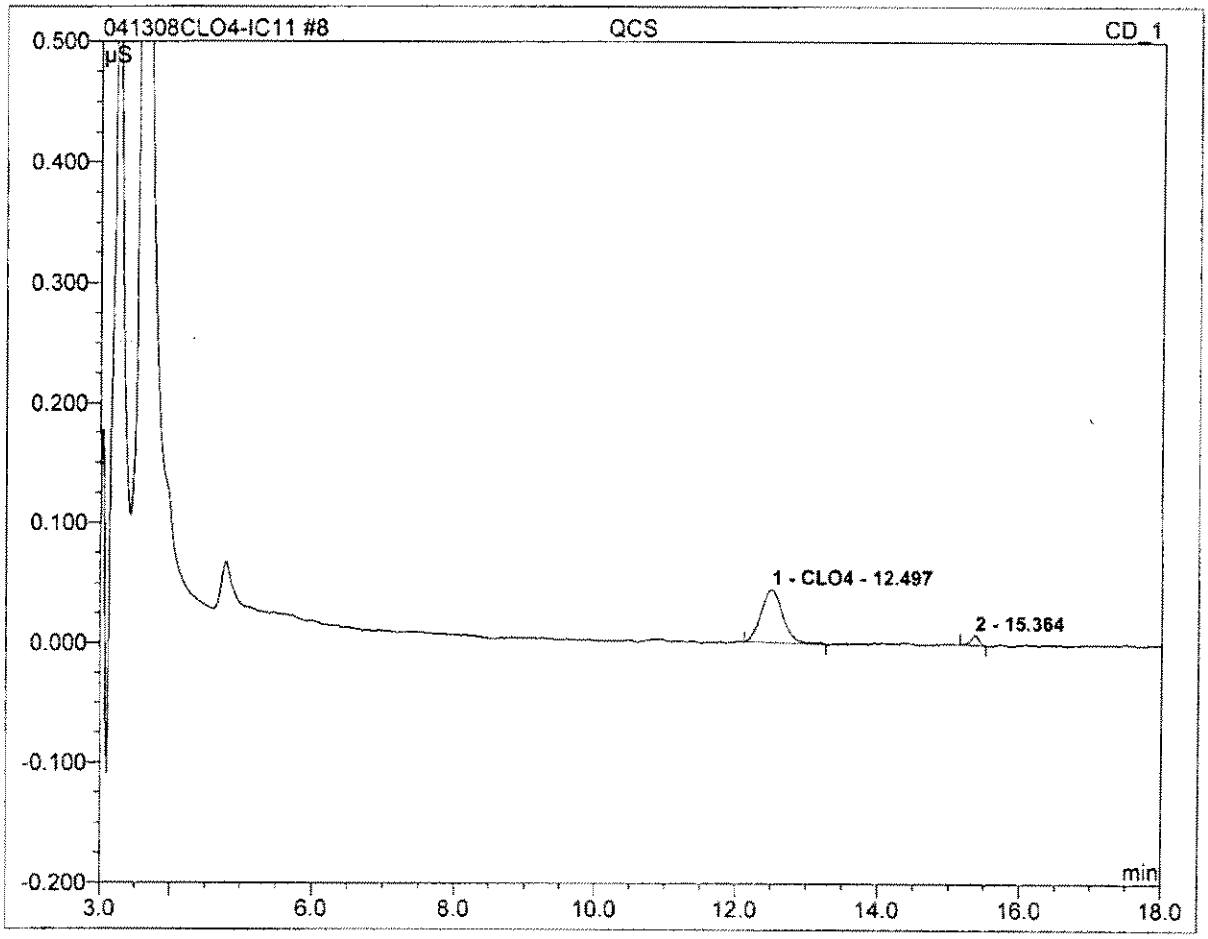


No.	Ret.Time min	Peak Name	Cal.Type	Points	Corr.Coeff. %	Offset	Slope	Curve
1	12.52	CLO4	LOff	6	99.9844	-0.0004	0.0009	0.0000
Average:					99.9844	-0.0004	0.0009	0.0000

8 QCS

20

Sample Name:	**QCS**	*Channel:*	**CD_1**
Sample Type:	**unknown**	*Control Program:*	**Perchlorate-IC11**
Recording Time:	**04/13/2008 14:07**	*Quantif. Method:*	**IC#4-CLO4-LOW**
Analyst:	**clv**	*Dilution Factor:*	**1.0000**

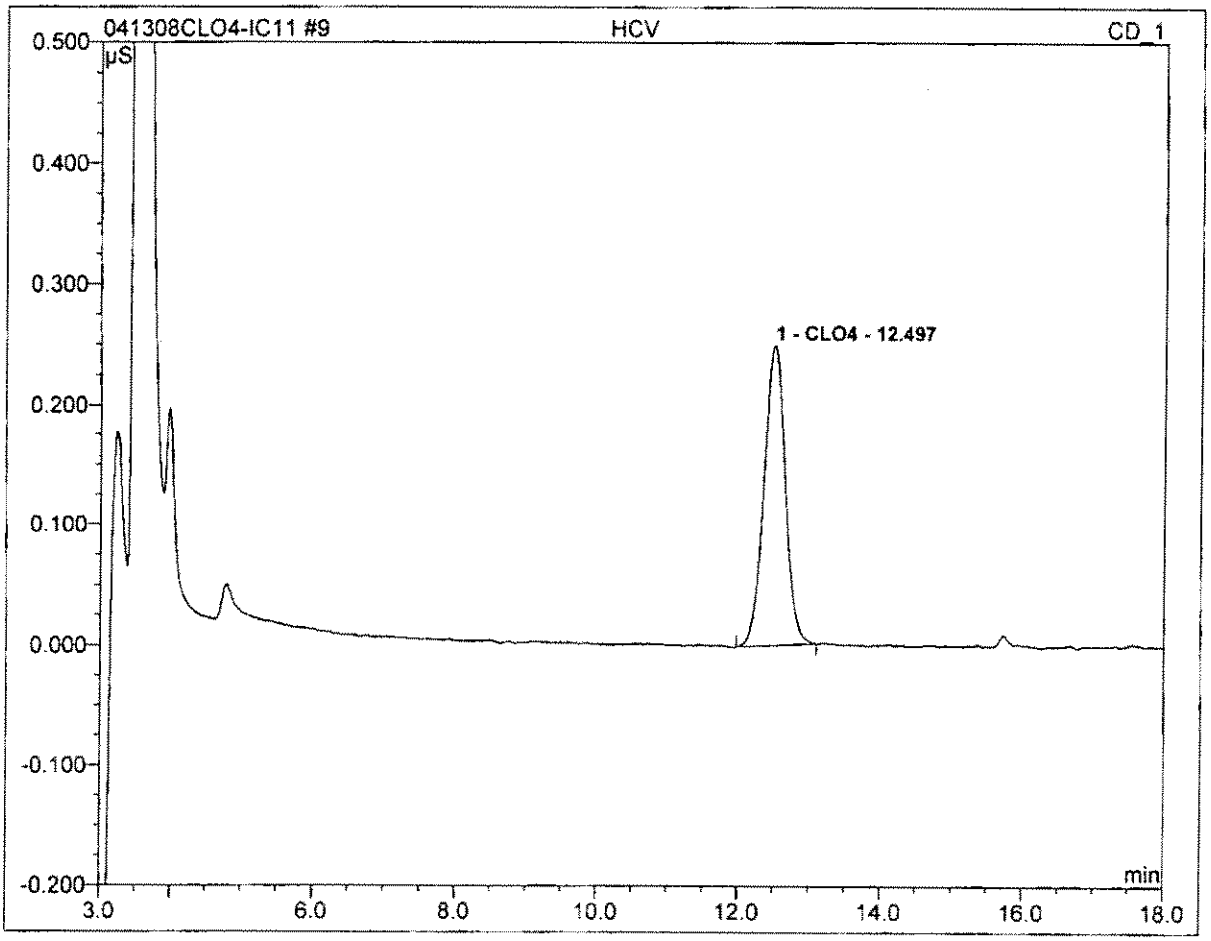


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	12.50	CLO4	0.045	0.016	93.60	18.634	BMB
Total:			0.045	0.016	93.60	18.634	

9 HCV

CHECK

Sample Name:	**HCV**	*Channel:*	**CD_1**
Sample Type:	**unknown**	*Control Program:*	**Perchlorate-IC11**
Recording Time:	**04/13/2008 14:30**	*Quantif. Method:*	**IC#4-CLO4-LOW**
Analyst:	**clv**	*Dilution Factor:*	**1.0000**

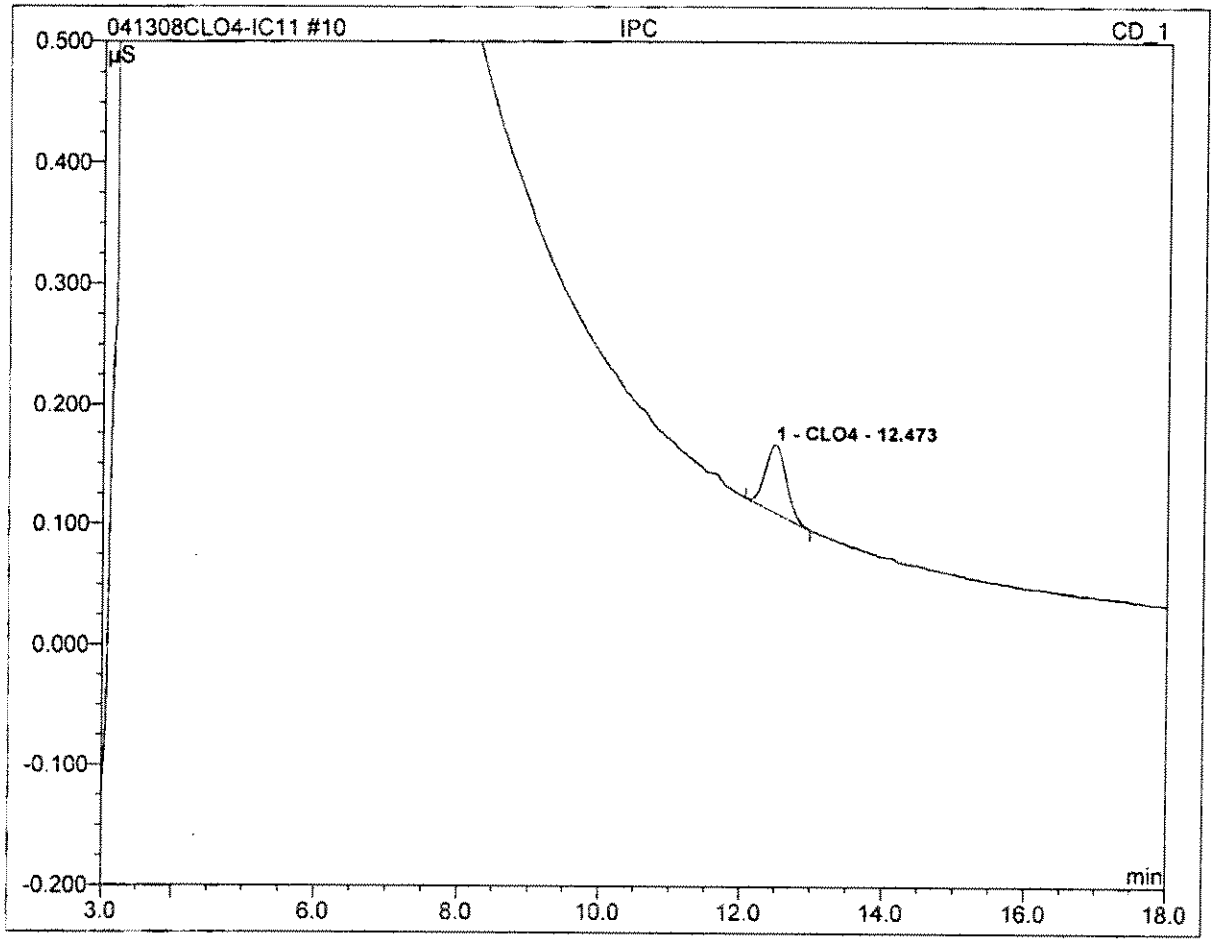


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	12.50	CLO4	0.250	0.087	100.00	100.027	BMB
Total:			0.250	0.087	100.00	100.027	

10 IPC

25

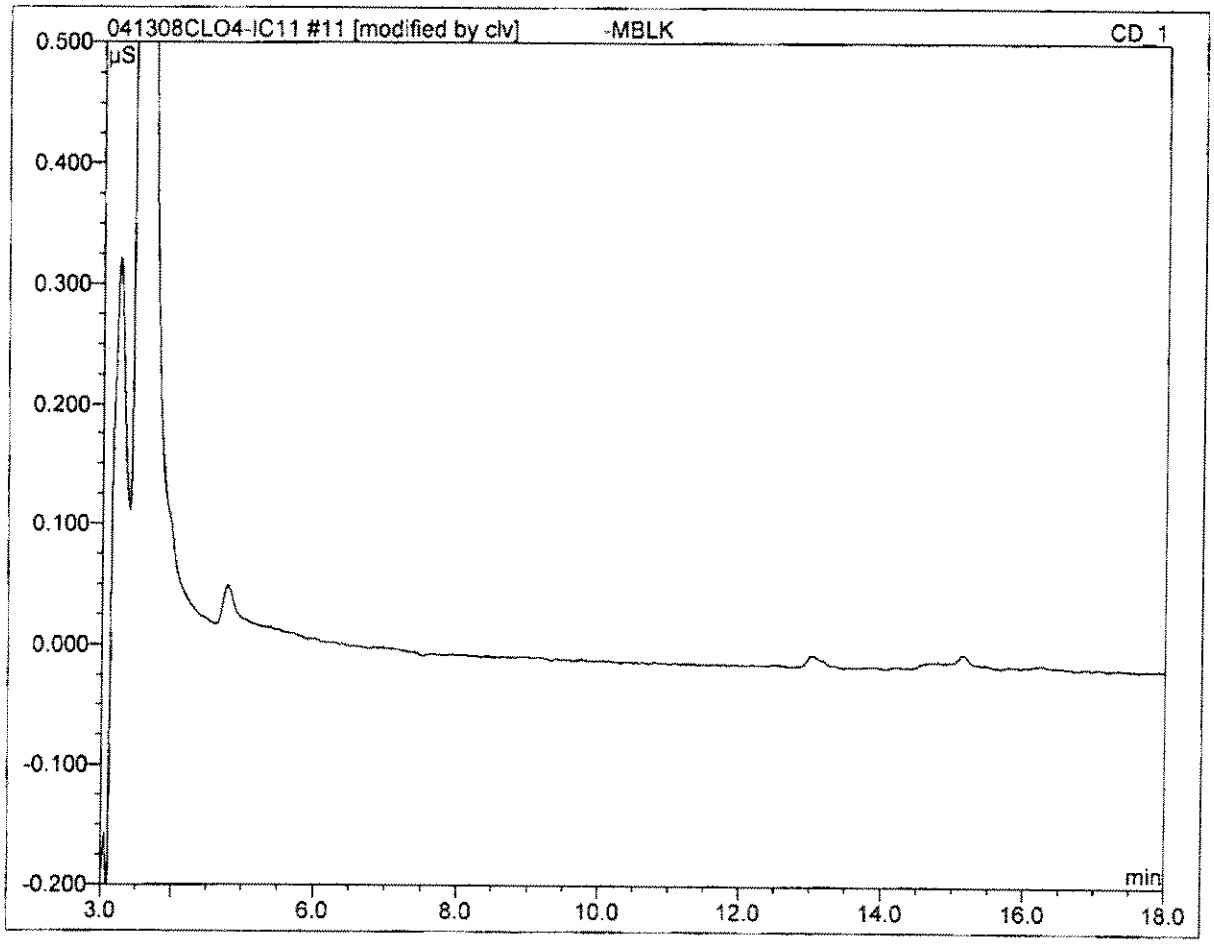
Sample Name:	**IPC**	*Channel:*	**CD_1**
Sample Type:	**unknown**	*Control Program:*	**Perchlorate-IC11**
Recording Time:	**04/13/2008 14:52**	*Quantif. Method:*	**IC#4-CLO4-LOW**
Analyst:	**clv**	*Dilution Factor:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	12.47	CLO4	0.056	0.019	100.00	22.638	BMB
Total:			0.056	0.019	100.00	22.638	

11 -MBLK

Sample Name:	**-MBLK**	*Channel:*	**CD_1**
Sample Type:	**unknown**	*Control Program:*	**Perchlorate-IC11**
Recording Time:	**04/13/2008 15:15**	*Quantif. Method:*	**IC#4-CLO4-LOW**
Analyst:	**clv**	*Dilution Factor:*	**1.0000**

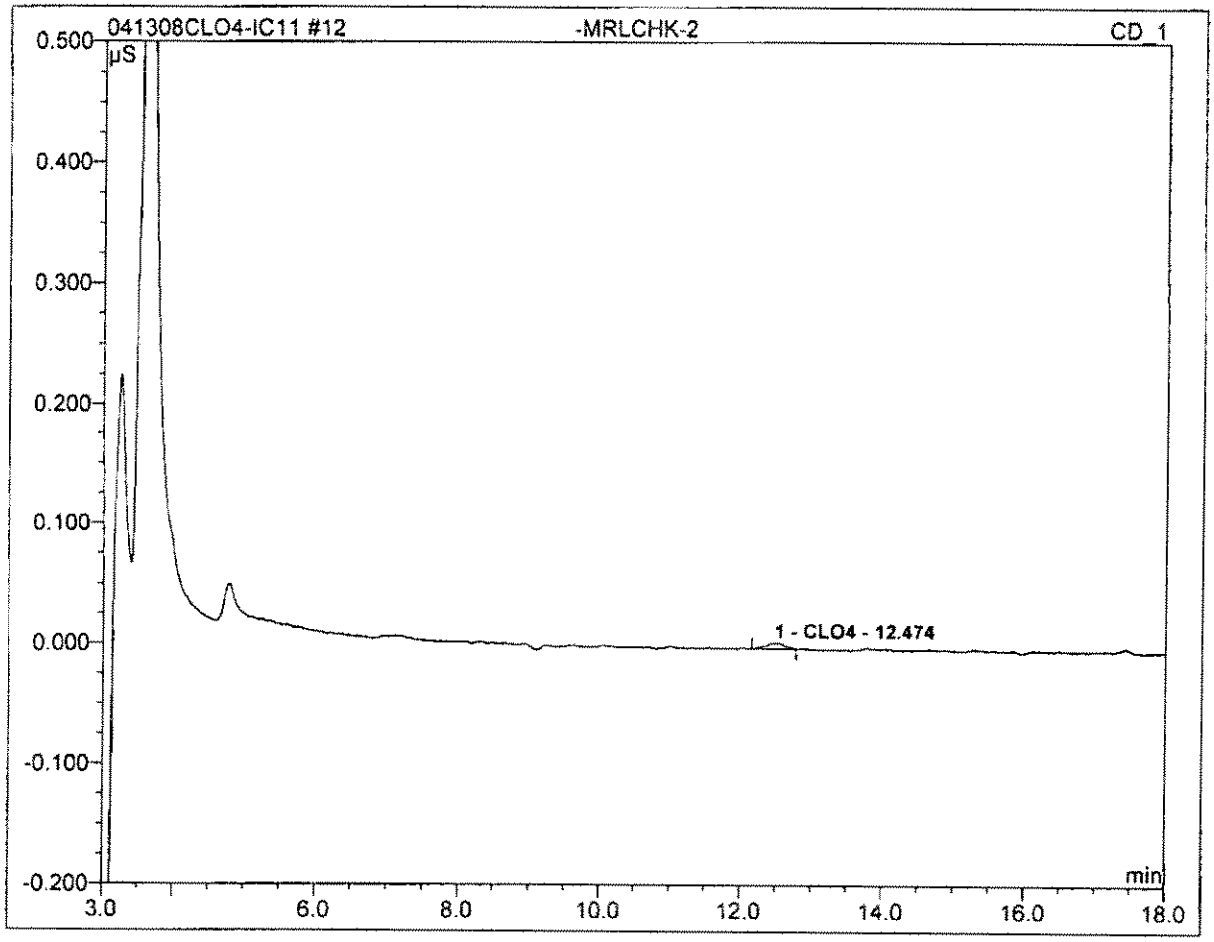


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
Total:			0.000	0.000	0.00	0.000	

12 -MRLCHK-2

2

Sample Name:	**-MRLCHK-2**	*Channel:*	**CD_1**
Sample Type:	**unknown**	*Control Program:*	**Perchlorate-IC11**
Recording Time:	**04/13/2008 15:37**	*Quantif. Method:*	**IC#4-CLO4-LOW**
Analyst:	**clv**	*Dilution Factor:*	**1.0000**

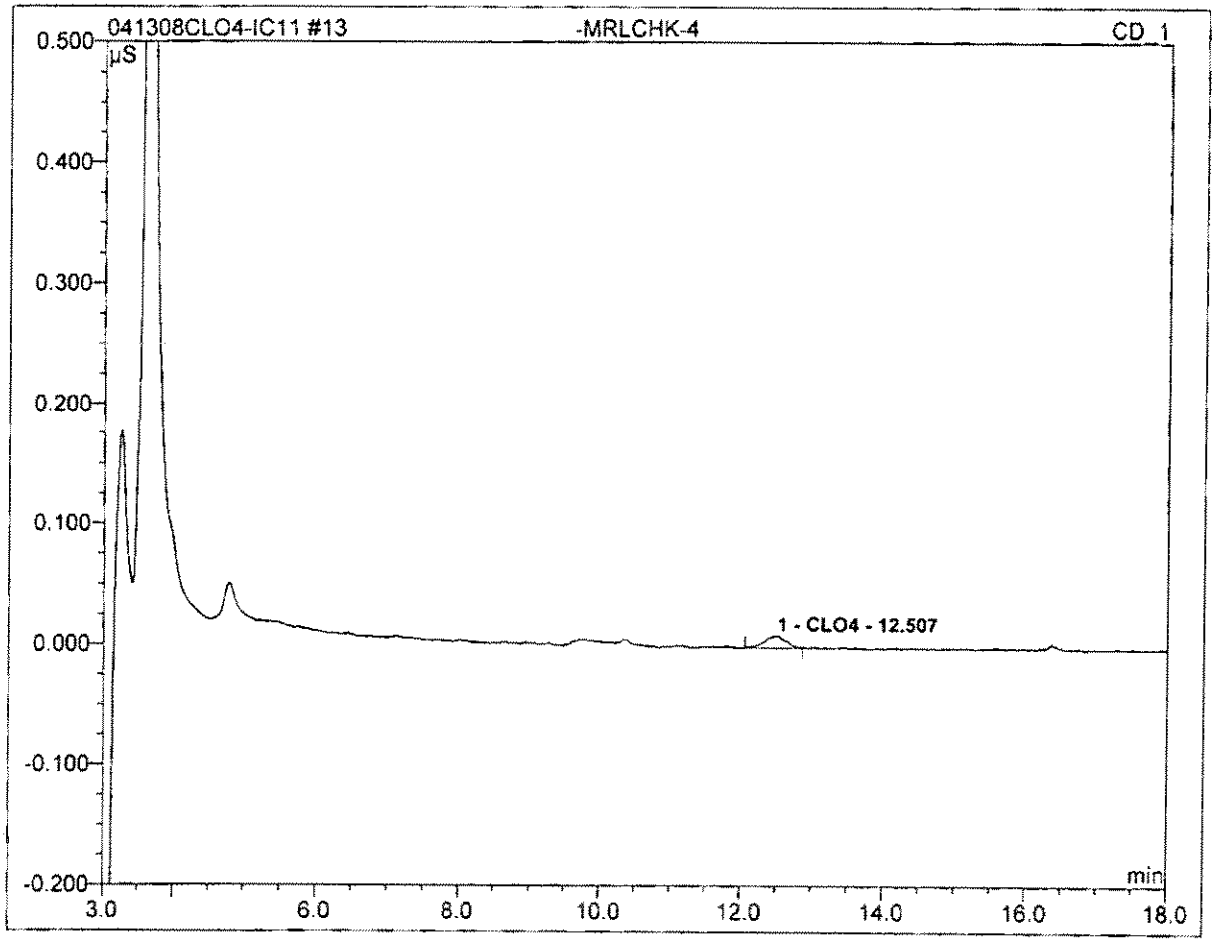


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	12.47	CLO4	0.005	0.002	100.00	2.232	BMB
Total:			0.005	0.002	100.00	2.232	

13 -MRLCHK-4

4

Sample Name:	**-MRLCHK-4**	*Channel:*	**CD_1**
Sample Type:	**unknown**	*Control Program:*	**Perchlorate-IC11**
Recording Time:	**04/13/2008 15:59**	*Quantif. Method:*	**IC#4-CLO4-LOW**
Analyst:	**clv**	*Dilution Factor:*	**1.0000**

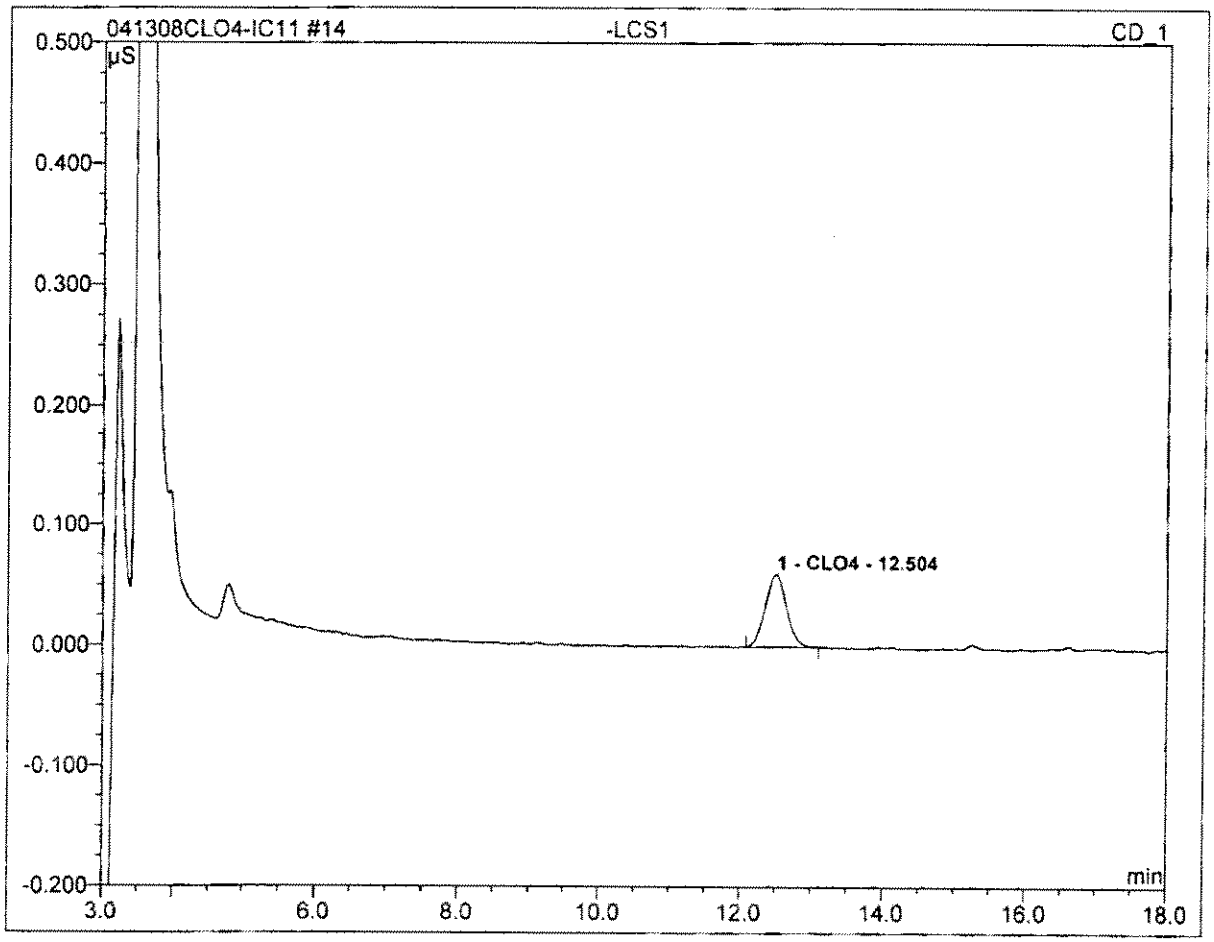


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	12.51	CLO4	0.010	0.003	100.00	4.417	BMB
Total:			0.010	0.003	100.00	4.417	

14 -LCS1

25

Sample Name:	**-LCS1**	*Channel:*	**CD_1**
Sample Type:	**unknown**	*Control Program:*	**Perchlorate-IC11**
Recording Time:	**04/13/2008 16:22**	*Quantif. Method:*	**IC#4-CLO4-LOW**
Analyst:	**clv**	*Dilution Factor:*	**1.0000**

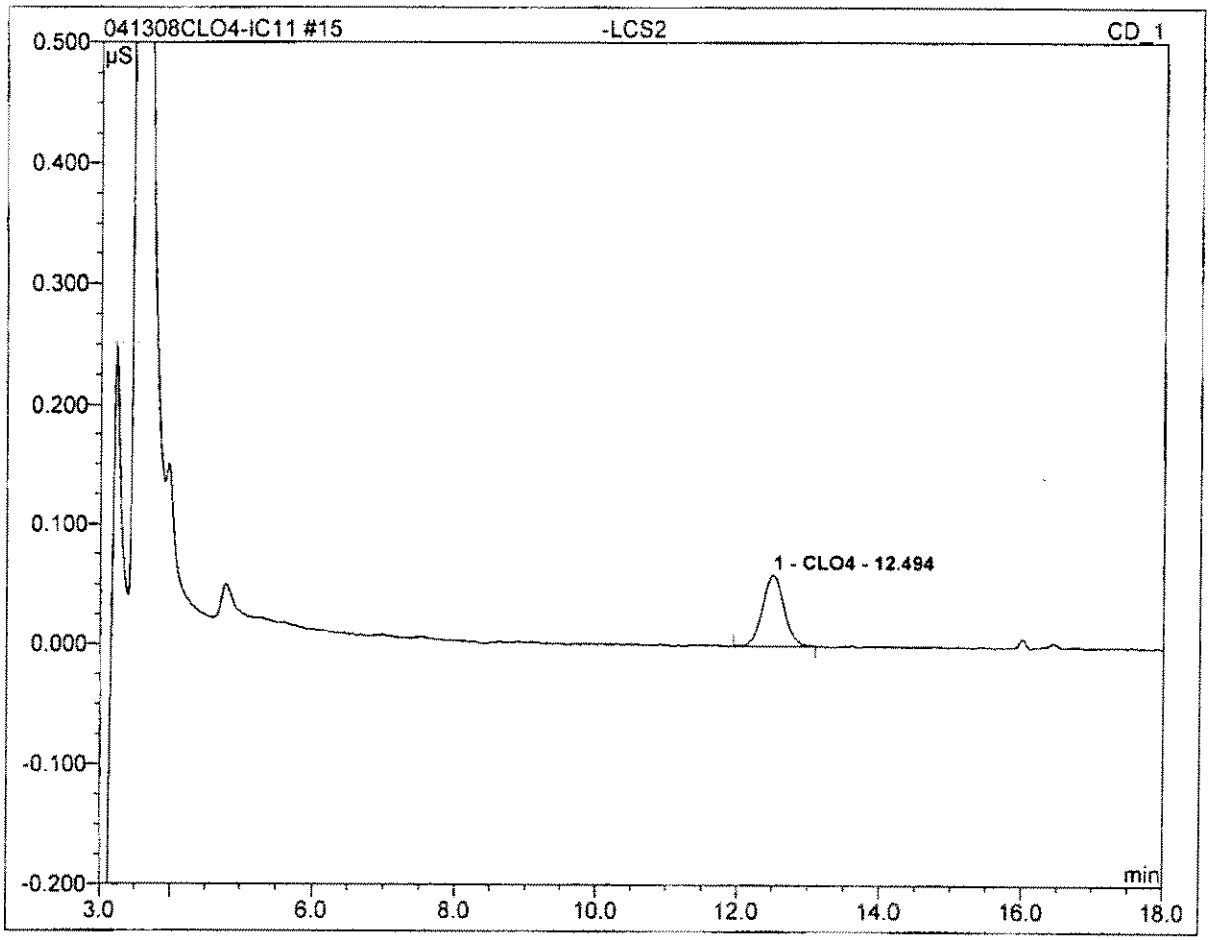


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	12.50	CLO4	0.060	0.021	100.00	24.618	BMB
Total:			0.060	0.021	100.00	24.618	

15 -LCS2

25

Sample Name:	**-LCS2**	*Channel:*	**CD_1**
Sample Type:	**unknown**	*Control Program:*	**Perchlorate-IC11**
Recording Time:	**04/13/2008 16:44**	*Quantif. Method:*	**IC#4-CLO4-LOW**
Analyst:	**clv**	*Dilution Factor:*	**1.0000**

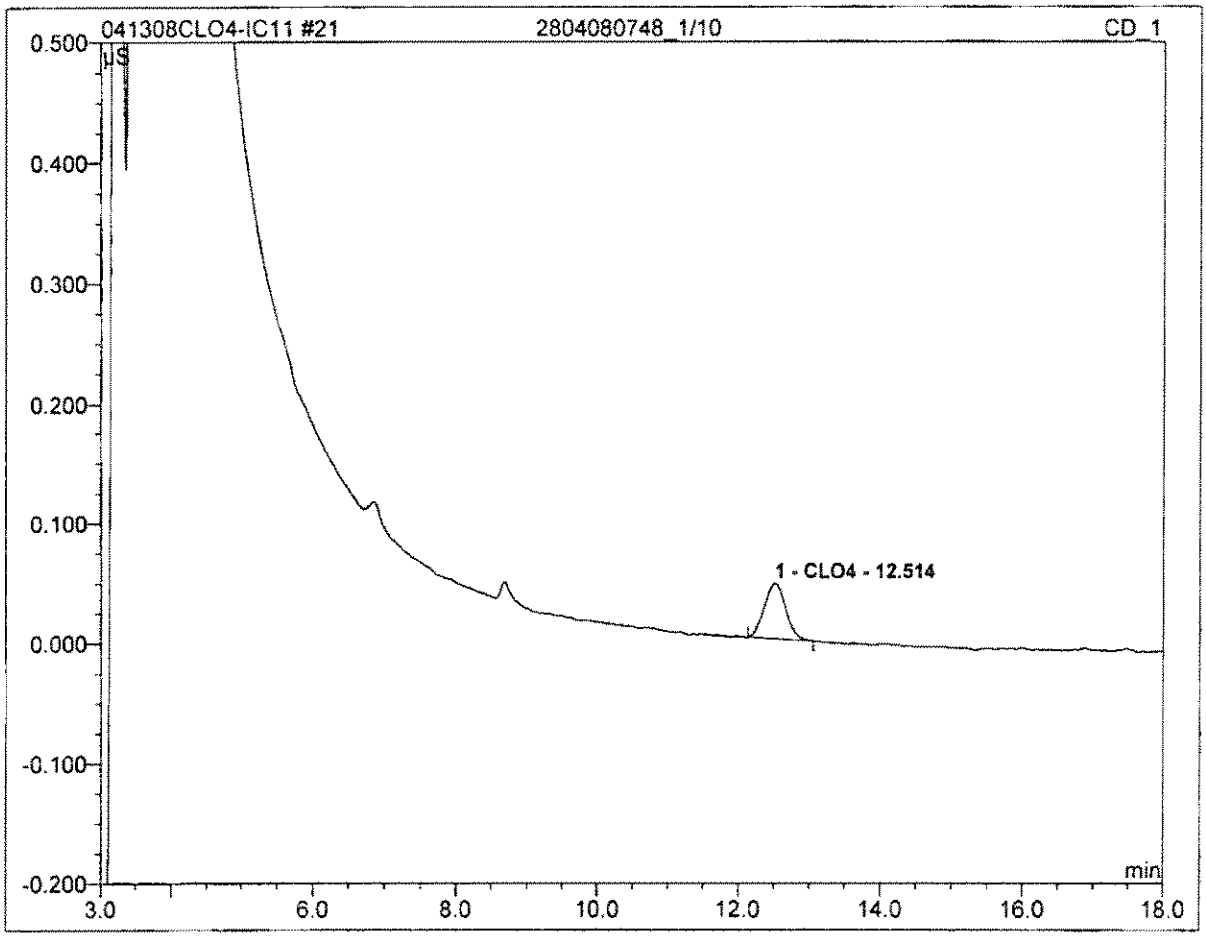


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	12.49	CLO4	0.060	0.021	100.00	24.835	BMB
Total:			0.060	0.021	100.00	24.835	

21 2804080748_1/10

RR

Sample Name:	**2804080748_1/10**	*Channel:*	**CD_1**
Sample Type:	**unknown**	*Control Program:*	**Perchlorate-IC11**
Recording Time:	**04/13/2008 18:59**	*Quantif. Method:*	**IC#4-CLO4-LOW**
Analyst:	**clv**	*Dilution Factor:*	**10.0000**

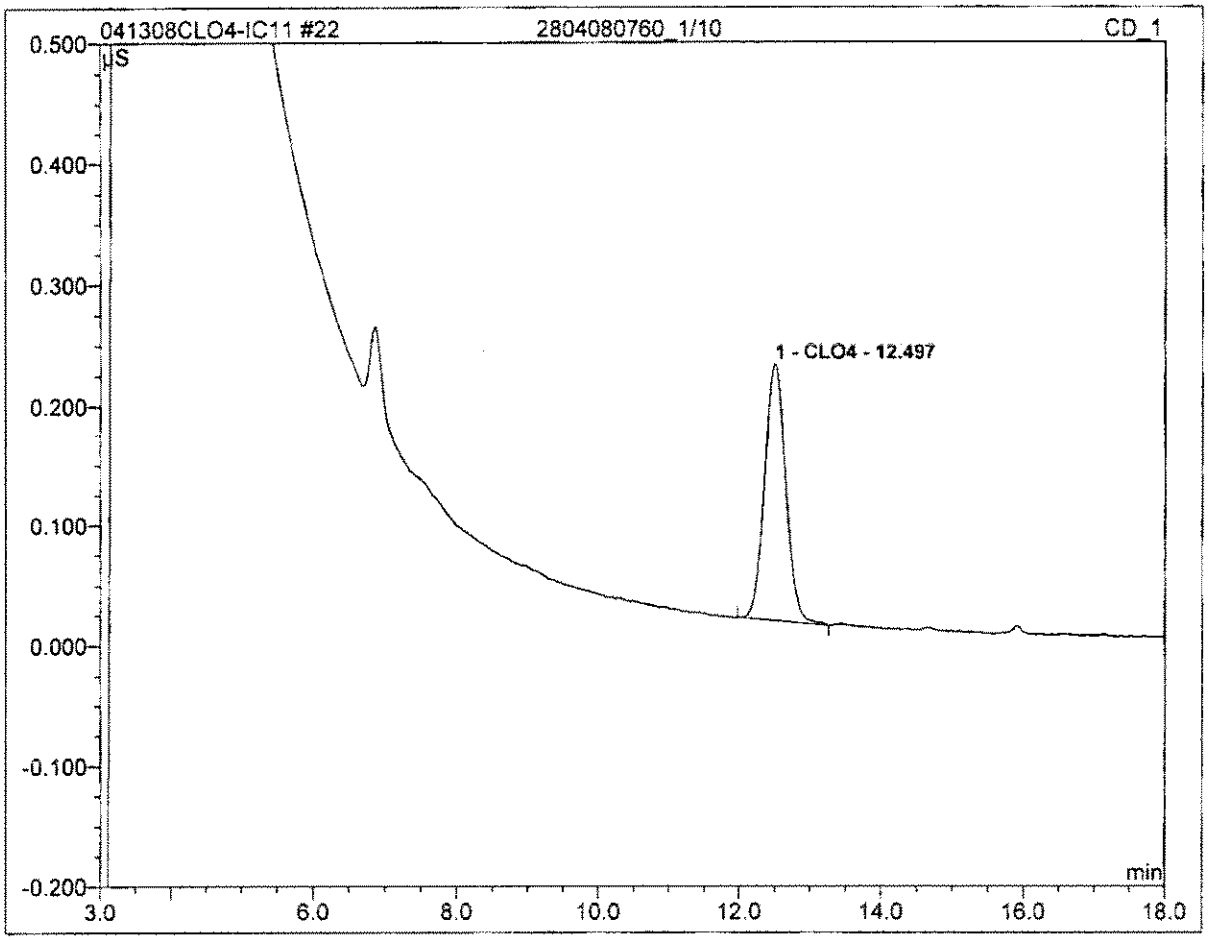


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	12.51	CLO4	0.047	0.016	100.00	193.061	BMB
Total:			0.047	0.016	100.00	193.061	

22 2804080760_1/10

RR

Sample Name:	**2804080760_1/10**	*Channel:*	**CD_1**
Sample Type:	**unknown**	*Control Program:*	**Perchlorate-IC11**
Recording Time:	**04/13/2008 19:21**	*Quantif. Method:*	**IC#4-CLO4-LOW**
Analyst:	**clv**	*Dilution Factor:*	**10.0000**

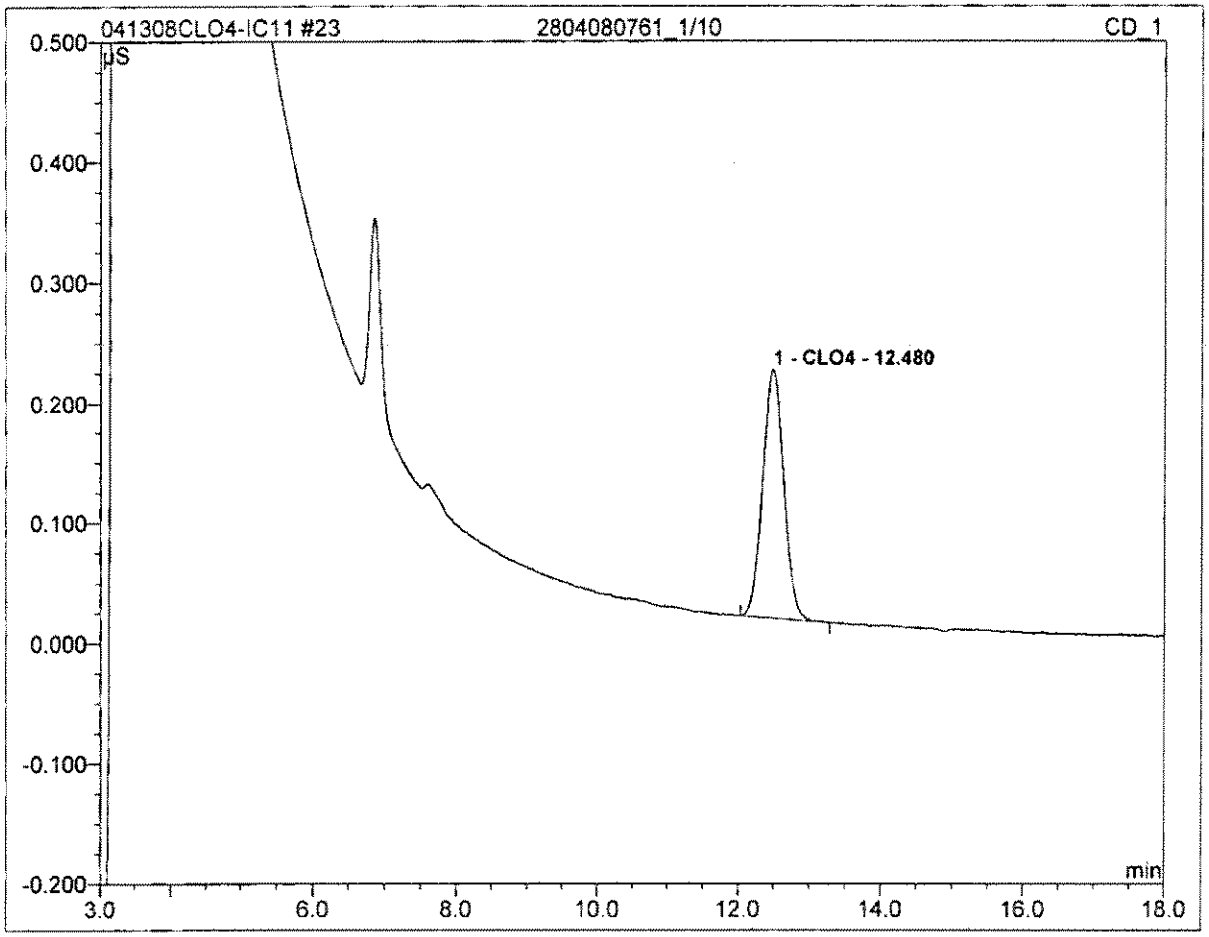


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	12.50	CLO4	0.215	0.075	100.00	862.139	BMB
Total:			0.215	0.075	100.00	862.139	

23 2804080761_1/10

RR

Sample Name:	**2804080761_1/10**	*Channel:*	**CD_1**
Sample Type:	**unknown**	*Control Program:*	**Perchlorate-IC11**
Recording Time:	**04/13/2008 19:43**	*Quantif. Method:*	**IC#4-CLO4-LOW**
Analyst:	**clv**	*Dilution Factor:*	**10.0000**

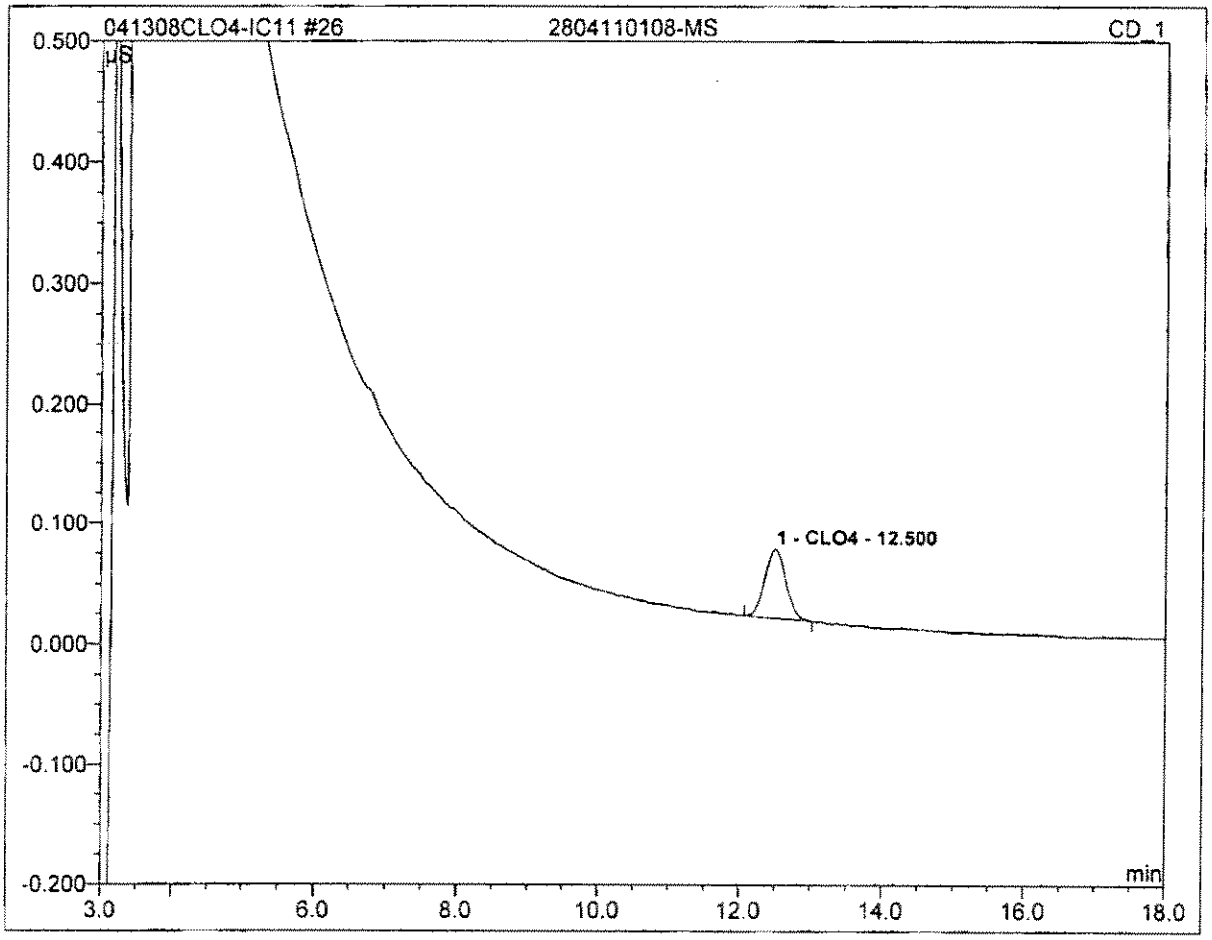


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	12.48	CLO4	0.208	0.072	100.00	828.948	BMB
Total:			0.208	0.072	100.00	828.948	

26 2804110108-MS

25

Sample Name:	**2804110108-MS**	*Channel:*	**CD_1**
Sample Type:	**unknown**	*Control Program:*	**Perchlorate-IC11**
Recording Time:	**04/13/2008 20:51**	*Quantif. Method:*	**IC#4-CLO4-LOW**
Analyst:	**clv**	*Dilution Factor:*	**1.0000**

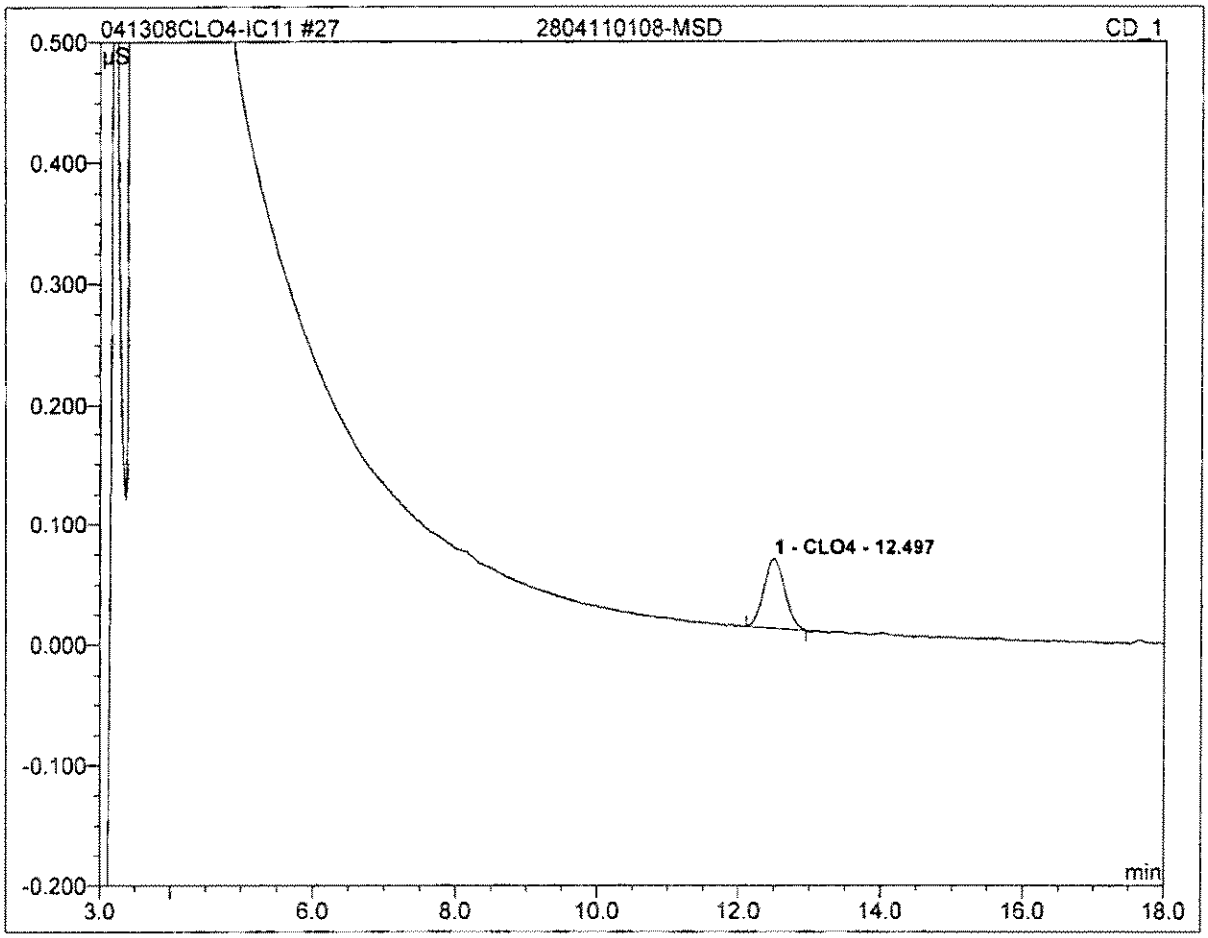


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	12.50	CLO4	0.056	0.019	100.00	22.832	BMB
Total:			0.056	0.019	100.00	22.832	

27 2804110108-MSD

25

Sample Name:	**2804110108-MSD**	*Channel:*	**CD_1**
Sample Type:	**unknown**	*Control Program:*	**Perchlorate-IC11**
Recording Time:	**04/13/2008 21:13**	*Quantif. Method:*	**IC#4-CLO4-LOW**
Analyst:	**clv**	*Dilution Factor:*	**1.0000**

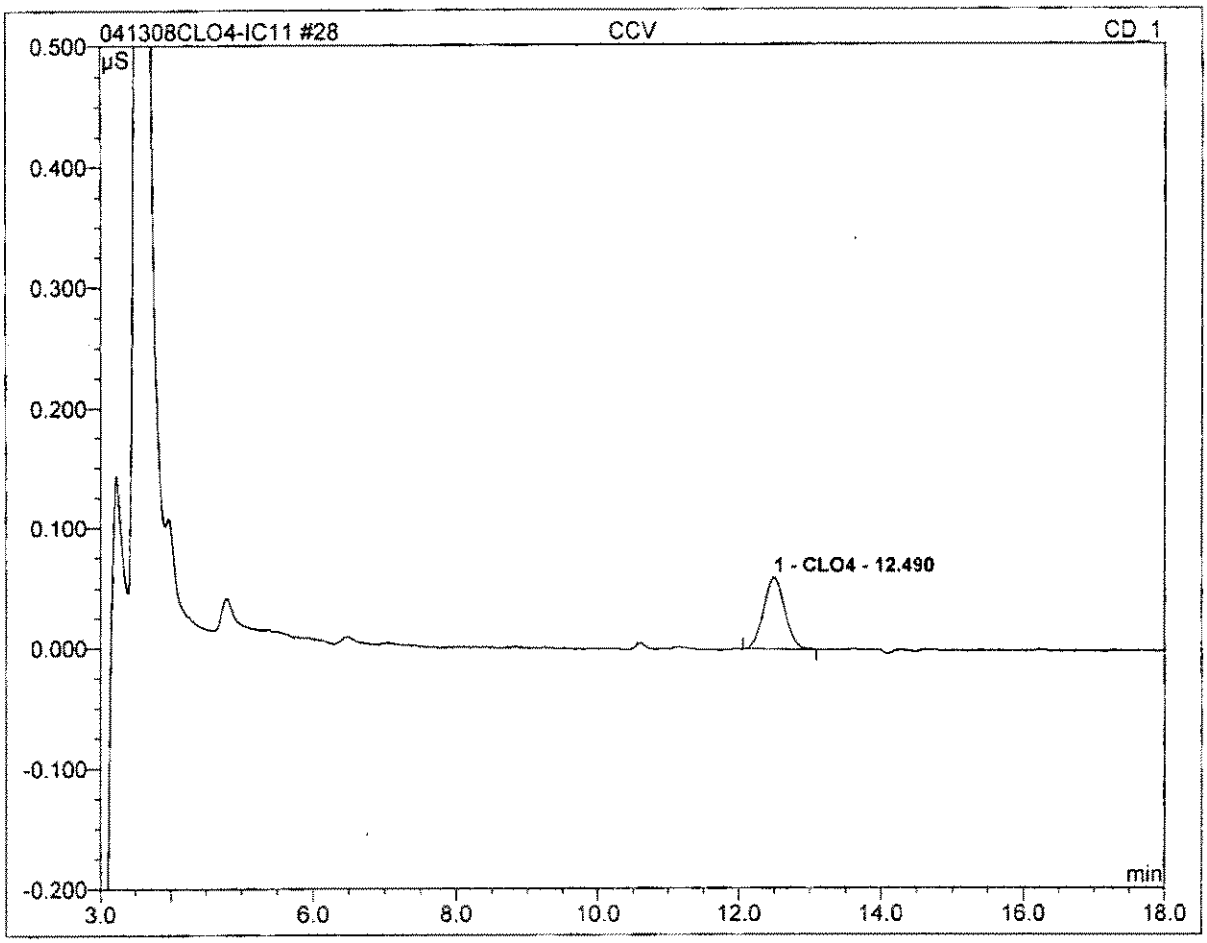


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	12.50	CLO4	0.058	0.020	100.00	23.389	BMB
Total:			0.058	0.020	100.00	23.389	

28 CCV

25

Sample Name:	**CCV**	*Channel:*	**CD_1**
Sample Type:	**unknown**	*Control Program:*	**Perchlorate-IC11**
Recording Time:	**04/13/2008 21:35**	*Quantif. Method:*	**IC#4-CLO4-LOW**
Analyst:	**clv**	*Dilution Factor:*	**1.0000**

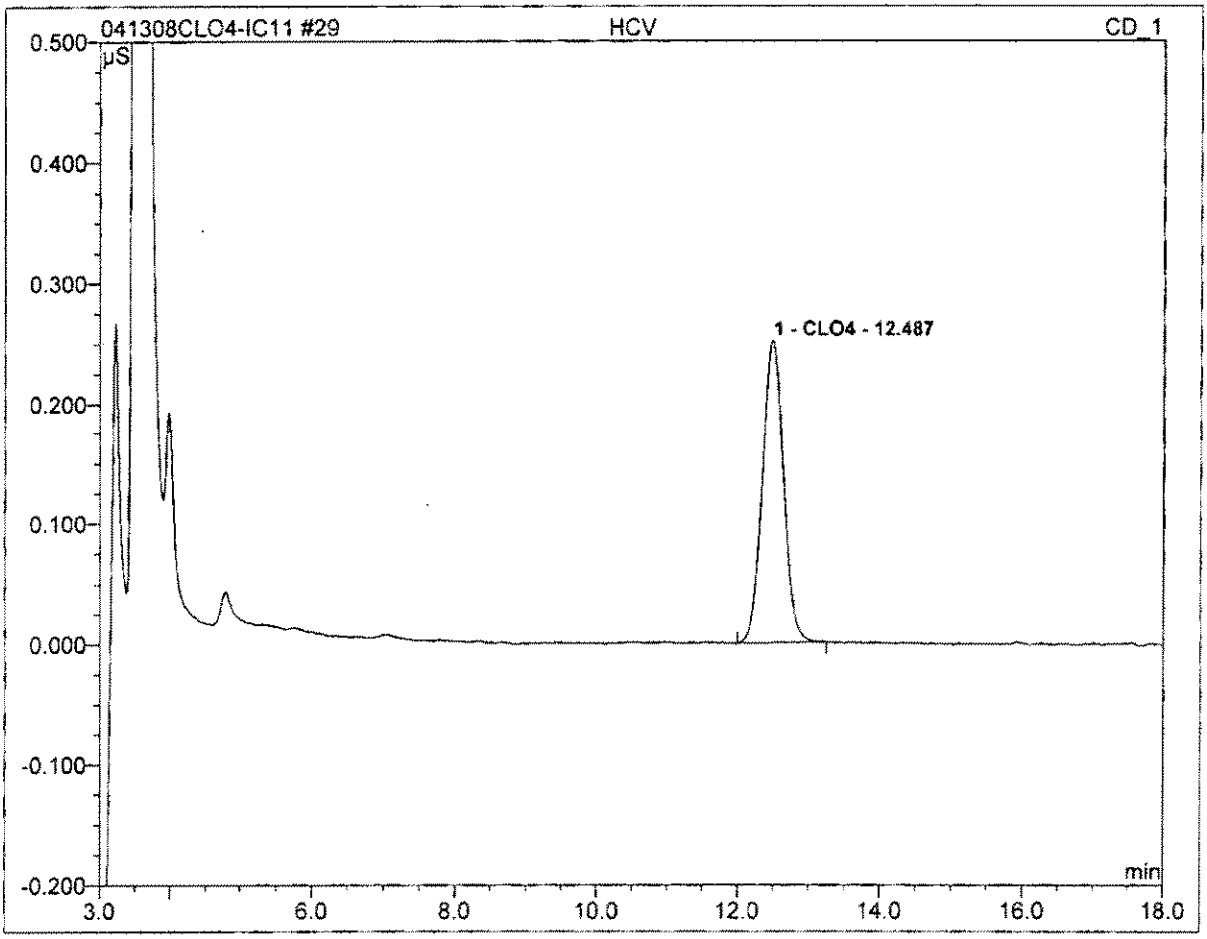


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	12.49	CLO4	0.060	0.021	100.00	24.366	BMB
Total:			0.060	0.021	100.00	24.366	

29 HCV

100

Sample Name:	**HCV**	*Channel:*	**CD_1**
Sample Type:	**unknown**	*Control Program:*	**Perchlorate-IC11**
Recording Time:	**04/13/2008 21:58**	*Quantif. Method:*	**IC#4-CLO4-LOW**
Analyst:	**clv**	*Dilution Factor:*	**1.0000**

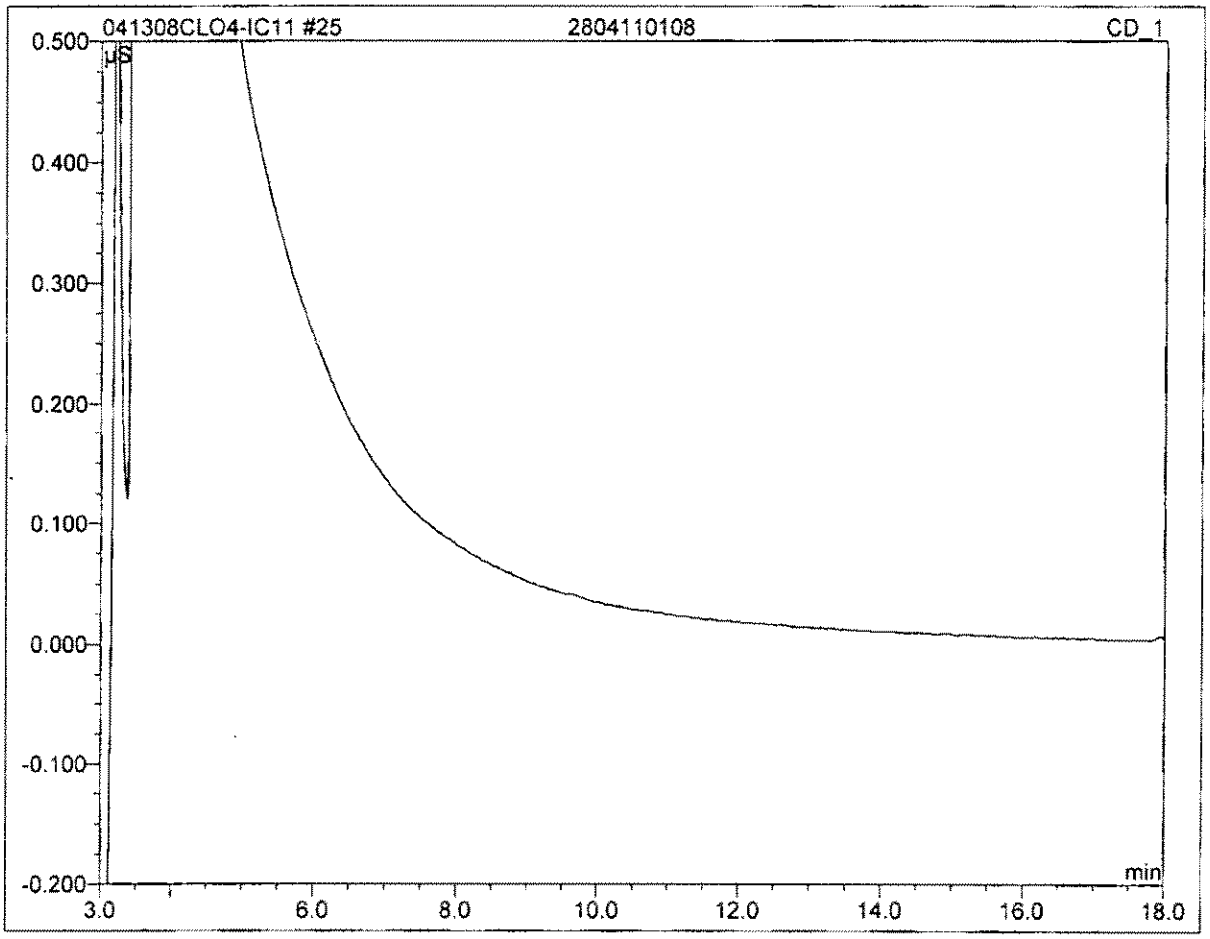


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	12.49	CLO4	0.252	0.087	100.00	100.769	BMB
Total:			0.252	0.087	100.00	100.769	

25 2804110108

RR

Sample Name:	**2804110108**	*Channel:*	**CD_1**
Sample Type:	**unknown**	*Control Program:*	**Perchlorate-IC11**
Recording Time:	**04/13/2008 20:28**	*Quantif. Method:*	**IC#4-CLO4-LOW**
Analyst:	**clv**	*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	

Standard Preparation Worksheet & Certificate of Analysis

Reagent Preparation Documentation

Page:

ICS 3000

Reagent: IPC 5 PPB w/ 150 PPM SALT
MW #: MME880227-2
Date Received/Prepped: 2-27-08/03-07-08/04-07-08/ / /
By: MME
Date Expired: 2-27-08/06-07-08/07-07-08/ / /
Matrix: AQ
Manufacturer:
Amount: 100 ML
Storage Condition:
Lot #:

Component	Comment	Standard	Concentration
	0.5 ML 1000 PPB ClO4		
	CO3		
	1.5 ML [10000 PPM Cl	SOLN]	
	EACH SO4		
	TO VOL 100 ML w/ DI H2O		

Comment: EC 1434

Reagent: 10 PPM ClO4 - LCS
MW #: MCE080312-1
Date Received/Prepped: 3-12-08/6-11-08/ / / /
By: MCE
Date Expired: 6-12-08/9-11-08/ / / /
Matrix: AQ
Manufacturer:
Amount: 100 ML
Storage Condition: R.T.
Lot #:

Component	Comment	Standard	Concentration
	1 ML 1000 PPM ClO4	R201789 (EXP 7/09)	
	TO VOL 100 ML w/ DI H2O		

Comment:

Reagent: 10 PPM ClO4 - CAL
MW #: MCE080312-2
Date Received/Prepped: 3-12-08/6-11-08/ / / /
By: MCE
Date Expired: 6-12-08/9-11-08/ / / /
Matrix: AQ
Manufacturer:
Amount: 100 ML
Storage Condition: R.T.
Lot #:

Component	Comment	Standard	Concentration
	1 ML 1000 PPM ClO4	R201449 (EXP. 7/09)	
	TO VOL 100 ML w/ DI H2O		

Comment:

Reagent Preparation Documentation

Page:_____

Reagent: 1000 PPB ClO4 - LCS
Date Received/Prepped: 03-12-08/ 06-11-08/ / / /
Date Expired: 06-12-08/ 09-11-08/ / / /
Manufacturer:
Storage Condition: R.T.

MW #: MWE080312-3
By: MWE
Matrix: AQ
Amount: 100 ML
Lot #:

Component	Comment	Standard	Concentration
	10 ML 10 PPM ClO4 - LCS	MWE080313-1	
	TO VOL W/ DI H2O		

Comment:

Reagent: 1000 PPB ClO4 - CAL
Date Received/Prepped: 03-12-08/ 06-11-08/ / / /
Date Expired: 06-12-08/ 09-11-08/ / / /
Manufacturer:
Storage Condition: R.T.

MW #: MWE080312-4
By: MWE
Matrix: AQ
Amount: 100 ML
Lot #:

Component	Comment	Standard	Concentration
	10 ML 10 PPM ClO4 - CAL	MWE080313-2	
	TO VOL. W/ DI H2O		

Comment:

Reagent: 10,000 PPM SO4 SOLN
Date Received/Prepped: 03-12-08/ 06-[illegible] / / / /
Date Expired: 06-12-08/ 07-11-08 / / / /
Manufacturer:
Storage Condition: R.T.

MW #: MWE080312-5
By: MWE
Matrix: AQ
Amount: 100 ML
Lot #:

Component	Comment	Standard	Concentration
	1.48 g SODIUM SULFATE (R201792	EXP 3/13)	
	TO 100 ML W/ DI H2O		

Comment:

Reagent Preparation Documentation

Page:_____

Reagent: 10,000 PPM CL SOLN. **MW #:** MUE080312-6
Date Received/Prepped: 03-12-08/ 06 11 08/ / / / **By:** MUE
Date Expired: 06-12-08/ 09 11 08/ / / / **Matrix:** AQ
Manufacturer: **Amount:** 100 ML
Storage Condition: R.T. **Lot #:**

Component	Comment	Standard	Concentration
	1.65g NaCl to 100 ml w/ DI H_2O	120793	exp 3/13

Comment:

Reagent: 10,000 PPM CO_3 SOLN **MW #:** MUE080312-7
Date Received/Prepped: 03-12-08/ 06 11 08/ / / / **By:** MUE
Date Expired: 06-12-08/ 09 11 08/ / / / **Matrix:** AQ
Manufacturer: **Amount:** 100 ML
Storage Condition: R.T. **Lot #:**

Component	Comment	Standard	Concentration
	1.77g Na_2CO_3 to 100 ml w/ DI H_2O	R201472	exp. 10/11

Comment:

Reagent: QCS-20 PPB CLO4 [LCS] **MW #:** MUE080312-8
Date Received/Prepped: 03-12-08/ 16 48/ / / / **By:** MUE
Date Expired: 06-12-08/ 04 48/ / / / **Matrix:** AQ
Manufacturer: **Amount:** 100 ML
Storage Condition: R.T. **Lot #:**

Component	Comment	Standard	Concentration
	2.0 ML 1000 PPB CLO4-LCS	MUE080312-3	
	to 100 ml w/ DI H_2O		

Comment:

Reagent: IPC - 25 PPB CLO4 - CAL W/ SALT **MW #:** MWE080312-9
Date Received/Prepped: 03-12-08 / / / / **By:** MWE
Date Expired: 06-12-08 / / / / **Matrix:** AQ
Manufacturer: EC 3030 / / / / **Amount:** 100ML
Storage Condition: R.T. **Lot #:**

Component	Comment	Standard	Concentration
	2.5 ML 1000 PPB CLO4 - CAL (MWE080312-4)		+
3.5 ML [CO3	] TO 100 ML W/ DI H_2O		
EACH [CL 10,000 PPM	]		
[SO4			
↓			

Comment:
MWE080312-7 ; MWE080312-6 ; MWE080312-5
CO3 CL SO4 salt solns.

Reagent: 25 PPB - LCS CLO4 **MW #:** MWE080312-10
Date Received/Prepped: 3-12-08 / 6-11-08 / / / / **By:** MWE
Date Expired: 6-12-08 / 9-11-08 / / / / **Matrix:** AQ
Manufacturer: **Amount:** 100ML
Storage Condition: R.T. **Lot #:**

Component	Comment	Standard	Concentration
	2.5 ML 1000 PPB CLO4 - LCS to	MWE080312-	3
	100 ml W/ DI H_2O		

Comment:

Reagent: 25 PPB - LCSD CLO4 **MW #:** MWE080312-11
Date Received/Prepped: 3-12-08 / 6-11-08 / / / / **By:** MWE
Date Expired: 6-12-08 / 9-11-08 / / / / **Matrix:** AQ
Manufacturer: **Amount:** 100ML
Storage Condition: R.T. **Lot #:**

Component	Comment	Standard	Concentration
	2.5 ML 1000 PPB CLO4 - LCS to	MWE080312-3	
	100 ml W/ DI H_2O		

Comment:

Reagent Preparation Documentation

Page:

Reagent:	MRL - 2ppb ClO4 - cal	**MW #:**	MIE080312-12
Date Received/Prepped:	03-12-08 / 6/11/08 / / / /	**By:**	MIE
Date Expired:	06-12-08 / 9/11/08 / / / /	**Matrix:**	AQ
Manufacturer:		**Amount:**	100ML
Storage Condition:	R.T.	**Lot #:**	

Component	Comment	Standard	Concentration
	200 µl 1,000 ppb ClO4 - cal	MIE080312-4	
	to 100 ml w/ DI H_2O		

Comment:

Reagent:	MRL - 4 ppb ClO4 - cal	**MW #:**	MIE080312-13
Date Received/Prepped:	03-12-08 / 6/11/08 / / / /	**By:**	MIE
Date Expired:	06-12-08 / 9/11/08 / / / /	**Matrix:**	AQ
Manufacturer:		**Amount:**	100ML
Storage Condition:	R.T.	**Lot #:**	

Component	Comment	Standard	Concentration
	400 µl 1,000 ppb ClO4 - cal	MIE080312-4	
	to 100 ml w/ DI H_2O		

Comment:

Reagent:	10 ppb ClO4 - cal	**MW #:**	MIE080312-14
Date Received/Prepped:	03-12-08 / 6/11/08 / / / /	**By:**	MIE
Date Expired:	06-12-08 / 9/11/08 / / / /	**Matrix:**	AQ
Manufacturer:		**Amount:**	100ml
Storage Condition:	R.T.	**Lot #:**	

Component	Comment	Standard	Concentration
	1.0 ml 1000 ppb ClO4 - cal	MIE080312-4	
	to 100 ml w/ DI H_2O		

Comment:

Reagent Preparation Documentation

Page: _____

Reagent: 25 ppb CL04 - CCV
Date Received/Prepped: 03-12-08/ 6-11 08/ / / /
Date Expired: 06-12-08/ 9-11 08/ / / /
Manufacturer:
Storage Condition: R-T

MW #: MLE080312-15
By: MLE
Matrix: AQ
Amount: 100ML
Lot #:

Component	Comment	Standard	Concentration
	2.5 ML 1000 ppb CL04 - cal	MLE080312-4	
	to 100 mL w/ DIH_2O		

Comment:

Reagent: 50 ppb CL04
Date Received/Prepped: 03-12-08/ 6-11 08/ / / /
Date Expired: 06-12-08/ 9-11 08/ / / /
Manufacturer:
Storage Condition: R-T

MW #: MLE080312-16
By: MLE
Matrix: AQ
Amount: 100ML
Lot #:

Component	Comment	Standard	Concentration
	5.0 ML 1000 ppb CL04 - cal	MLE080312-4	
	to 100 mL w/ DIH_2O		

Comment:

Reagent: 100 ppb CL04 - MCV
Date Received/Prepped: 03-12-08/ 6-11 08/ / / /
Date Expired: 03-12-08/ 9-11 08/ / / /
Manufacturer:
Storage Condition: R-T

MW #: MLE080312-17
By: MLE
Matrix: AQ
Amount: 100ML
Lot #:

Component	Comment	Standard	Concentration
	10.0 ML 1,000 ppb CL04 - cal	MLE080312-4	
	to 100 mL w/ DIH_2O		mL

Comment:

Reagent Documentation

Reagent: Fluoride Std-1000ppm
Date Received: 7 Sep 06
Date Expired: 1 Oct 07
Manufacturer: Inorganic Ventures
Storage Condition: refrigerate 4±2°C

Reagent #: 201447
By: LMR
Matrix: aq
Amount: 125 ml
Lot #: Y-F01047

Component	Comment	Standard	Concentration
	IV# ICFI-1		

Comment:

Reagent: Phosphate as P 1000ppm std
Date Received: 11 Sep 06
Date Expired: 31 Aug 09
Manufacturer: Absolute Stds
Storage Condition: refrigerate 4±2°C

Reagent #: 201448
By: LMR
Matrix: aq
Amount: 500 ml
Lot #: 083106

Component	Comment	Standard	Concentration
	Abs Std # 54505		

Comment:

Reagent: Perchlorate 1000 ppm std
Date Received: 11 Sept 06
Date Expired: 28 Jul 09
Manufacturer: Absolute Stds
Storage Condition: refrigerate 4±2°C

Reagent #: 201449
By: LMR
Matrix: aq
Amount: 100 ml
Lot #: 072806

Component	Comment	Standard	Concentration
	Abs Std # 57001		

Comment:

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ISO 9001:2000 Quality System Registered
ISO/IEC Guide 17025 ANSI Z540 Compliant
DLS ANSI/RAB Accredited

CERTIFIED WEIGHT REPORT:

Part Number: 57001
Lot Number: 072806
Description: Perchlorate
Expiration Date: 072809
Nominal Concentration (µg/mL): 1000

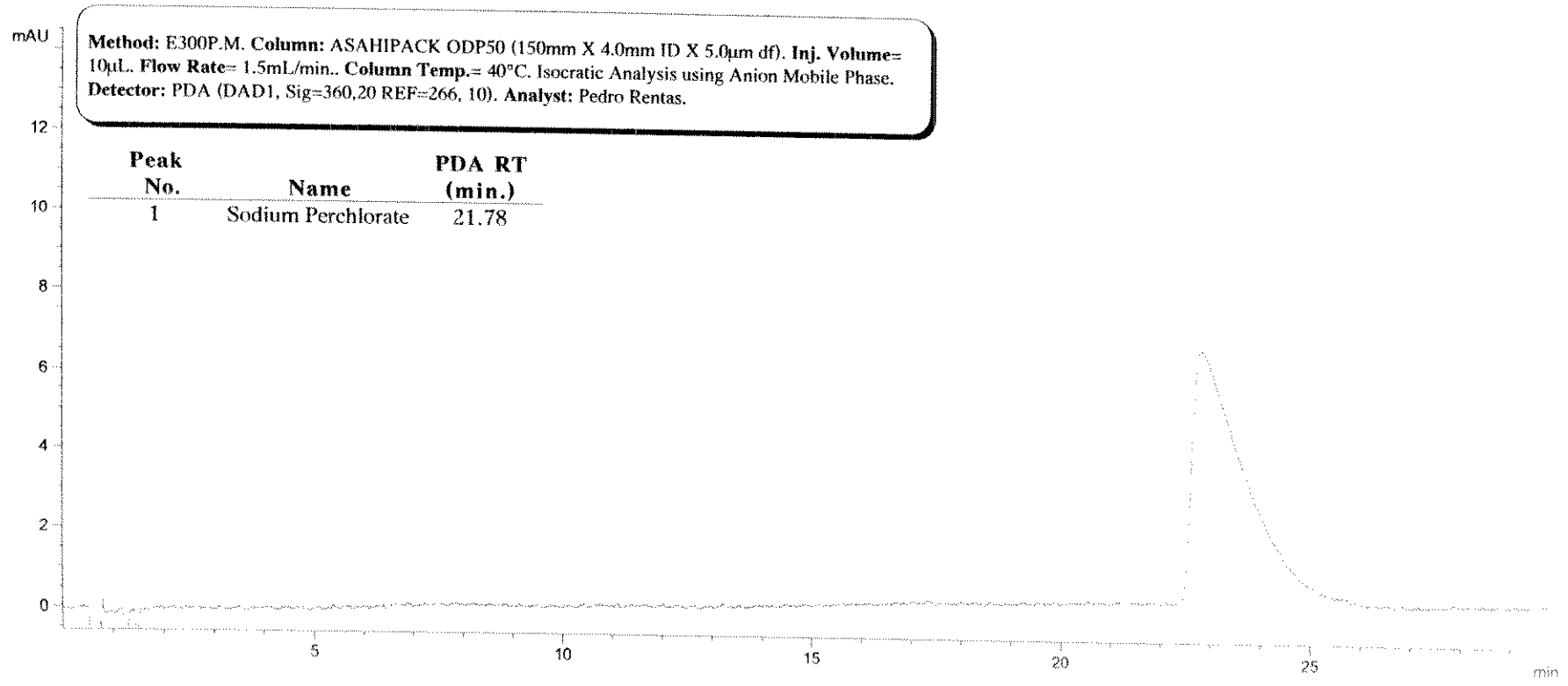
Lot #
Solvent(s): 072806 ASTM Type 1 Water

R201449

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

Formulated By: Lawrence Barry 072806
Reviewed By: Pedro L. Rentas 072806

Compound	PM#	Lot Number	Nominal Conc (µg/mL)	Purity	Uncertainty Purity	Assay (%)	Target Weight(g)	Actual Weight(g)	*Actual Conc (µg/mL)	Expanded Uncertainty (+/-)	MSDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Sodium Perchlorate (ClO4)	IN119	AR06730TQ	1000.0	99.0	0.10	81.2	1.2319	1.23216	1000.2	0.00203	07601-89-0	N/A	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

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CPI INTERNATIONAL

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CERTIFICATE OF ANALYSIS

P/N 4400-010177

Ion Chromatography Perchlorate Standard
ClO_4 in H_2O
1000 µg/mL ± 0.5%

Lot # 06L058

Material Source: Sodium Perchlorate ($NaClO_4$)
Source Purity: 98.6%

This standard solution was prepared using a high-purity starting material and 18-megaohm deionized water. The starting material was weighed to five significant figures and diluted in a Class A volumetric glassware calibrated in accordance with National Bureau of Standards Circular 602. All balances are routinely calibrated using Class F NIST traceable weights.

This solution was certified instrumentally against the National Institute of Standards and Technology's SRM 3100 series.

Accuracy and stability are guaranteed to within plus or minus 0.5% of the certified value for 18 months after the date of shipment. The solution should be kept tightly capped and stored under normal laboratory conditions. See attached MSDS for proper handling information.

For questions or comments please call 1-800-878-7654 in the USA or +31 20 638 05 97 in Europe.