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Level IV Data Package

MWH Group 240233

Method: EPA 314

2805090138
2805090133
2805090136
2805090137
2805090124
2805090121
2805090122
2805090123
2805090115
2805090112
2805090135
2805090134
2805090120
2805090119
2805090118
2805090117
2805090116
2805090132

Perchlorate QC Checklist

rev: 27 Mar 03

Analysis Date: 5/12/08 **Analyst:** CW

QC'd by IM Date 28 May 08

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

Original IPC conductance: 3110 umhos/cm **Daily IPC conductance:** 3110 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 = 1.2% ✓

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

✓ IPC retention time is within 5% of the retention time of the standards PDA = 4.6% ✓

✓ 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		05.13.08 16:23	n.a.	
2	autocal2	1.0	2	05.13.08 16:45	n.a.	
3	autocal3	1.0	4	05.13.08 17:08	3.6433	
4	autocal4	1.0	10	05.13.08 17:30	10.1439	
5	autocal5	1.0	25	05.13.08 17:53	23.1222	
6	autocal6	1.0	50	05.13.08 18:15	50.5117	
7	autocal7	1.0	100	05.13.08 18:37	100.2135	
8	QCS	1.0	20	05.13.08 19:00	18.5763	92.9%
9	IPC	1.0	25	05.13.08 19:22	22.8436	91.4%
10	-MBLK	1.0		05.13.08 19:45	n.a.	
11	-MRLCHK-2	1.0	2	05.13.08 20:07	n.a.	
12	-MRLCHK-4	1.0	4	05.13.08 20:29	3.4719	86.8%
13	-LCS1	1.0	25	05.13.08 20:52	26.9860	108%
14	-LCS2	1.0	25	05.13.08 21:14	27.2628	109%
15	2805080193_1/2500	2500.0		05.13.08 21:37	79652.9007	
16	2805080992_1/50	50.0		05.13.08 21:59	1371.4346	
17	2805080993_1/20	20.0		05.13.08 22:21	401.4269	
18	2805080994_1/20	20.0		05.13.08 22:44	669.6104	
19	2805080995_1/100	100.0		05.13.08 23:06	2399.5608	
20	2805080996_1/20	20.0		05.13.08 23:29	559.5733	
21	2805080997_1/2	2.0		05.13.08 23:51	90.0594	
22	2805100104	1.0		05.14.08 00:13	n.a.	
23	2805100105	1.0		05.14.08 00:36	n.a.	
24	2805100106	1.0		05.14.08 00:58	n.a.	
25	2805100106-MS	1.0	25	05.14.08 01:21	25.1205	100%
26	2805100106-MSD	1.0	25	05.14.08 01:43	26.4027	106%
27	CCV	1.0	25	05.14.08 02:05	22.0707	88.3%
28	2805100107	1.0		05.14.08 02:28	n.a.	
29	2805100108	1.0		05.14.08 02:50	n.a.	
30	2805100109	1.0		05.14.08 03:13	n.a.	
31	2805100110	1.0		05.14.08 03:35	n.a.	
32	2805100111	1.0		05.14.08 03:57	n.a.	
33	2805100112	1.0		05.14.08 04:20	n.a.	
34	2805100113	1.0		05.14.08 04:42	n.a.	
35	2805100114	1.0		05.14.08 05:05	n.a.	
36	2805100115	1.0		05.14.08 05:27	n.a.	
37	2805100116	1.0		05.14.08 05:49	n.a.	
38	HCV	1.0	100	05.14.08 06:12	99.8194	99.8%
39	IPC	1.0	25	05.14.08 06:34	20.3879	81.6%
40	-MBLK	1.0		05.14.08 06:56	n.a.	
41	-MRLCHK-2	1.0	2	05.14.08 07:19	1.4586	
42	-MRLCHK-4	1.0	4	05.14.08 07:41	3.3910	84.8%
43	-LCS1 DNR	1.0	25 see reun @ 469	05.14.08 08:04	28.0012	112% DNR
44	-LCS2	1.0	25	05.14.08 08:26	25.9143	104%

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Version 6.70 SP3 Build 1884

45	2805100117	1.0		05.14.08 08:48	n.a.	
46	2805100118	1.0	25	05.14.08 09:11	n.a.	
47	2805100119	1.0		05.14.08 09:33	n.a.	
48	2805100120	1.0		05.14.08 09:56	n.a.	
49	2805100121	1.0		05.14.08 10:18	n.a.	
50	2805100122	1.0		05.14.08 10:40	n.a.	
51	2805100123	1.0		05.14.08 11:03	n.a.	
52	2805100124	1.0		05.14.08 11:25	n.a.	
53	2805100125	1.0		05.14.08 11:48	n.a.	
54	2805100126	1.0		05.14.08 12:10	n.a.	
55	2805100126-MS	1.0	25	05.14.08 12:32	27.2703	109%
56	2805100126-MSD	1.0	25	05.14.08 12:55	26.2074	105%
57	CCV	1.0	25	05.14.08 13:17	21.8928	87.6%
58	2805100127	1.0		05.14.08 13:40	n.a.	
59	2805090077	1.0		05.14.08 14:02	n.a.	
60	2805090078	1.0		05.14.08 14:24	n.a.	
61	2805090112_1/1000	1000.0		05.14.08 14:47	47529.0236	
62	2805090115_1/10000	10000.0		05.14.08 15:09	249245.9963	
63	2805090116_1/1000	1000.0		05.14.08 15:32	45768.5552	
64	2805090117_1/5000	5000.0		05.14.08 15:54	279035.7517	
65	2805090118_1/10000	10000.0		05.14.08 16:16	649126.4883	
66	2805090119_1/1000	1000.0		05.14.08 16:39	19658.6107	
67	2805090120_1/250 DNR	250.0		05.14.08 17:01	46701.4009	
68	HCV	1.0	100	05.14.08 17:24	98.3432	98.4%
69	-LCS1	1.0	25	05.14.08 17:46	26.6228	106%

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

CONDUCTIVITY MW SOP REVISION 5
SM2510B

Analysis Date: 5/13/08
Analyst: CK
Reviewed By:
LIMS Check By:

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

Time of Analysis Start: 1245 End:

MRL 2umhos/cm: Rx# exp of solution:
KCl Std 1412 Rx# 701819 exp of solution 9/08
TV = 1412 µmho/cm @ 25°C for 0.0100M
Reading: 1400
Instrument: YSI Model 3200 SN:01A0504, Year Aquired 2001 New

IPC = 3110

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	mS		0450	
STD	MRL 2umhos/cm									1-3—±50% of TV
STD	KCl - 1000 mhos/cm								975	950-1050—±5% of TV
1	2805090126		[redacted]					300		
2	0127		[redacted]					250		
3	2805090097		[redacted]					250		
4	0078		*					250		
5	0112	•	KM					7800		
6	0115	•						5400		
7	0116	•						8600		
8	0117	•						4700		
9	0118	•						6200		
10	0119	•						1500		
DUP	↓							1500		RPD < 5%
11	0120							2800		
12										
13										
14										
15										
16										
17										
18										
19										
20										
DUP	2805090120		KM					2800		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: 051308CLO4-IC11
Operator: clv
Printed: 5/16/2008 5:20:30 PM

Title:
Datasource: Dionex_USPAS2SDIO2
Location: IC\IC11_CLO4\2008\MAY
Timebase: IC11
#Samples: 69

Created: 5/12/2008 7:59:14 PM by clv
Last Update: 5/14/2008 6:09:58 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	2805080193_1/2500	KM M79	2500.0000	Unknown		Finished
16	2805080992_1/50	KM HMW9	50.0000	Unknown		Finished
17	2805080993_1/20	KM PC82	20.0000	Unknown		Finished
18	2805080994_1/20	KM PC96	20.0000	Unknown		Finished
19	2805080995_1/100	KM PC77	100.0000	Unknown		Finished
20	2805080996_1/20	KM PC74	20.0000	Unknown		Finished
21	2805080997_1/2	KM PC79	2.0000	Unknown		Finished
22	2805100104	[redacted]	1.0000	Unknown		Finished
23	2805100105	[redacted]	1.0000	Unknown		Finished
24	2805100106	[redacted]	1.0000	Unknown		Finished
25	2805100106-MS	25	1.0000	Unknown	25	Finished
26	2805100106-MSD	25	1.0000	Unknown	25	Finished
27	CCV	25	1.0000	Unknown	25	Finished
28	2805100107	[redacted]	1.0000	Unknown		Finished
29	2805100108	[redacted]	1.0000	Unknown		Finished
30	2805100109	[redacted]	1.0000	Unknown		Finished
31	2805100110	[redacted]	1.0000	Unknown		Finished
32	2805100111	[redacted]	1.0000	Unknown		Finished
33	2805100112	[redacted]	1.0000	Unknown		Finished
34	2805100113	[redacted]	1.0000	Unknown		Finished
35	2805100114	[redacted]	1.0000	Unknown		Finished
36	2805100115	[redacted]	1.0000	Unknown		Finished
37	2805100116	[redacted]	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

Chromeleon © Dionex Corporation, Version 6.80 SP1 Build 2238

Title:
Datasource: Dionex_USPAS2SDIO2
Location: IC\IC11_CLO4\2008\MAY
Timebase: IC11
#Samples: 69
Created: 5/12/2008 7:59:14 PM by clv
Last Update: 5/14/2008 6:09:58 PM by clv

No.	Name	Sample ID	Dil. Factor	Type	Comment	Status
43	-LCS1 DNR	25	1.0000	Unknown	25	Finished
44	-LCS2	25	1.0000	Unknown	25	Finished
45	2805100117	[redacted]	1.0000	Unknown		Finished
46	2805100118	[redacted]	1.0000	Unknown	25	Finished
47	2805100119	[redacted]	1.0000	Unknown		Finished
48	2805100120	[redacted]	1.0000	Unknown		Finished
49	2805100121	[redacted]	1.0000	Unknown		Finished
50	2805100122	[redacted]	1.0000	Unknown		Finished
51	2805100123	[redacted]	1.0000	Unknown		Finished
52	2805100124	[redacted]	1.0000	Unknown		Finished
53	2805100125	[redacted]	1.0000	Unknown		Finished
54	2805100126	[redacted]	1.0000	Unknown		Finished
55	2805100126-MS	25	1.0000	Unknown	25	Finished
56	2805100126-MSD	25	1.0000	Unknown	25	Finished
57	CCV	25	1.0000	Unknown	25	Finished
58	2805100127	[redacted]	1.0000	Unknown		Finished
59	2805090077	[redacted]	1.0000	Unknown		Finished
60	2805090078	[redacted]	1.0000	Unknown		Finished
61	2805090112_1/1000	KM M74	1000.0000	Unknown		Finished
62	2805090115_1/10000	KM M73	10000.0000	Unknown		Finished
63	2805090116_1/1000	KM M88	1000.0000	Unknown		Finished
64	2805090117_1/5000	KM M87	5000.0000	Unknown		Finished
65	2805090118_1/10000	KM M86	10000.0000	Unknown		Finished
66	2805090119_1/1000	KM M85	1000.0000	Unknown		Finished
67	2805090120_1/250 DNR	KM M83	250.0000	Unknown		Finished
68	HCV	100	1.0000	Unknown	100	Finished
69	-LCS1	25	1.0000	Unknown	25	Finished

Title:
Datasource: Dionex_USPAS2SDIO2
Location: IC\IC11_CLO4\2008\MAY
Timebase: IC11
#Samples: 69
Created: 5/12/2008 7:59:14 PM by clv
Last Update: 5/14/2008 6:09:58 PM by clv

No.	Name	Program	Method	Inj. Date/Time	*Analyst
1	autocal1	Perchlorate-IC11	IC#4-CLO4-LOW	5/13/2008 4:23:30 PM	clv
2	autocal2	Perchlorate-IC11	IC#4-CLO4-LOW	5/13/2008 4:45:54 PM	clv
3	autocal3	Perchlorate-IC11	IC#4-CLO4-LOW	5/13/2008 5:08:18 PM	clv
4	autocal4	Perchlorate-IC11	IC#4-CLO4-LOW	5/13/2008 5:30:42 PM	clv
5	autocal5	Perchlorate-IC11	IC#4-CLO4-LOW	5/13/2008 5:53:06 PM	clv
6	autocal6	Perchlorate-IC11	IC#4-CLO4-LOW	5/13/2008 6:15:30 PM	clv
7	autocal7	Perchlorate-IC11	IC#4-CLO4-LOW	5/13/2008 6:37:54 PM	clv
8	QCS	Perchlorate-IC11	IC#4-CLO4-LOW	5/13/2008 7:00:17 PM	clv
9	IPC	Perchlorate-IC11	IC#4-CLO4-LOW	5/13/2008 7:22:41 PM	clv
10	-MBLK	Perchlorate-IC11	IC#4-CLO4-LOW	5/13/2008 7:45:05 PM	clv
11	-MRLCHK-2	Perchlorate-IC11	IC#4-CLO4-LOW	5/13/2008 8:07:29 PM	clv
12	-MRLCHK-4	Perchlorate-IC11	IC#4-CLO4-LOW	5/13/2008 8:29:52 PM	clv
13	-LCS1	Perchlorate-IC11	IC#4-CLO4-LOW	5/13/2008 8:52:16 PM	clv
14	-LCS2	Perchlorate-IC11	IC#4-CLO4-LOW	5/13/2008 9:14:40 PM	clv
15	2805080193_1/2500	Perchlorate-IC11	IC#4-CLO4-LOW	5/13/2008 9:37:04 PM	clv
16	2805080992_1/50	Perchlorate-IC11	IC#4-CLO4-LOW	5/13/2008 9:59:28 PM	clv
17	2805080993_1/20	Perchlorate-IC11	IC#4-CLO4-LOW	5/13/2008 10:21:51 PM	clv
18	2805080994_1/20	Perchlorate-IC11	IC#4-CLO4-LOW	5/13/2008 10:44:15 PM	clv
19	2805080995_1/100	Perchlorate-IC11	IC#4-CLO4-LOW	5/13/2008 11:06:39 PM	clv
20	2805080996_1/20	Perchlorate-IC11	IC#4-CLO4-LOW	5/13/2008 11:29:03 PM	clv
21	2805080997_1/2	Perchlorate-IC11	IC#4-CLO4-LOW	5/13/2008 11:51:26 PM	clv
22	2805100104	Perchlorate-IC11	IC#4-CLO4-LOW	5/14/2008 12:13:50 AM	clv
23	2805100105	Perchlorate-IC11	IC#4-CLO4-LOW	5/14/2008 12:36:14 AM	clv
24	2805100106	Perchlorate-IC11	IC#4-CLO4-LOW	5/14/2008 12:58:38 AM	clv
25	2805100106-MS	Perchlorate-IC11	IC#4-CLO4-LOW	5/14/2008 1:21:02 AM	clv
26	2805100106-MSD	Perchlorate-IC11	IC#4-CLO4-LOW	5/14/2008 1:43:26 AM	clv
27	CCV	Perchlorate-IC11	IC#4-CLO4-LOW	5/14/2008 2:05:49 AM	clv
28	2805100107	Perchlorate-IC11	IC#4-CLO4-LOW	5/14/2008 2:28:13 AM	clv
29	2805100108	Perchlorate-IC11	IC#4-CLO4-LOW	5/14/2008 2:50:37 AM	clv
30	2805100109	Perchlorate-IC11	IC#4-CLO4-LOW	5/14/2008 3:13:01 AM	clv
31	2805100110	Perchlorate-IC11	IC#4-CLO4-LOW	5/14/2008 3:35:24 AM	clv
32	2805100111	Perchlorate-IC11	IC#4-CLO4-LOW	5/14/2008 3:57:48 AM	clv
33	2805100112	Perchlorate-IC11	IC#4-CLO4-LOW	5/14/2008 4:20:12 AM	clv
34	2805100113	Perchlorate-IC11	IC#4-CLO4-LOW	5/14/2008 4:42:36 AM	clv
35	2805100114	Perchlorate-IC11	IC#4-CLO4-LOW	5/14/2008 5:05:00 AM	clv
36	2805100115	Perchlorate-IC11	IC#4-CLO4-LOW	5/14/2008 5:27:23 AM	clv
37	2805100116	Perchlorate-IC11	IC#4-CLO4-LOW	5/14/2008 5:49:47 AM	clv
38	HCV	Perchlorate-IC11	IC#4-CLO4-LOW	5/14/2008 6:12:11 AM	clv
39	IPC	Perchlorate-IC11	IC#4-CLO4-LOW	5/14/2008 6:34:35 AM	clv
40	-MBLK	Perchlorate-IC11	IC#4-CLO4-LOW	5/14/2008 6:56:59 AM	clv
41	-MRLCHK-2	Perchlorate-IC11	IC#4-CLO4-LOW	5/14/2008 7:19:22 AM	clv
42	-MRLCHK-4	Perchlorate-IC11	IC#4-CLO4-LOW	5/14/2008 7:41:46 AM	clv

Sequence: 051308CLO4-IC11
Operator: clv

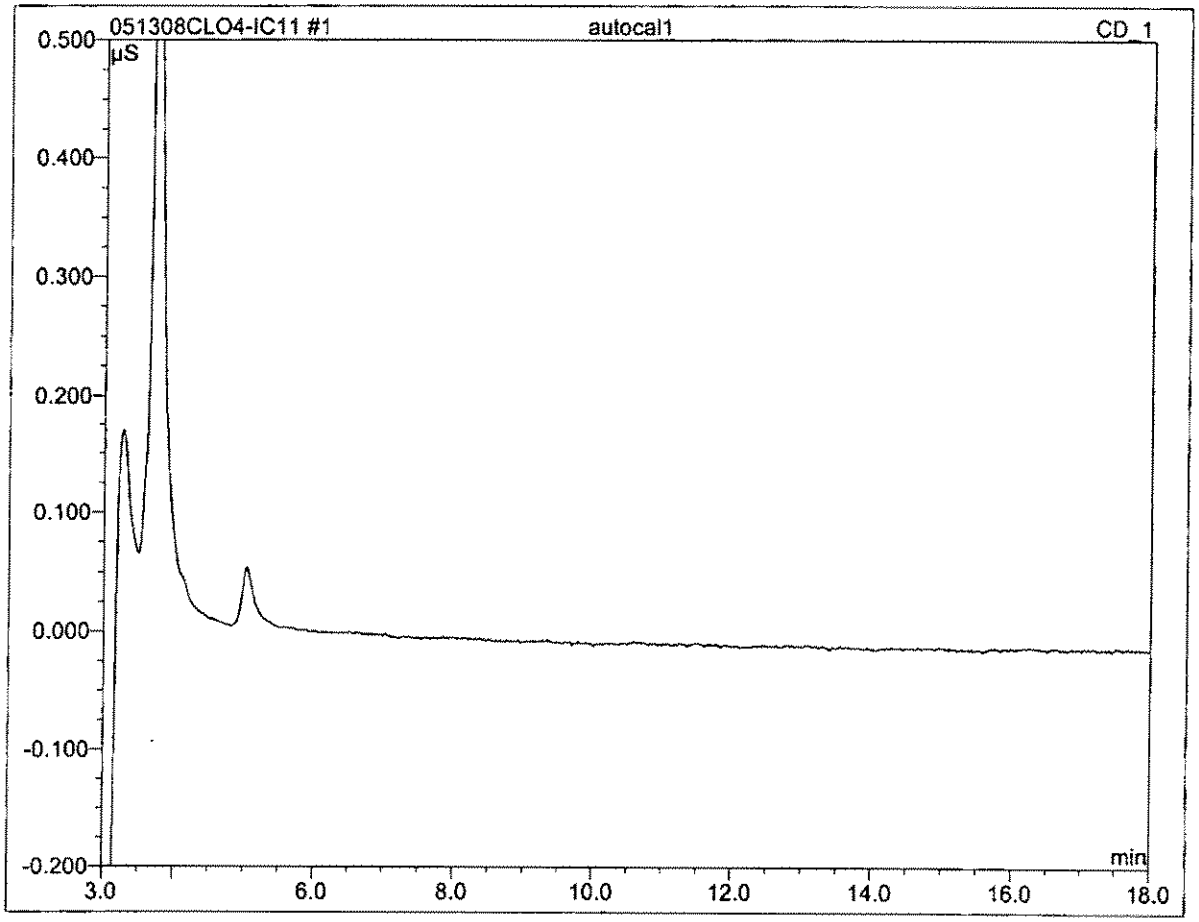
Title:
Datasource: Dionex_USPAS2SDIO2
Location: IC\IC11_CLO4\2008\MAY
Timebase: IC11
#Samples: 69

Created: 5/12/2008 7:59:14 PM by clv
Last Update: 5/14/2008 6:09:58 PM by clv

No.	Name	Program	Method	Inj. Date/Time	*Analyst
43	-LCS1 DNR	Perchlorate-IC11	IC#4-CLO4-LOW	5/14/2008 8:04:10 AM	clv
44	-LCS2	Perchlorate-IC11	IC#4-CLO4-LOW	5/14/2008 8:26:34 AM	clv
45	2805100117	Perchlorate-IC11	IC#4-CLO4-LOW	5/14/2008 8:48:57 AM	clv
46	2805100118	Perchlorate-IC11	IC#4-CLO4-LOW	5/14/2008 9:11:21 AM	clv
47	2805100119	Perchlorate-IC11	IC#4-CLO4-LOW	5/14/2008 9:33:45 AM	clv
48	2805100120	Perchlorate-IC11	IC#4-CLO4-LOW	5/14/2008 9:56:09 AM	clv
49	2805100121	Perchlorate-IC11	IC#4-CLO4-LOW	5/14/2008 10:18:33 AM	clv
50	2805100122	Perchlorate-IC11	IC#4-CLO4-LOW	5/14/2008 10:40:56 AM	clv
51	2805100123	Perchlorate-IC11	IC#4-CLO4-LOW	5/14/2008 11:03:20 AM	clv
52	2805100124	Perchlorate-IC11	IC#4-CLO4-LOW	5/14/2008 11:25:44 AM	clv
53	2805100125	Perchlorate-IC11	IC#4-CLO4-LOW	5/14/2008 11:48:08 AM	clv
54	2805100126	Perchlorate-IC11	IC#4-CLO4-LOW	5/14/2008 12:10:31 PM	clv
55	2805100126-MS	Perchlorate-IC11	IC#4-CLO4-LOW	5/14/2008 12:32:55 PM	clv
56	2805100126-MSD	Perchlorate-IC11	IC#4-CLO4-LOW	5/14/2008 12:55:19 PM	clv
57	CCV	Perchlorate-IC11	IC#4-CLO4-LOW	5/14/2008 1:17:43 PM	clv
58	2805100127	Perchlorate-IC11	IC#4-CLO4-LOW	5/14/2008 1:40:07 PM	clv
59	2805090077	Perchlorate-IC11	IC#4-CLO4-LOW	5/14/2008 2:02:30 PM	clv
60	2805090078	Perchlorate-IC11	IC#4-CLO4-LOW	5/14/2008 2:24:54 PM	clv
61	2805090112_1/1000	Perchlorate-IC11	IC#4-CLO4-LOW	5/14/2008 2:47:18 PM	clv
62	2805090115_1/10000	Perchlorate-IC11	IC#4-CLO4-LOW	5/14/2008 3:09:42 PM	clv
63	2805090116_1/1000	Perchlorate-IC11	IC#4-CLO4-LOW	5/14/2008 3:32:06 PM	clv
64	2805090117_1/5000	Perchlorate-IC11	IC#4-CLO4-LOW	5/14/2008 3:54:30 PM	clv
65	2805090118_1/10000	Perchlorate-IC11	IC#4-CLO4-LOW	5/14/2008 4:16:53 PM	clv
66	2805090119_1/1000	Perchlorate-IC11	IC#4-CLO4-LOW	5/14/2008 4:39:17 PM	clv
67	2805090120_1/250 DNR	Perchlorate-IC11	IC#4-CLO4-LOW	5/14/2008 5:01:41 PM	clv
68	HCV	Perchlorate-IC11	IC#4-CLO4-LOW	5/14/2008 5:24:05 PM	clv
69	-LCS1	Perchlorate-IC11	IC#4-CLO4-LOW	5/14/2008 5:46:30 PM	clv

1 autocal1

Sample Name:	**autocal1**	*Channel:*	**CD_1**
Sample Type:	**standard**	*Control Program:*	**Perchlorate-IC11**
Recording Time:	**05/13/2008 16:23**	*Quantif. Method:*	**IC#4-CLO4-LOW**
Analyst:	**clv**	*Dilution Factor:*	**1.0000**

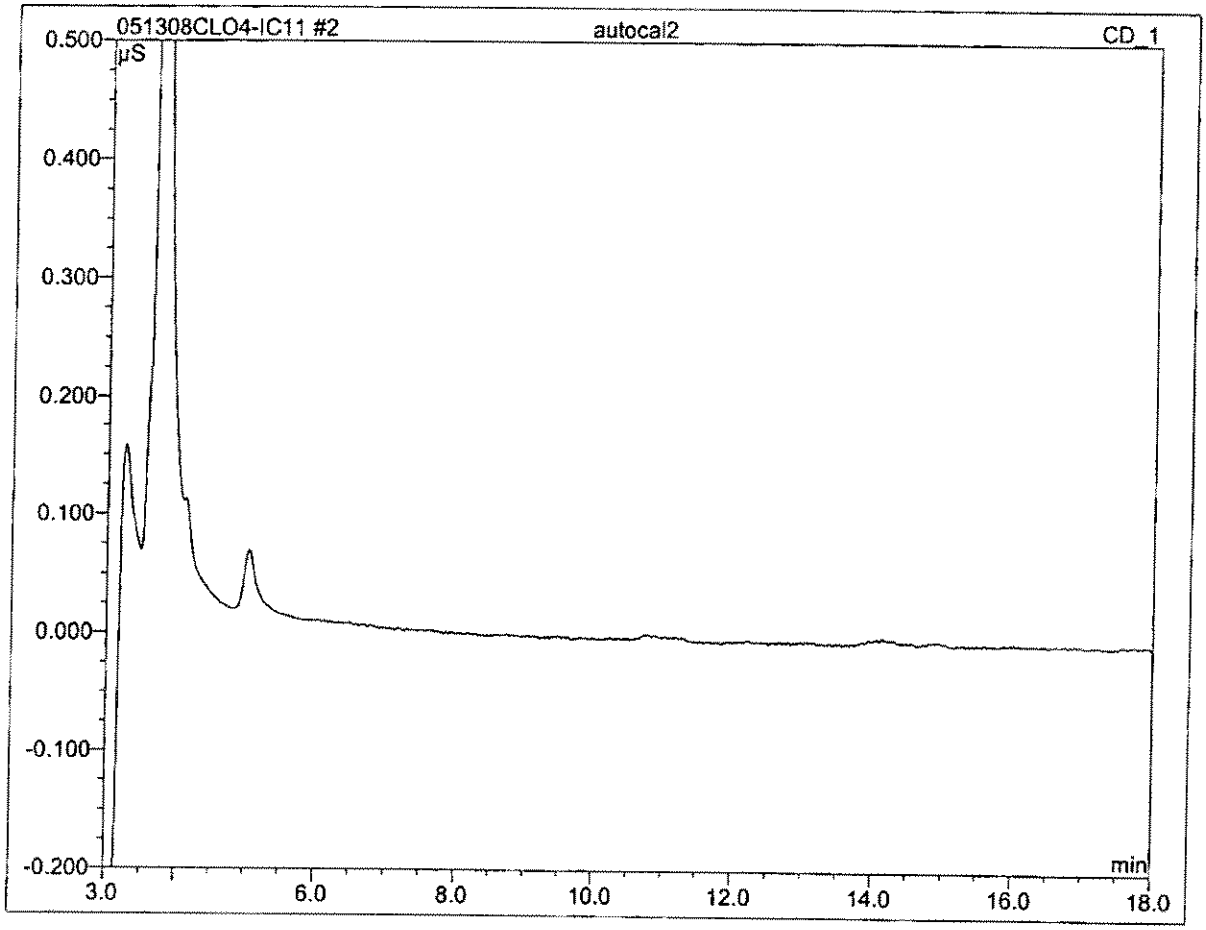


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
Total:			0.000	0.000	0.00	0.000	

2 autocal2

2

Sample Name:	**autocal2**	*Channel:*	**CD_1**
Sample Type:	**standard**	*Control Program:*	**Perchlorate-IC11**
Recording Time:	**05/13/2008 16:45**	*Quantif. Method:*	**IC#4-CLO4-LOW**
Analyst:	**clv**	*Dilution Factor:*	**1.0000**

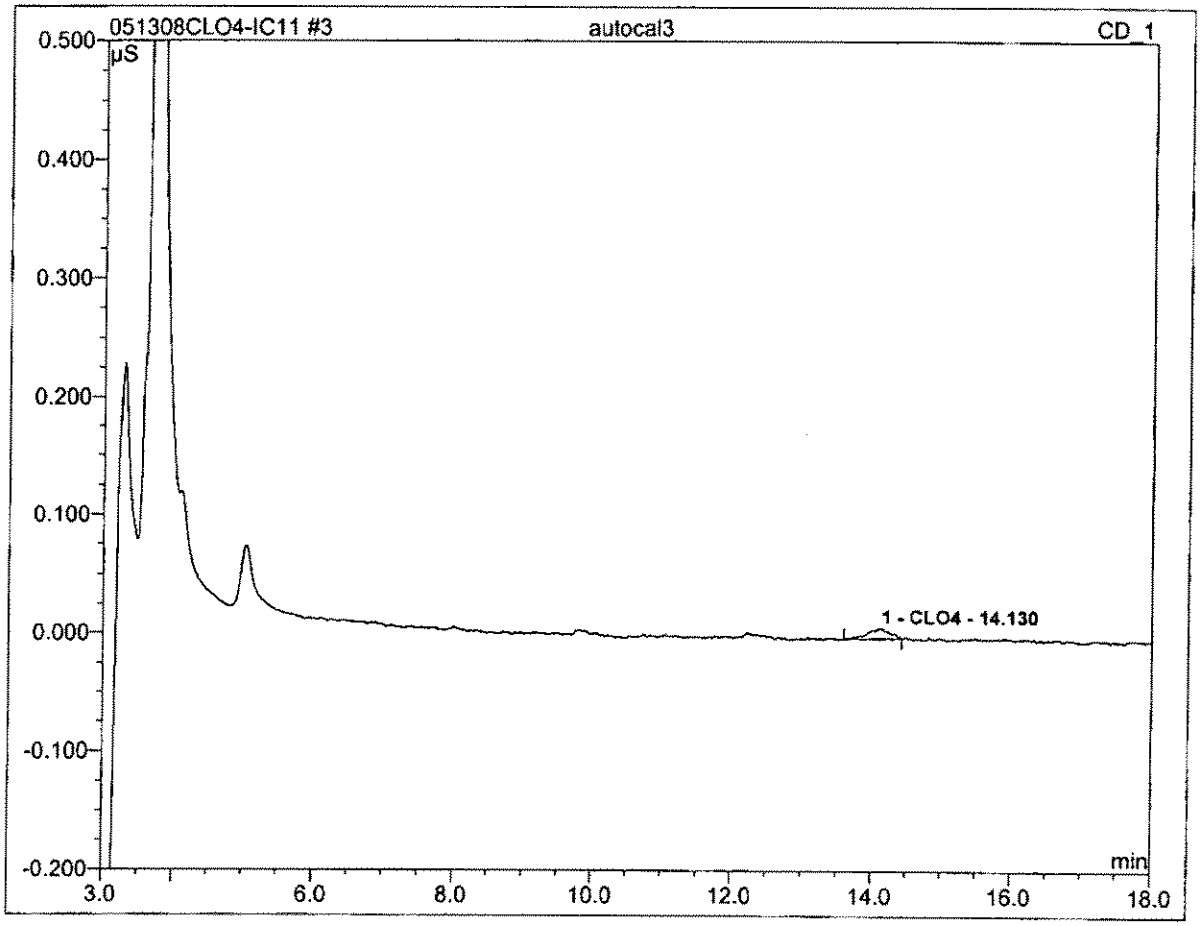


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
Total:			0.000	0.000	0.00	0.000	

3 autocal3

4

Sample Name:	**autocal3**	*Channel:*	**CD_1**
Sample Type:	**standard**	*Control Program:*	**Perchlorate-IC11**
Recording Time:	**05/13/2008 17:08**	*Quantif. Method:*	**IC#4-CLO4-LOW**
Analyst:	**clv**	*Dilution Factor:*	**1.0000**

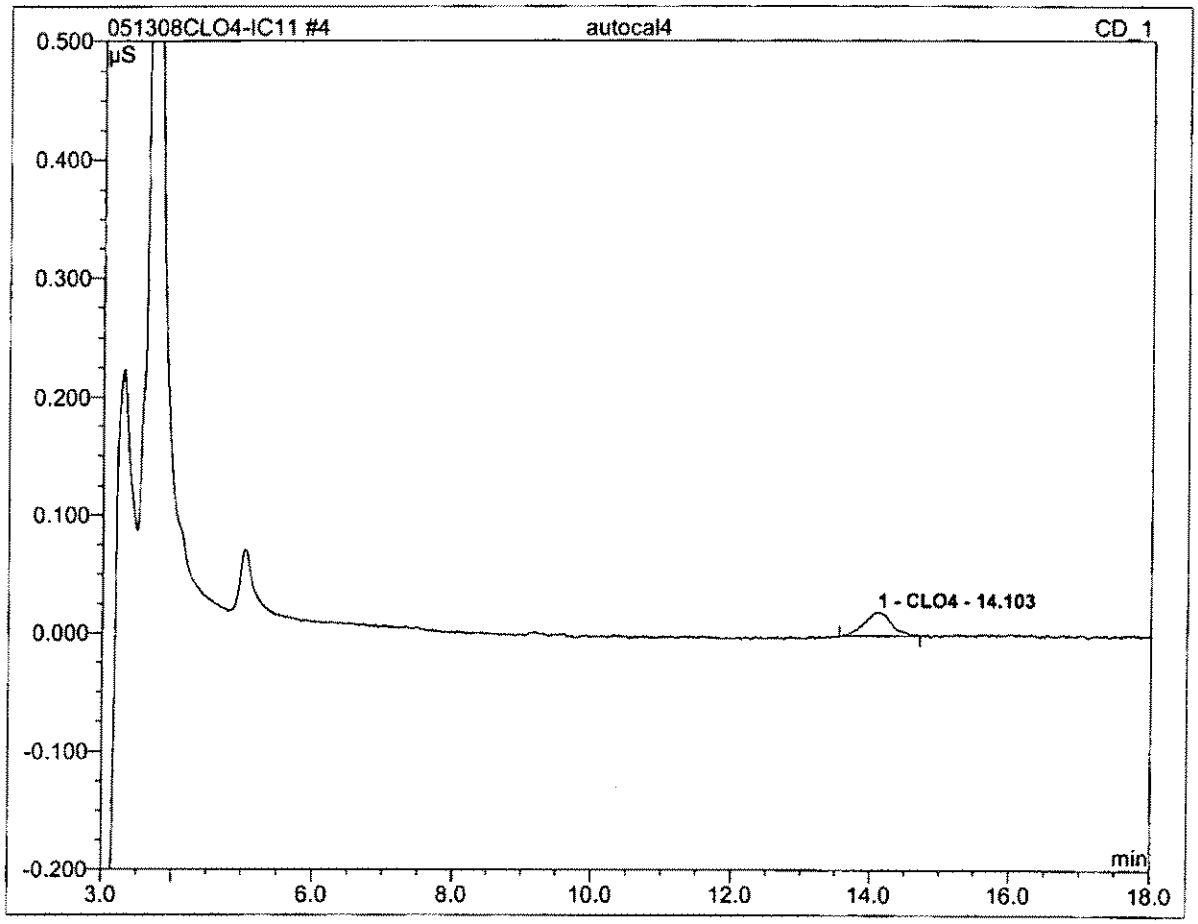


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	14.13	CLO4	0.009	0.003	100.00	3.643	BMB
Total:			0.009	0.003	100.00	3.643	

4 autocal4

10

Sample Name:	**autocal4**	*Channel:*	**CD_1**
Sample Type:	**standard**	*Control Program:*	**Perchlorate-IC11**
Recording Time:	**05/13/2008 17:30**	*Quantif. Method:*	**IC#4-CLO4-LOW**
Analyst:	**clv**	*Dilution Factor:*	**1.0000**

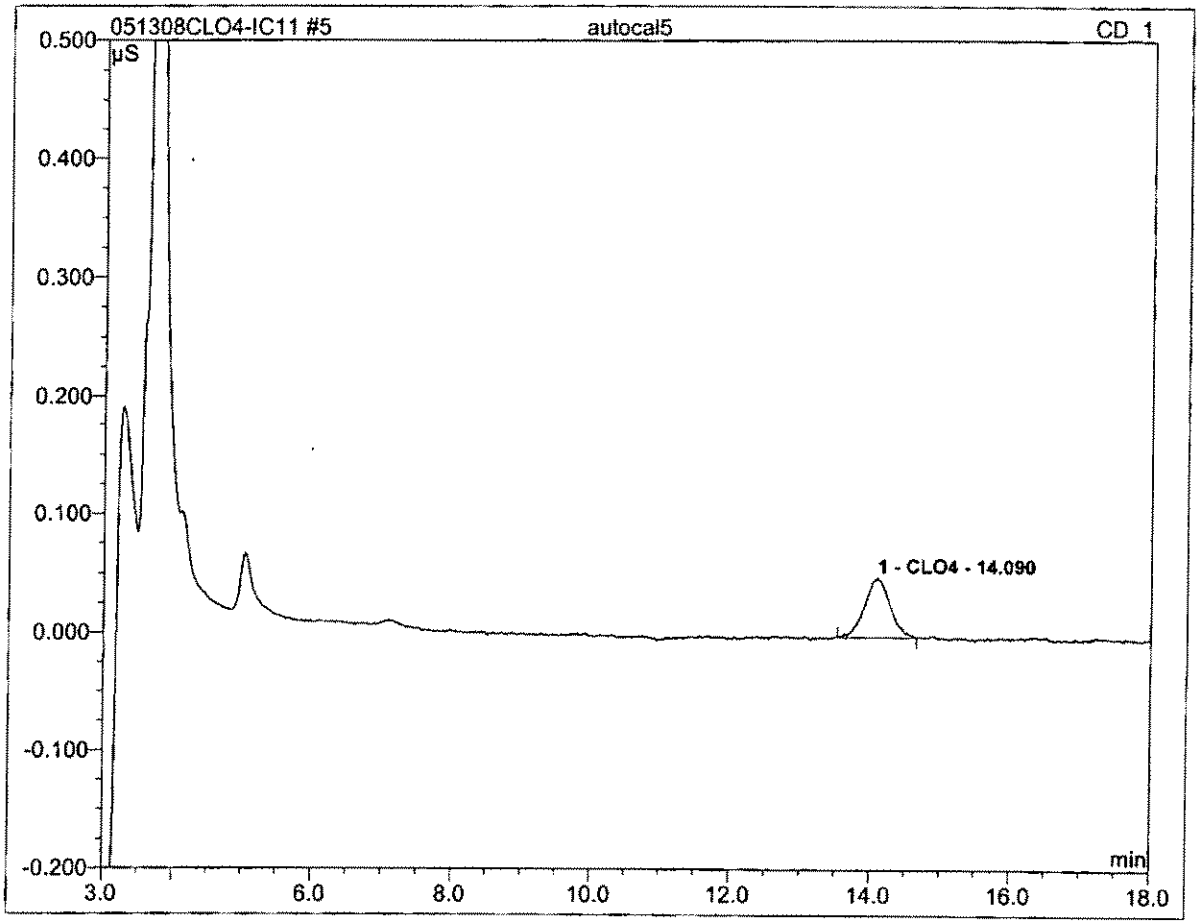


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	14.10	CLO4	0.021	0.009	100.00	10.144	BMB
Total:			0.021	0.009	100.00	10.144	

5 autocal5

25

Sample Name:	**autocal5**	*Channel:*	**CD_1**
Sample Type:	**standard**	*Control Program:*	**Perchlorate-IC11**
Recording Time:	**05/13/2008 17:53**	*Quantif. Method:*	**IC#4-CLO4-LOW**
Analyst:	**clv**	*Dilution Factor:*	**1.0000**

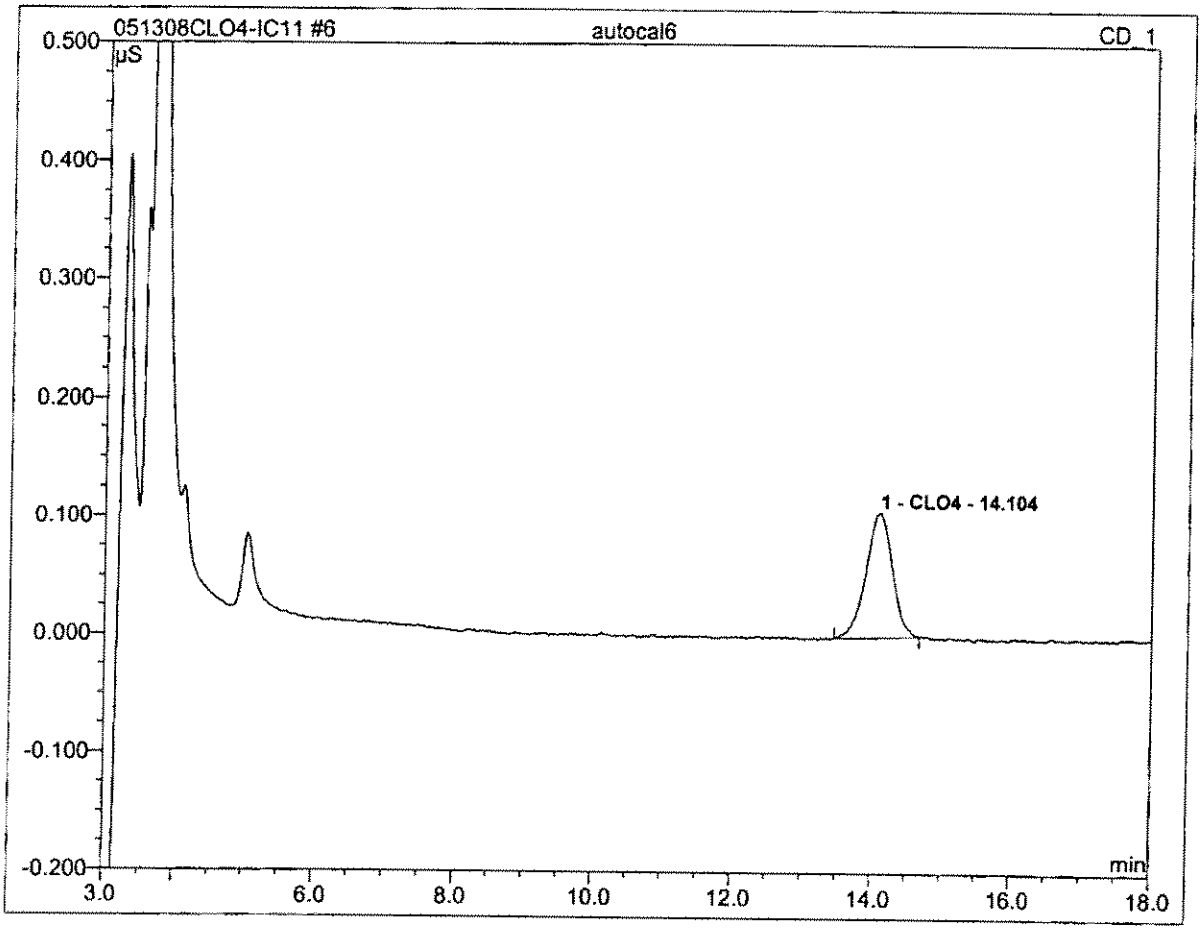


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	14.09	CLO4	0.050	0.021	100.00	23.122	BMB
Total:			0.050	0.021	100.00	23.122	

6 autocal6

50

Sample Name:	**autocal6**	*Channel:*	**CD_1**
Sample Type:	**standard**	*Control Program:*	**Perchlorate-IC11**
Recording Time:	**05/13/2008 18:15**	*Quantif. Method:*	**IC#4-CLO4-LOW**
Analyst:	**clv**	*Dilution Factor:*	**1.0000**

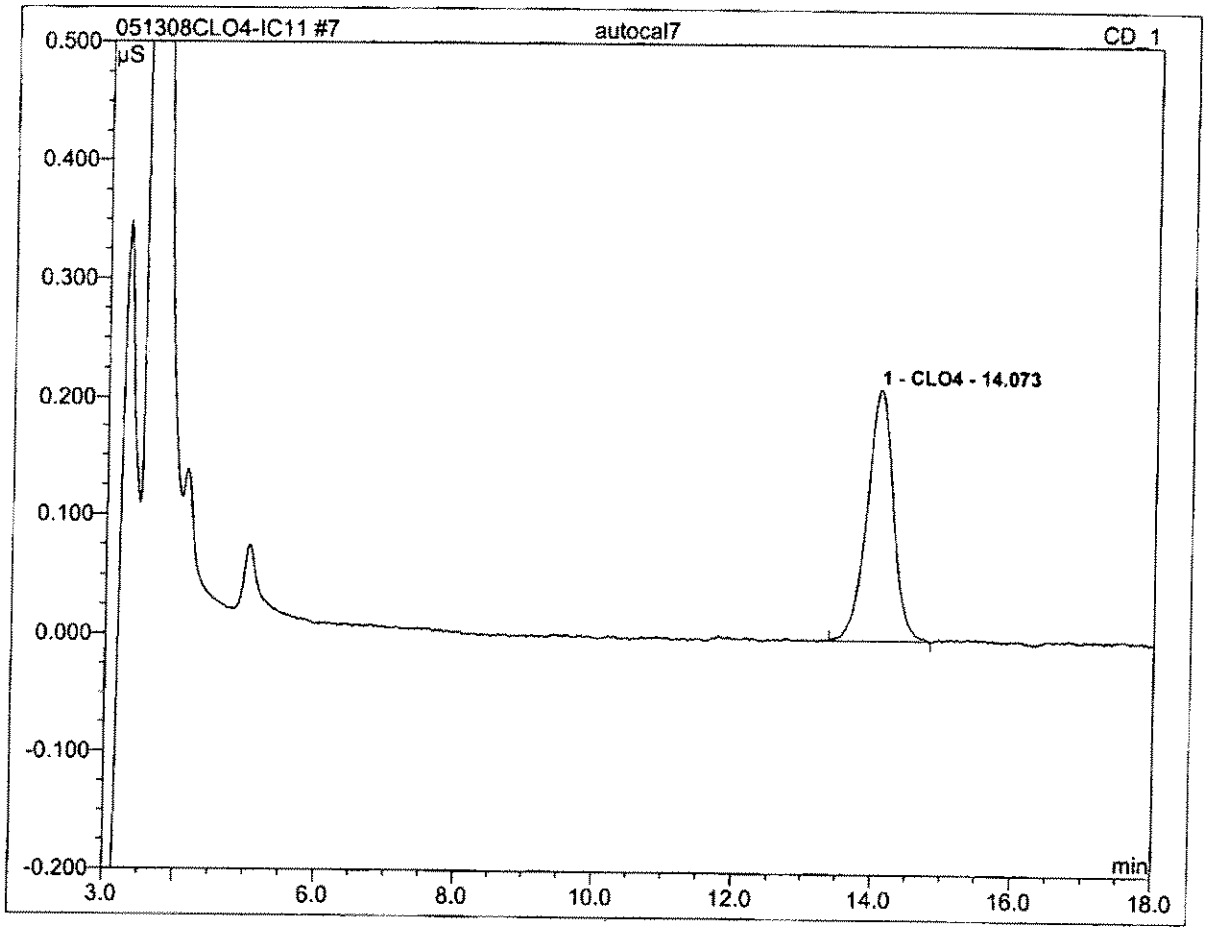


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	14.10	CLO4	0.106	0.047	100.00	50.512	BMB
Total:			0.106	0.047	100.00	50.512	

7 autocal7

100

Sample Name:	**autocal7**	*Channel:*	**CD_1**
Sample Type:	**standard**	*Control Program:*	**Perchlorate-IC11**
Recording Time:	**05/13/2008 18:37**	*Quantif. Method:*	**IC#4-CLO4-LOW**
Analyst:	**clv**	*Dilution Factor:*	**1.0000**

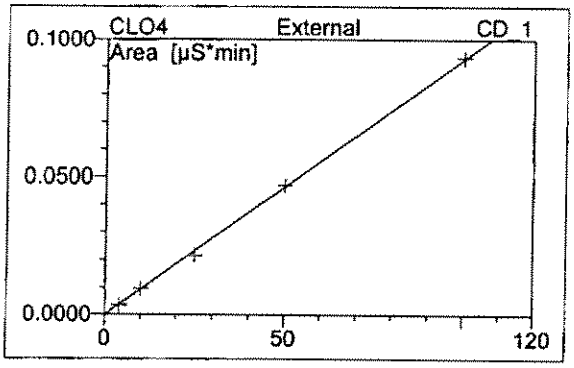


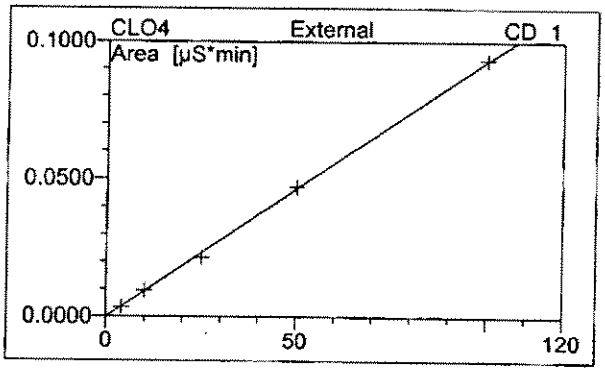
No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	14.07	CLO4	0.213	0.093	100.00	100.213	BMB
Total:			0.213	0.093	100.00	100.213	

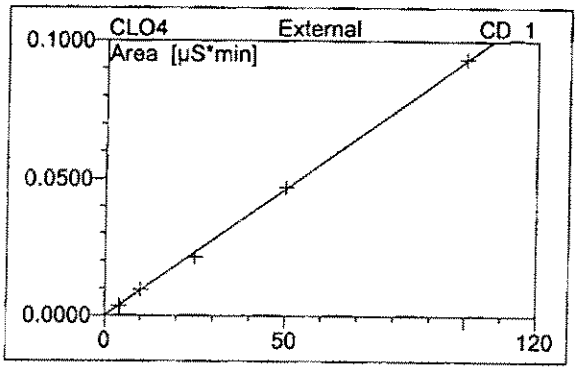
7 autocal7

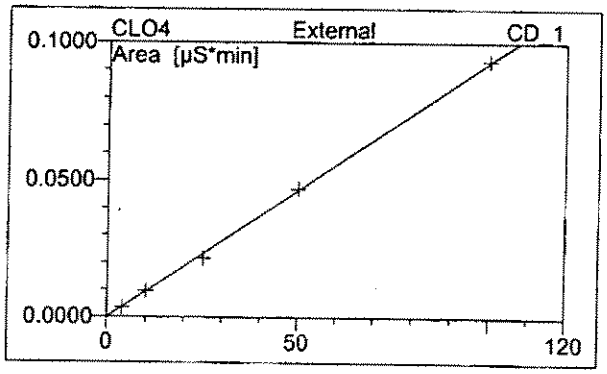
100

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:	**5/13/2008 18:37**	*Sample Weight:*	**1.0000**
Run Time (min):	**20.00**	*Sample Amount:*	**1.0000**







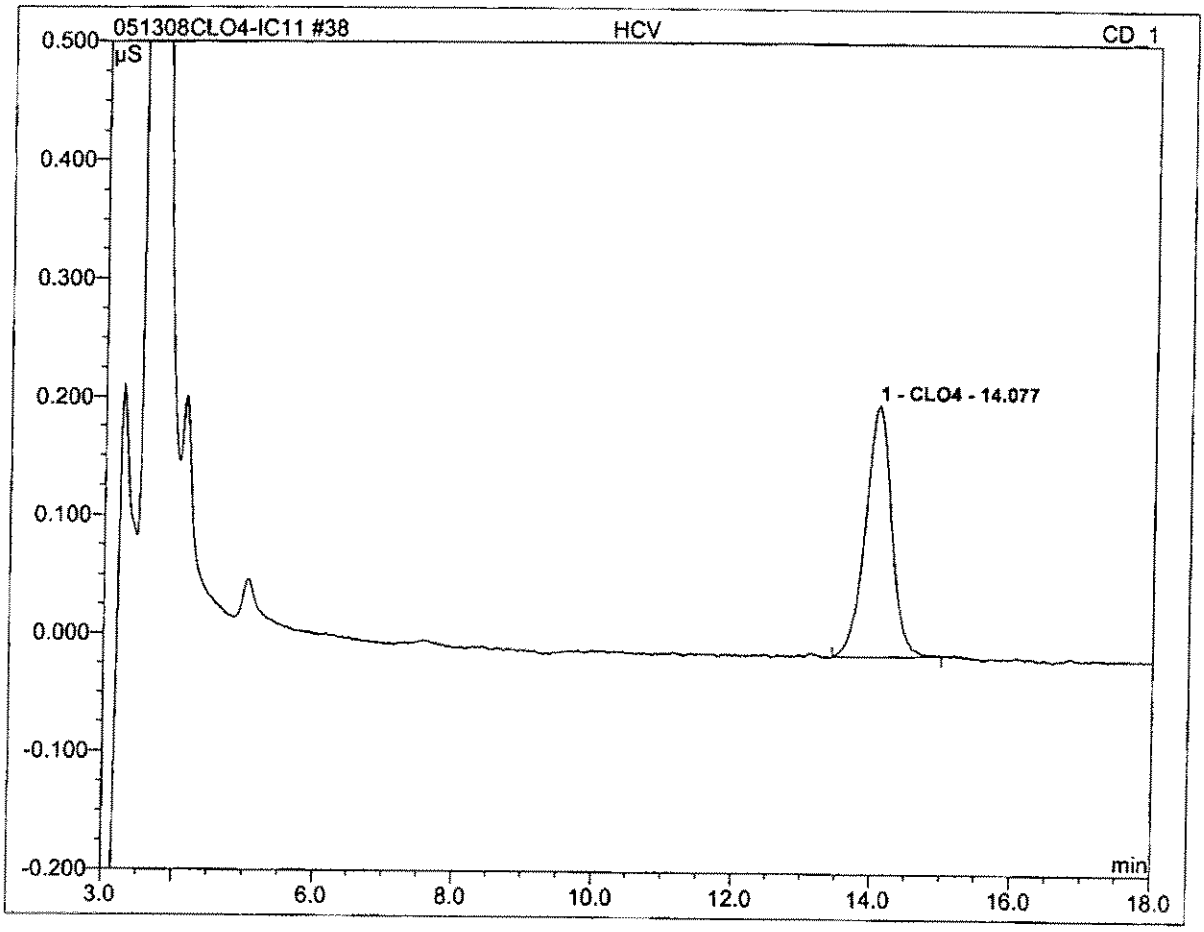


No.	Ret.Time min	Peak Name	Cal.Type	Points	Corr.Coeff. %	Offset	Slope	Curve
1	14.07	CLO4	Lin	5	99.9744	0.0000	0.0009	0.0000
Average:					99.9744	0.0000	0.0009	0.0000

38 HCV

100

Sample Name:	**HCV**	*Channel:*	**CD_1**
Sample Type:	**unknown**	*Control Program:*	**Perchlorate-IC11**
Recording Time:	**05/14/2008 06:12**	*Quantif. Method:*	**IC#4-CLO4-LOW**
Analyst:	**clv**	*Dilution Factor:*	**1.0000**

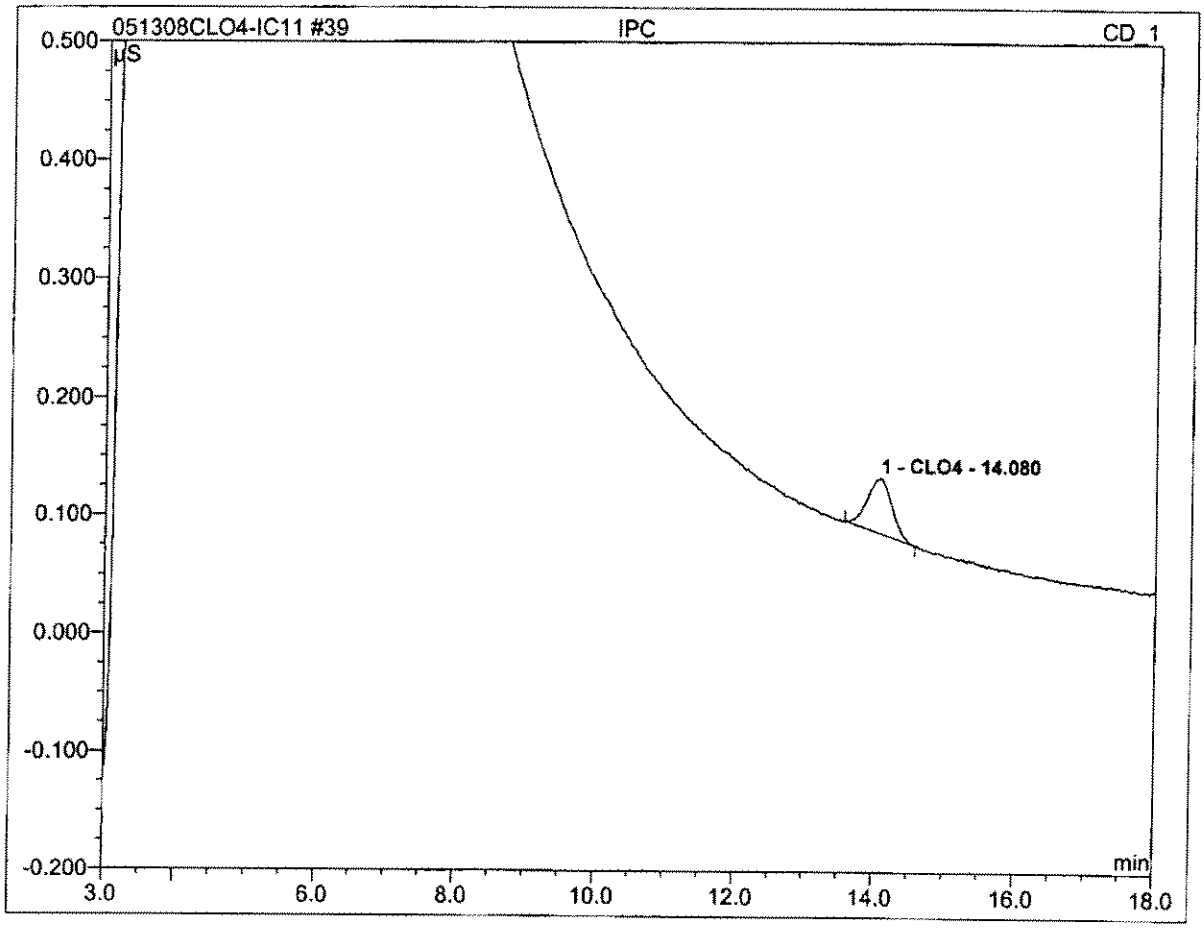


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	14.08	CLO4	0.213	0.093	100.00	99.819	BMB
Total:			0.213	0.093	100.00	99.819	

39 IPC

25

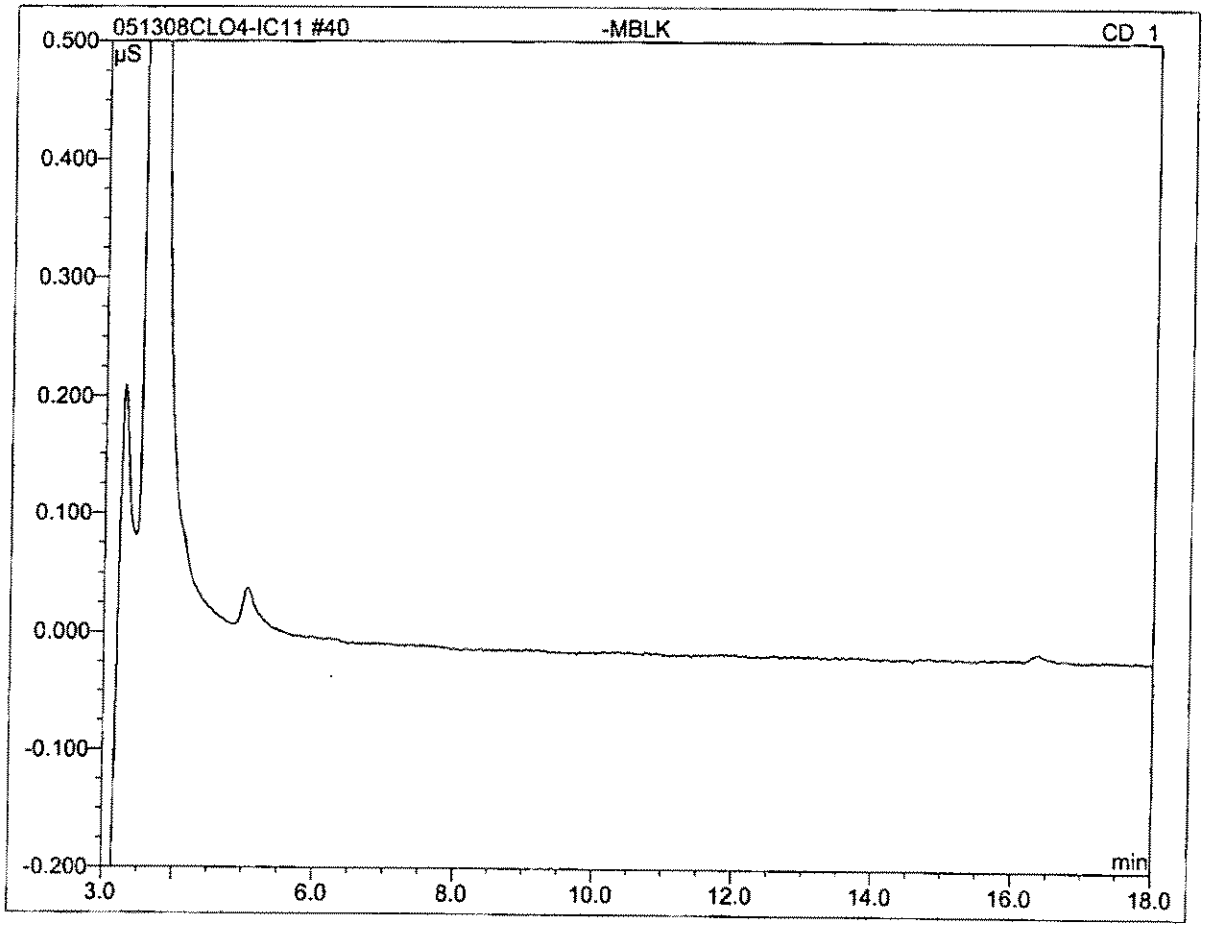
Sample Name:	**IPC**	*Channel:*	**CD_1**
Sample Type:	**unknown**	*Control Program:*	**Perchlorate-IC11**
Recording Time:	**05/14/2008 06:34**	*Quantif. Method:*	**IC#4-CLO4-LOW**
Analyst:	**clv**	*Dilution Factor:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	14.08	CLO4	0.047	0.019	100.00	20.388	BMB
Total:			0.047	0.019	100.00	20.388	

40 -MBLK

Sample Name:	**-MBLK**	*Channel:*	**CD_1**
Sample Type:	**unknown**	*Control Program:*	**Perchlorate-IC11**
Recording Time:	**05/14/2008 06:56**	*Quantif. Method:*	**IC#4-CLO4-LOW**
Analyst:	**clv**	*Dilution Factor:*	**1.0000**

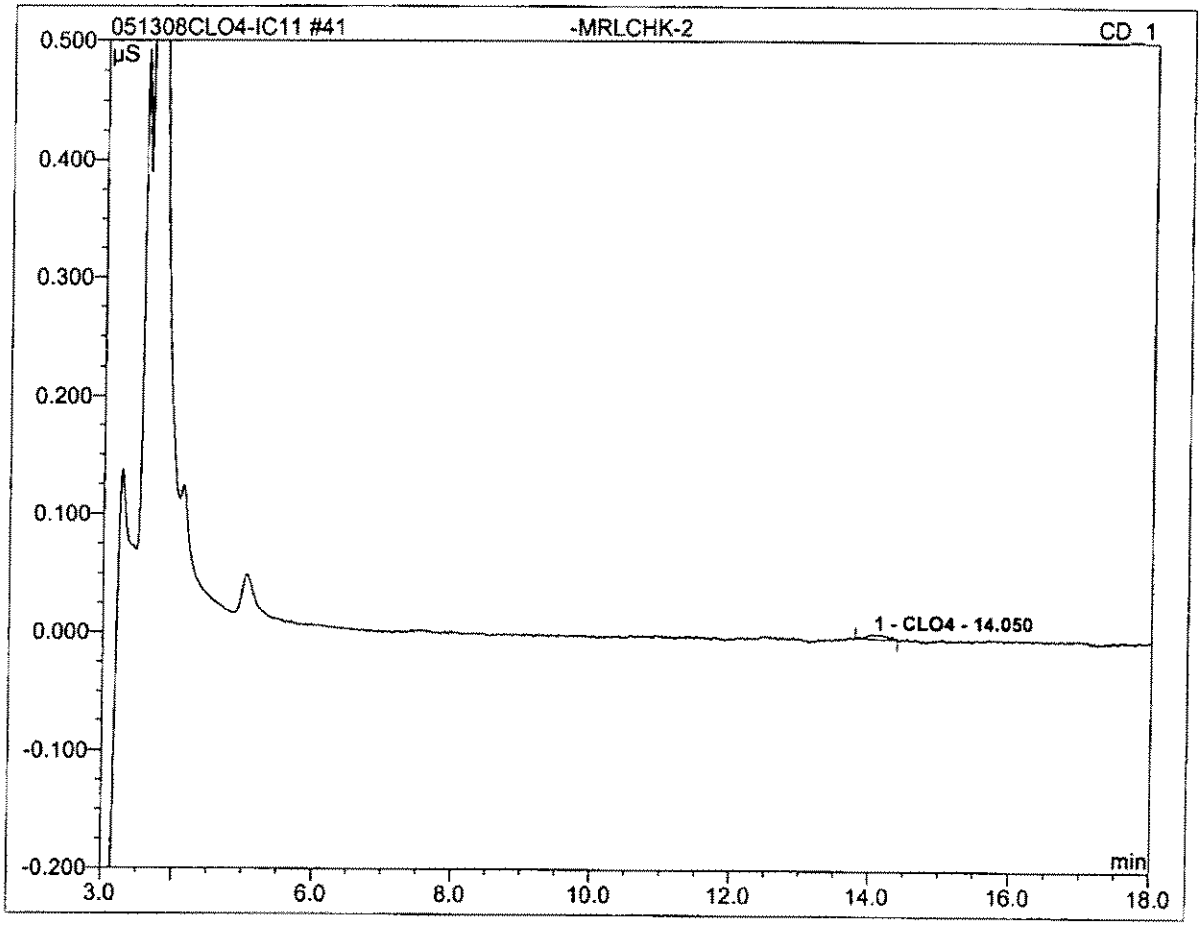


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
Total:			0.000	0.000	0.00	0.000	

41 -MRLCHK-2

2

Sample Name:	**-MRLCHK-2**	*Channel:*	**CD_1**
Sample Type:	**unknown**	*Control Program:*	**Perchlorate-IC11**
Recording Time:	**05/14/2008 07:19**	*Quantif. Method:*	**IC#4-CLO4-LOW**
Analyst:	**clv**	*Dilution Factor:*	**1.0000**

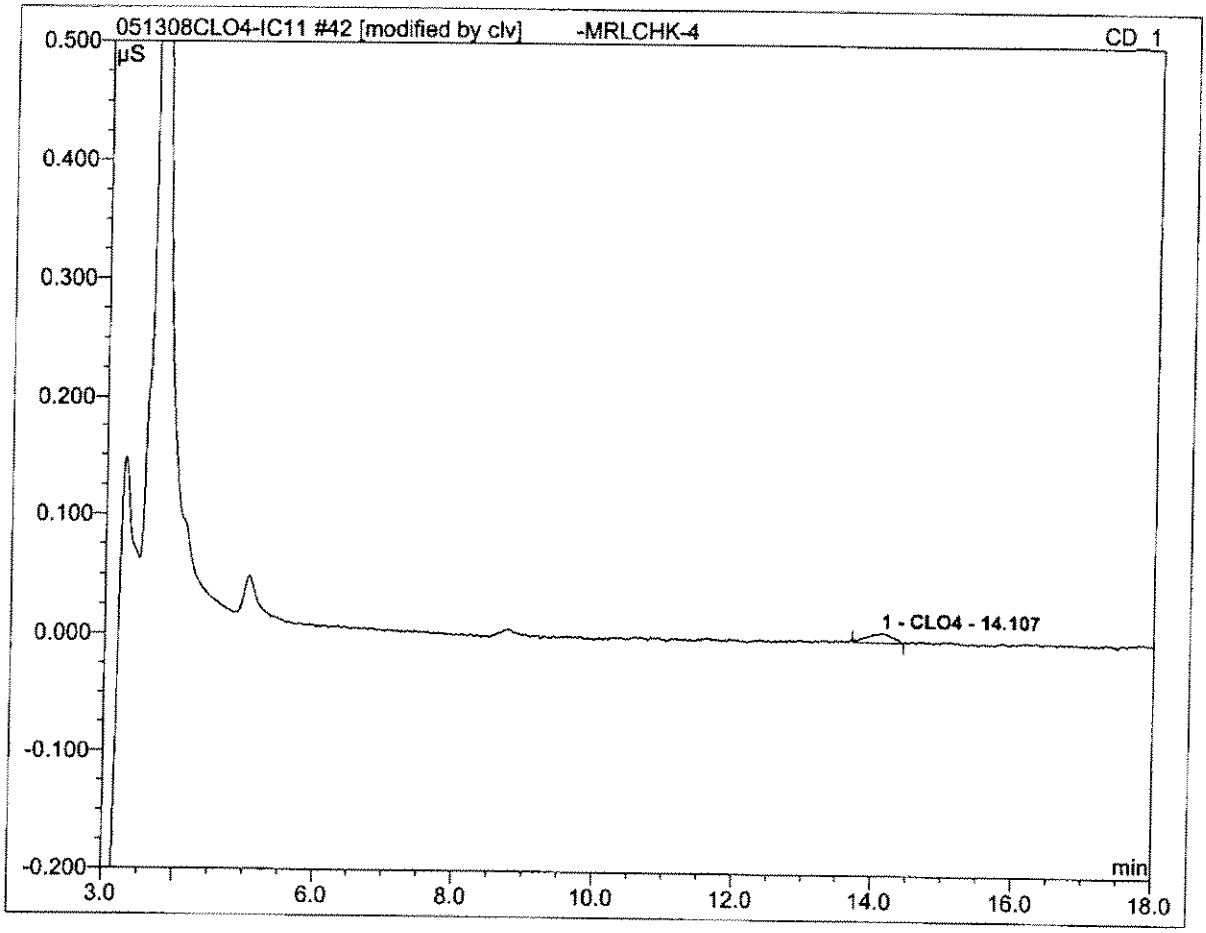


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	14.05	CLO4	0.004	0.001	100.00	1.459	BMB
Total:			0.004	0.001	100.00	1.459	

42 -MRLCHK-4

4

Sample Name:	**-MRLCHK-4**	*Channel:*	**CD_1**
Sample Type:	**unknown**	*Control Program:*	**Perchlorate-IC11**
Recording Time:	**05/14/2008 07:41**	*Quantif. Method:*	**IC#4-CLO4-LOW**
Analyst:	**clv**	*Dilution Factor:*	**1.0000**

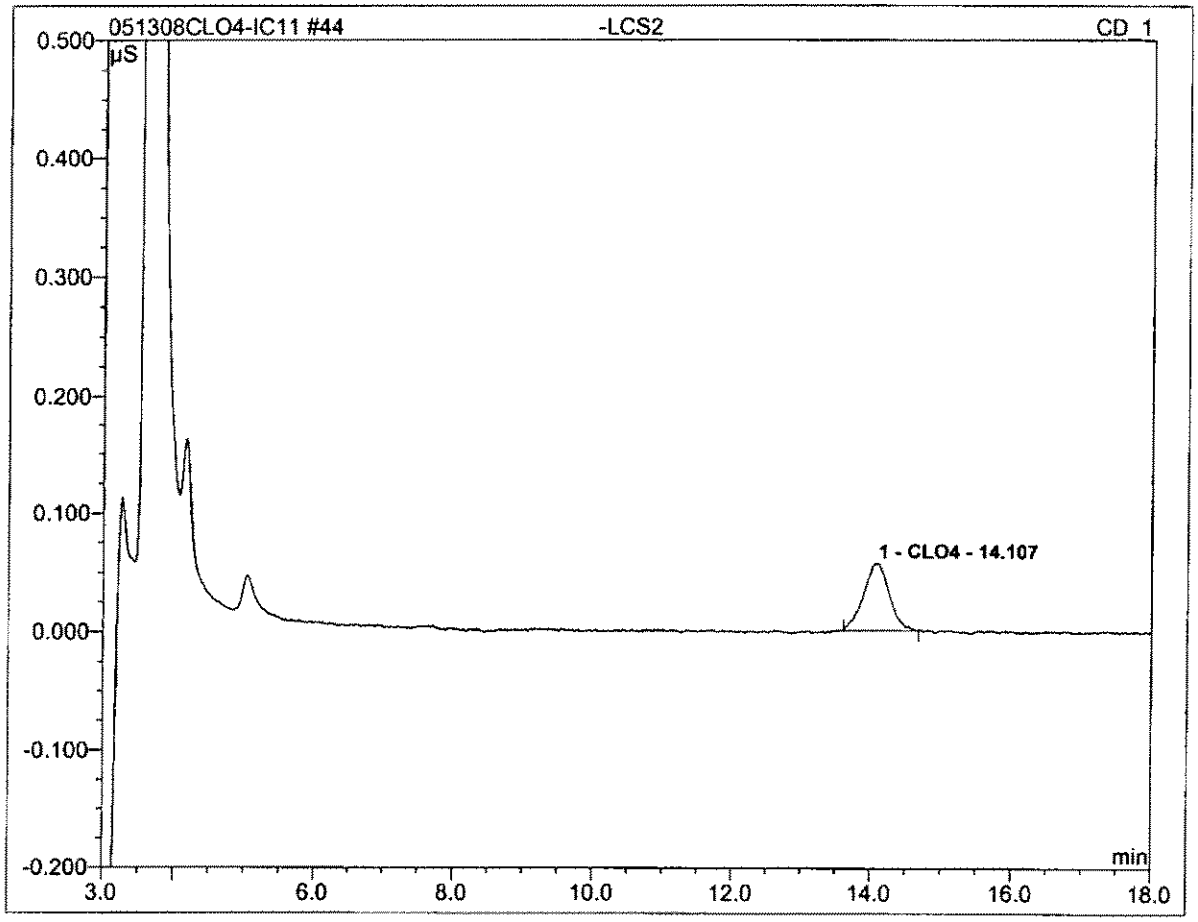


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	14.11	CLO4	0.008	0.003	100.00	3.391	BMB*
Total:			0.008	0.003	100.00	3.391	

44 -LCS2

25

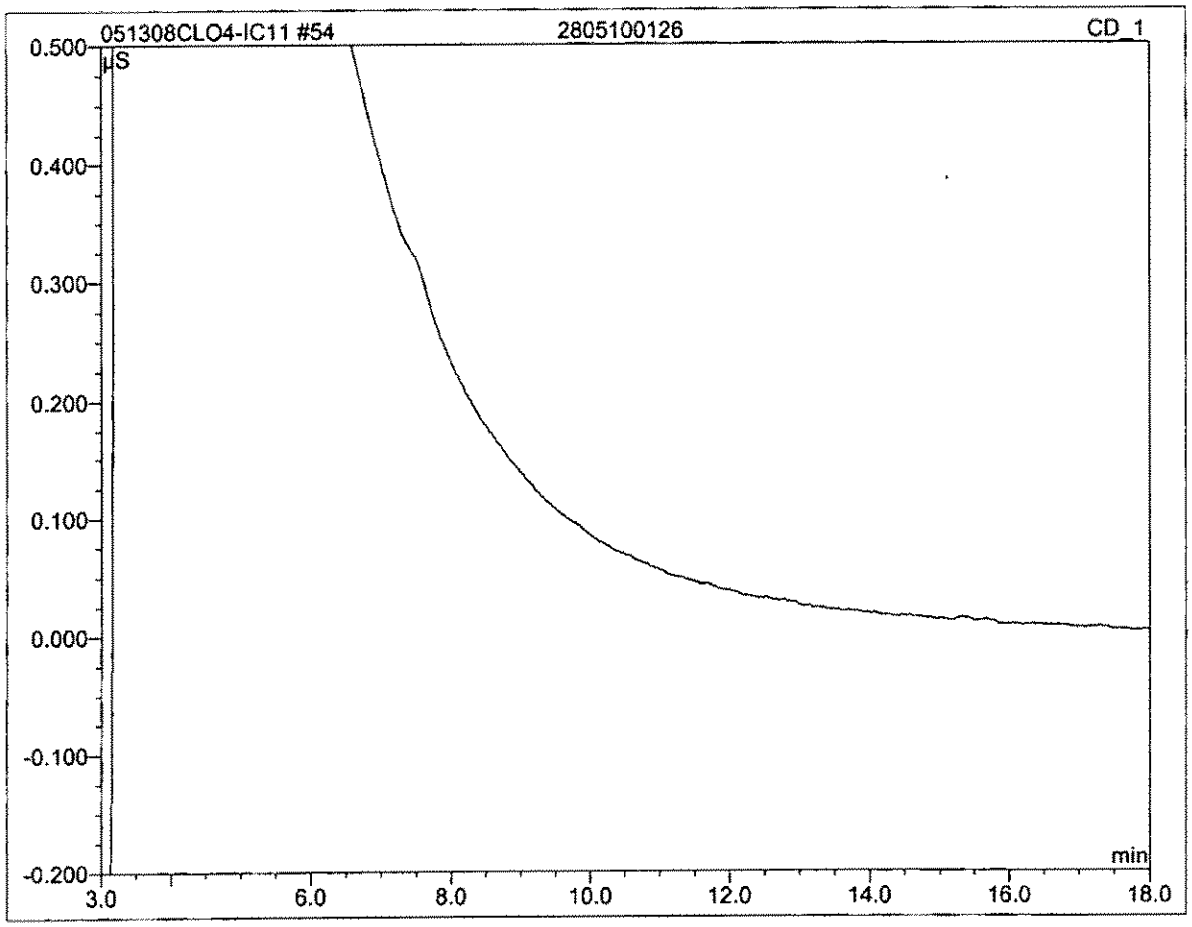
Sample Name:	**-LCS2**	*Channel:*	**CD_1**
Sample Type:	**unknown**	*Control Program:*	**Perchlorate-IC11**
Recording Time:	**05/14/2008 08:26**	*Quantif. Method:*	**IC#4-CLO4-LOW**
Analyst:	**clv**	*Dilution Factor:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	14.11	CLO4	0.056	0.024	100.00	25.914	BMB
Total:			0.056	0.024	100.00	25.914	

54 2805100126

Sample Name:	**2805100126**	*Channel:*	**CD_1**
Sample Type:	**unknown**	*Control Program:*	**Perchlorate-IC11**
Recording Time:	**05/14/2008 12:10**	*Quantif. Method:*	**IC#4-CLO4-LOW**
Analyst:	**clv**	*Dilution Factor:*	**1.0000**

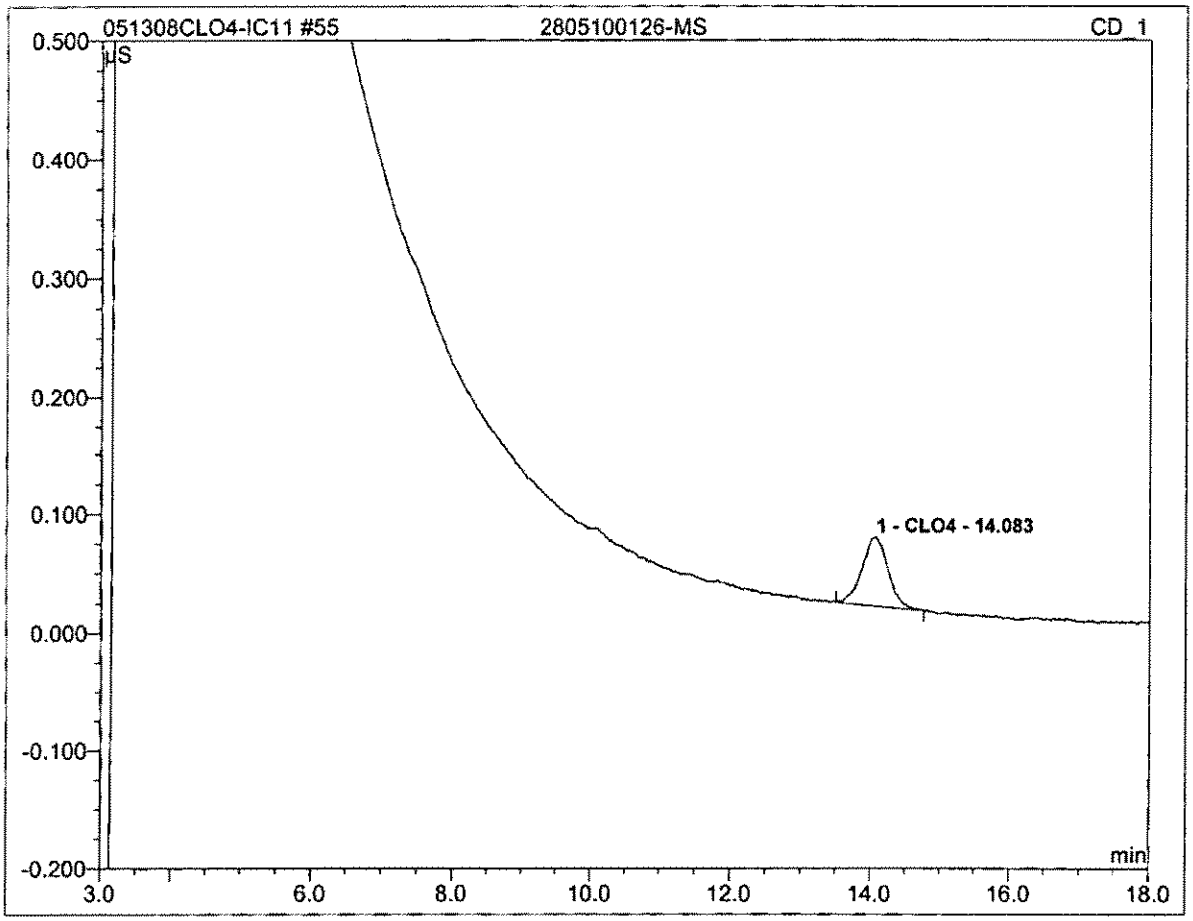


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
Total:			0.000	0.000	0.00	0.000	

55 2805100126-MS

25

Sample Name:	**2805100126-MS**	*Channel:*	**CD_1**
Sample Type:	**unknown**	*Control Program:*	**Perchlorate-IC11**
Recording Time:	**05/14/2008 12:32**	*Quantif. Method:*	**IC#4-CLO4-LOW**
Analyst:	**clv**	*Dilution Factor:*	**1.0000**

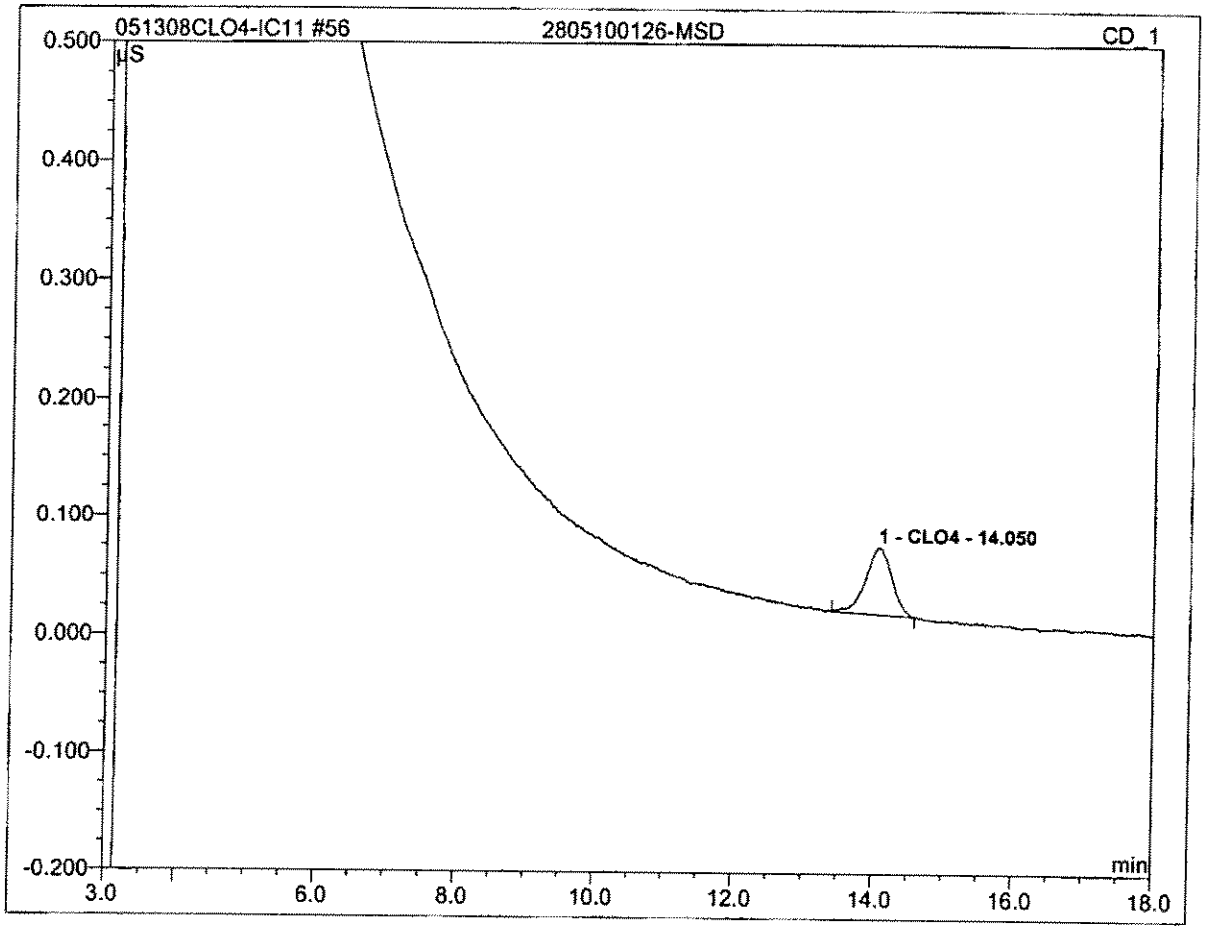


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	14.08	CLO4	0.058	0.025	100.00	27.270	BMB
Total:			0.058	0.025	100.00	27.270	

56 2805100126-MSD

25

Sample Name:	**2805100126-MSD**	*Channel:*	**CD_1**
Sample Type:	**unknown**	*Control Program:*	**Perchlorate-IC11**
Recording Time:	**05/14/2008 12:55**	*Quantif. Method:*	**IC#4-CLO4-LOW**
Analyst:	**clv**	*Dilution Factor:*	**1.0000**

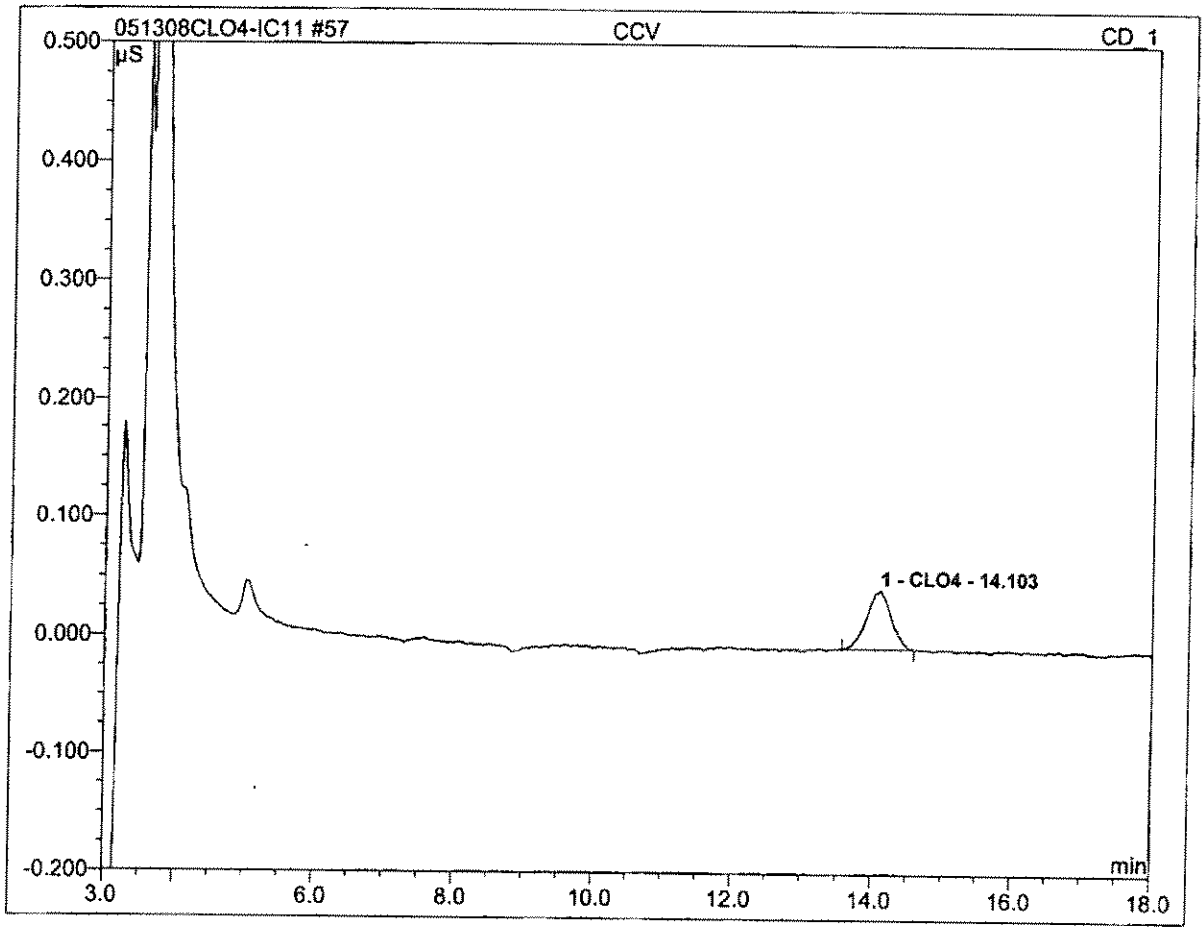


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	14.05	CLO4	0.056	0.024	100.00	26.207	BMB
Total:			0.056	0.024	100.00	26.207	

57 CCV

25

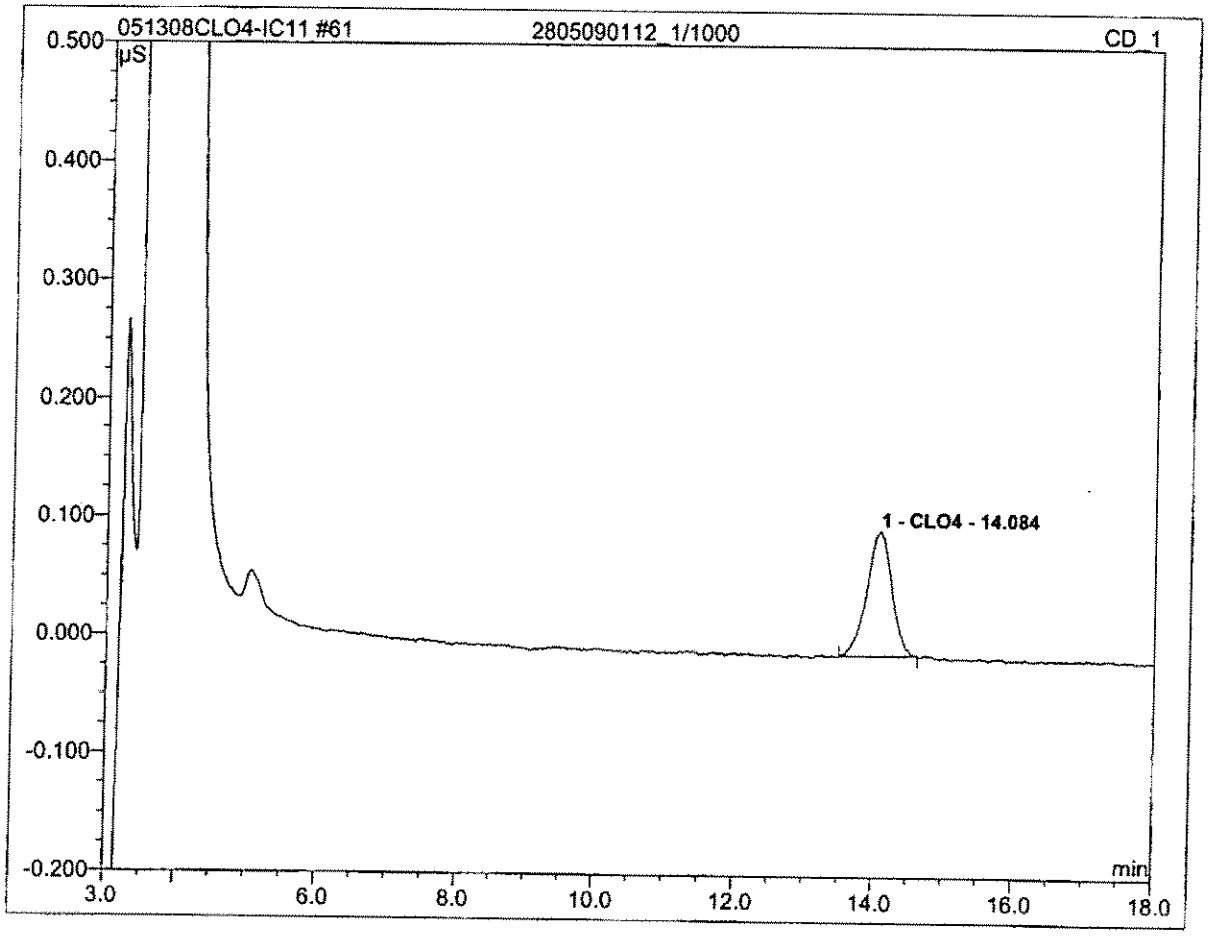
Sample Name:	**CCV**	*Channel:*	**CD_1**
Sample Type:	**unknown**	*Control Program:*	**Perchlorate-IC11**
Recording Time:	**05/14/2008 13:17**	*Quantif. Method:*	**IC#4-CLO4-LOW**
Analyst:	**clv**	*Dilution Factor:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	14.10	CLO4	0.050	0.020	100.00	21.893	BMB
Total:			0.050	0.020	100.00	21.893	

61 2805090112_1/1000

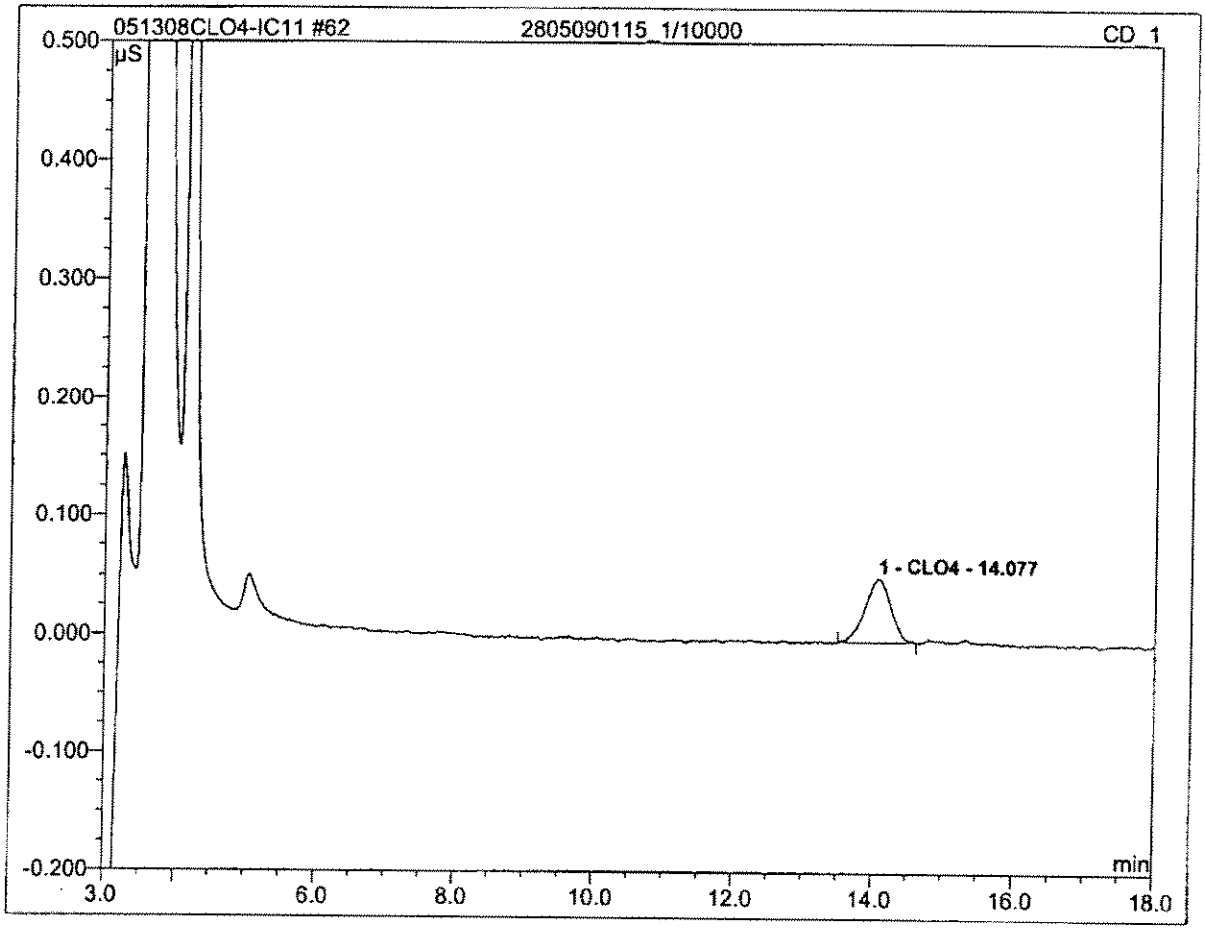
Sample Name:	**2805090112_1/1000**	*Channel:*	**CD_1**
Sample Type:	**unknown**	*Control Program:*	**Perchlorate-IC11**
Recording Time:	**05/14/2008 14:47**	*Quantif. Method:*	**IC#4-CLO4-LOW**
Analyst:	**clv**	*Dilution Factor:*	**1000.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	14.08	CLO4	0.105	0.044	100.00	47529.024	BMB
Total:			0.105	0.044	100.00	47529.024	

62 2805090115_1/10000

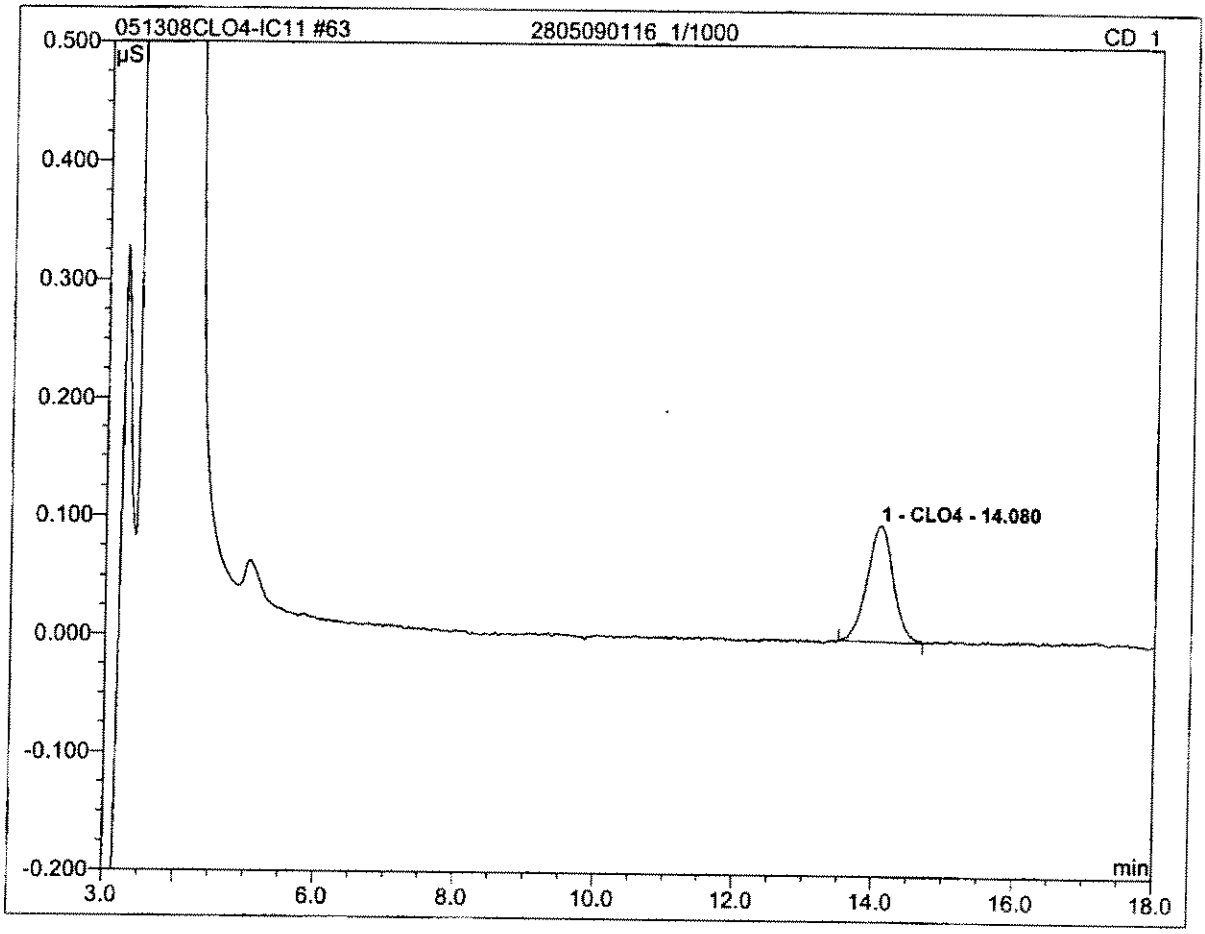
Sample Name:	**2805090115_1/10000**	*Channel:*	**CD_1**
Sample Type:	**unknown**	*Control Program:*	**Perchlorate-IC11**
Recording Time:	**05/14/2008 15:09**	*Quantif. Method:*	**IC#4-CLO4-LOW**
Analyst:	**clv**	*Dilution Factor:*	**10000.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	14.08	CLO4	0.054	0.023	100.00	249245.996	BMB
Total:			0.054	0.023	100.00	249245.996	

63 2805090116_1/1000

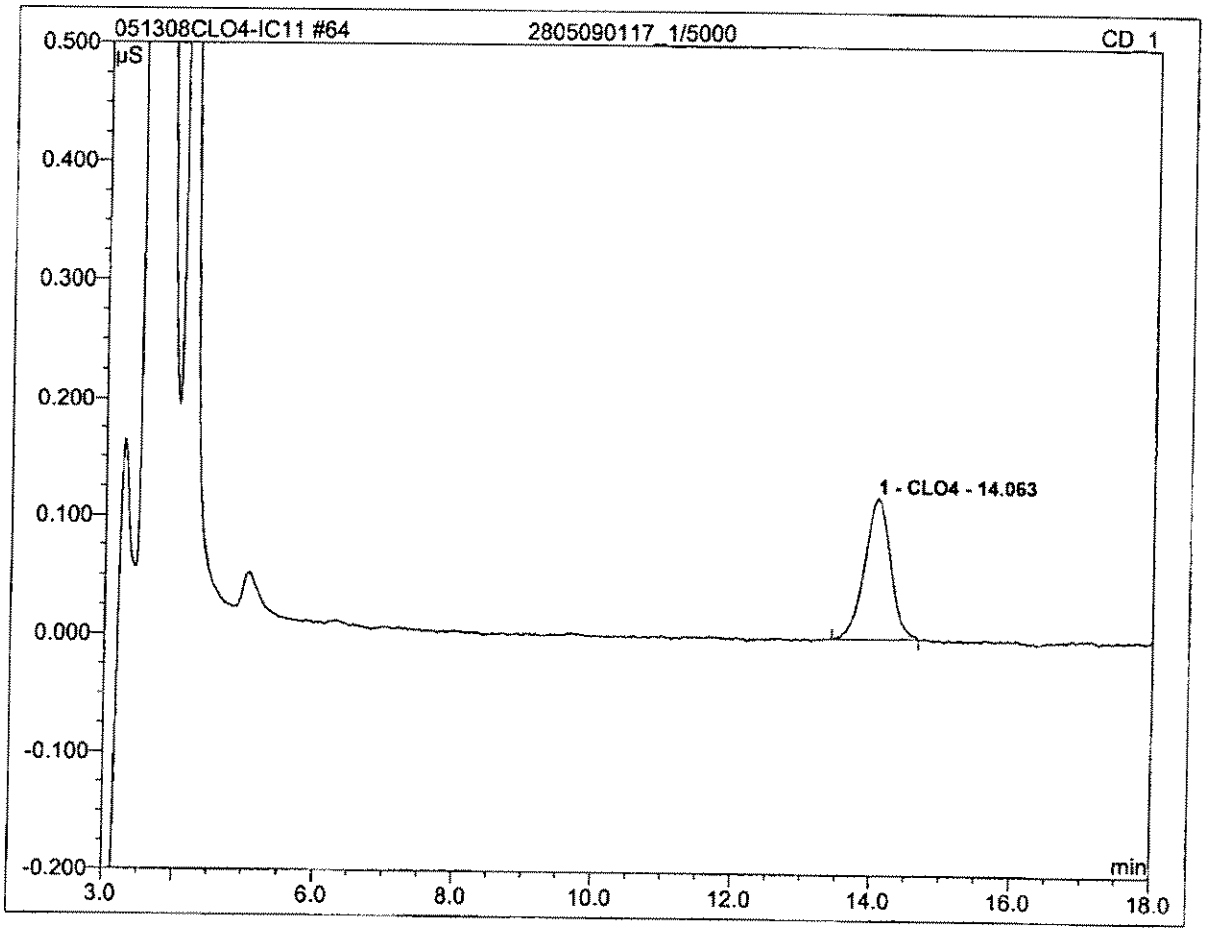
Sample Name:	**2805090116_1/1000**	*Channel:*	**CD_1**
Sample Type:	**unknown**	*Control Program:*	**Perchlorate-IC11**
Recording Time:	**05/14/2008 15:32**	*Quantif. Method:*	**IC#4-CLO4-LOW**
Analyst:	**clv**	*Dilution Factor:*	**1000.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	14.08	CLO4	0.098	0.043	100.00	45768.555	BMB
Total:			0.098	0.043	100.00	45768.555	

64 2805090117_1/5000

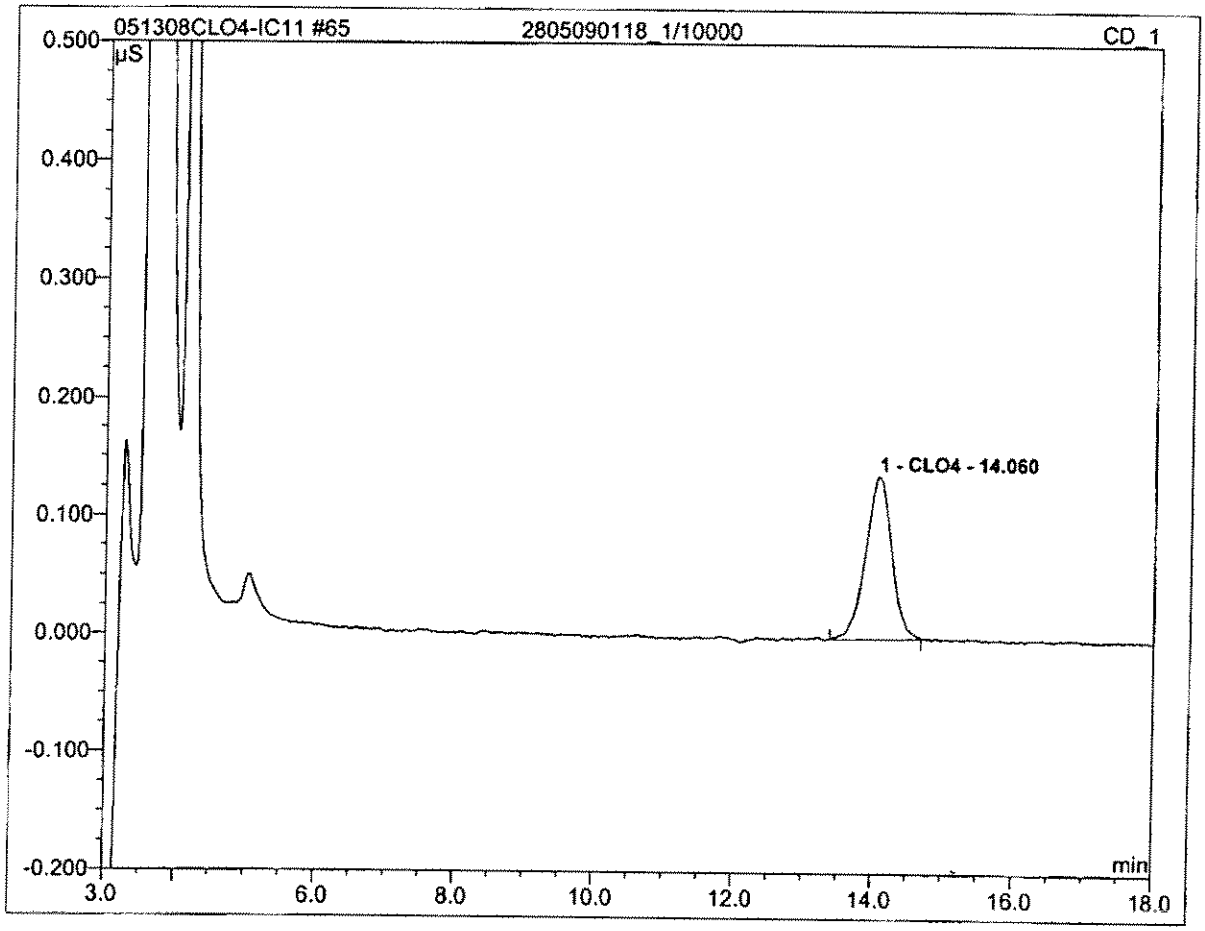
Sample Name:	**2805090117_1/5000**	*Channel:*	**CD_1**
Sample Type:	**unknown**	*Control Program:*	**Perchlorate-IC11**
Recording Time:	**05/14/2008 15:54**	*Quantif. Method:*	**IC#4-CLO4-LOW**
Analyst:	**clv**	*Dilution Factor:*	**5000.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	14.06	CLO4	0.119	0.052	100.00	279035.752	BMB
Total:			0.119	0.052	100.00	279035.752	

65 2805090118_1/10000

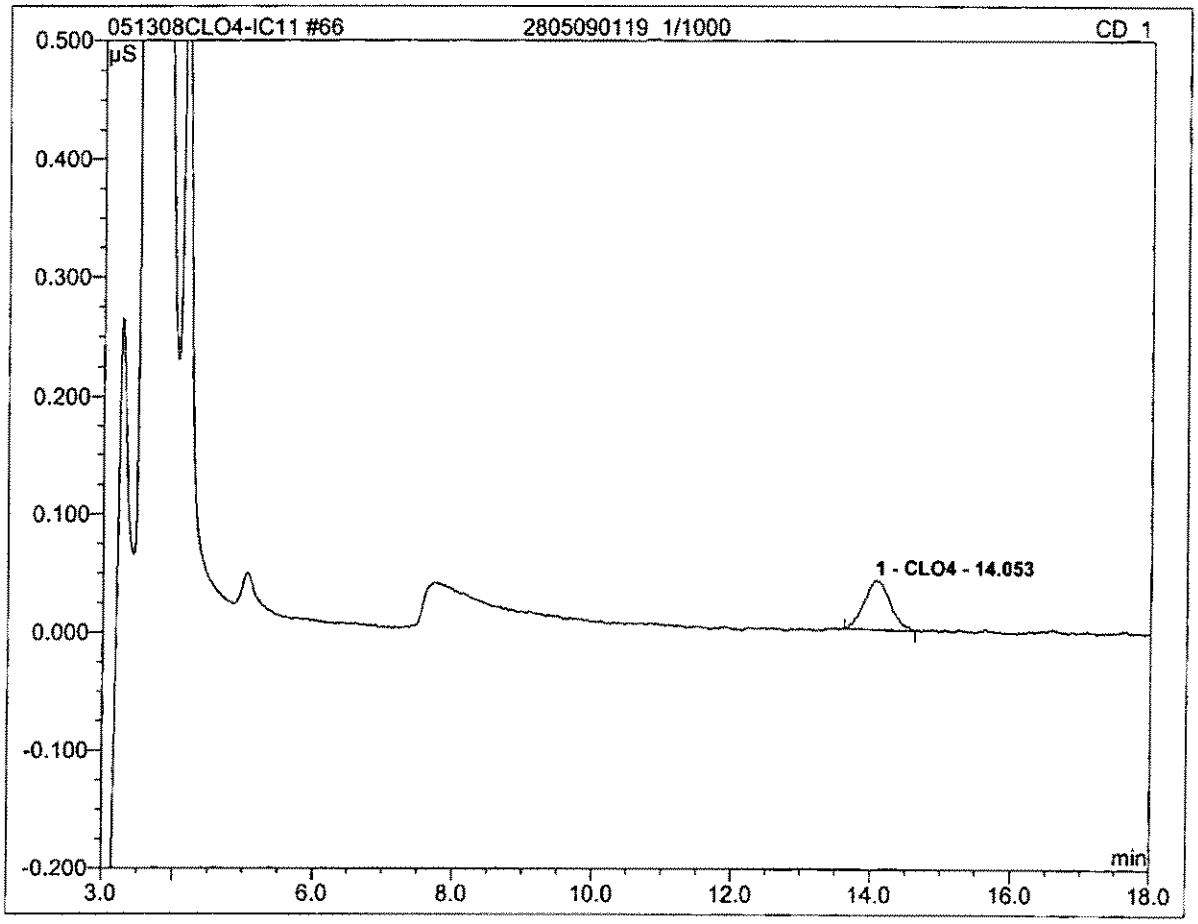
Sample Name:	**2805090118_1/10000**	*Channel:*	**CD_1**
Sample Type:	**unknown**	*Control Program:*	**Perchlorate-IC11**
Recording Time:	**05/14/2008 16:16**	*Quantif. Method:*	**IC#4-CLO4-LOW**
Analyst:	**clv**	*Dilution Factor:*	**10000.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	14.06	CLO4	0.138	0.060	100.00	649126.488	BMB
Total:			0.138	0.060	100.00	649126.488	

66 2805090119_1/1000

Sample Name:	**2805090119_1/1000**	*Channel:*	**CD_1**
Sample Type:	**unknown**	*Control Program:*	**Perchlorate-IC11**
Recording Time:	**05/14/2008 16:39**	*Quantif. Method:*	**IC#4-CLO4-LOW**
Analyst:	**clv**	*Dilution Factor:*	**1000.0000**

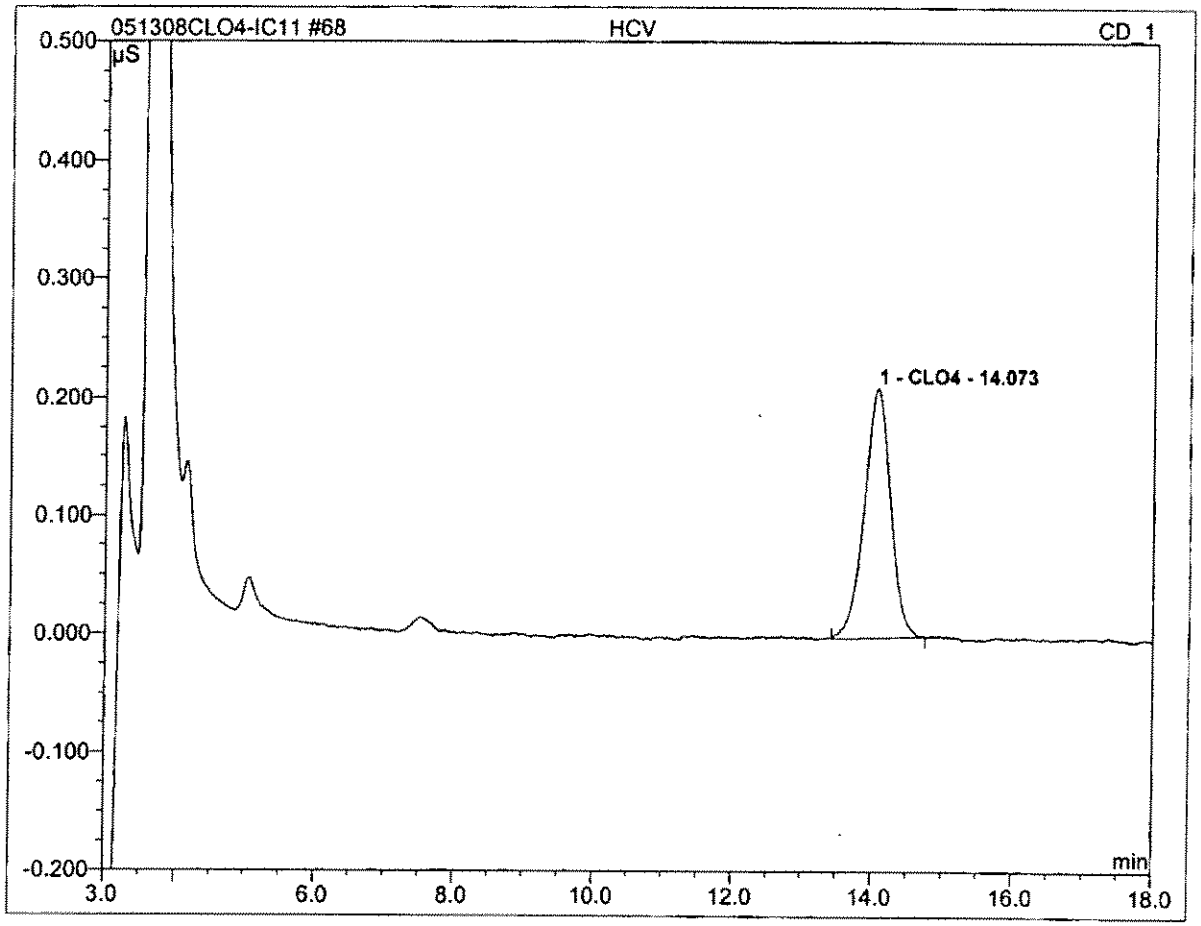


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	14.05	CLO4	0.042	0.018	100.00	19658.611	BMB
Total:			0.042	0.018	100.00	19658.611	

68 HCV

100

Sample Name:	**HCV**	*Channel:*	**CD_1**
Sample Type:	**unknown**	*Control Program:*	**Perchlorate-IC11**
Recording Time:	**05/14/2008 17:24**	*Quantif. Method:*	**IC#4-CLO4-LOW**
Analyst:	**clv**	*Dilution Factor:*	**1.0000**

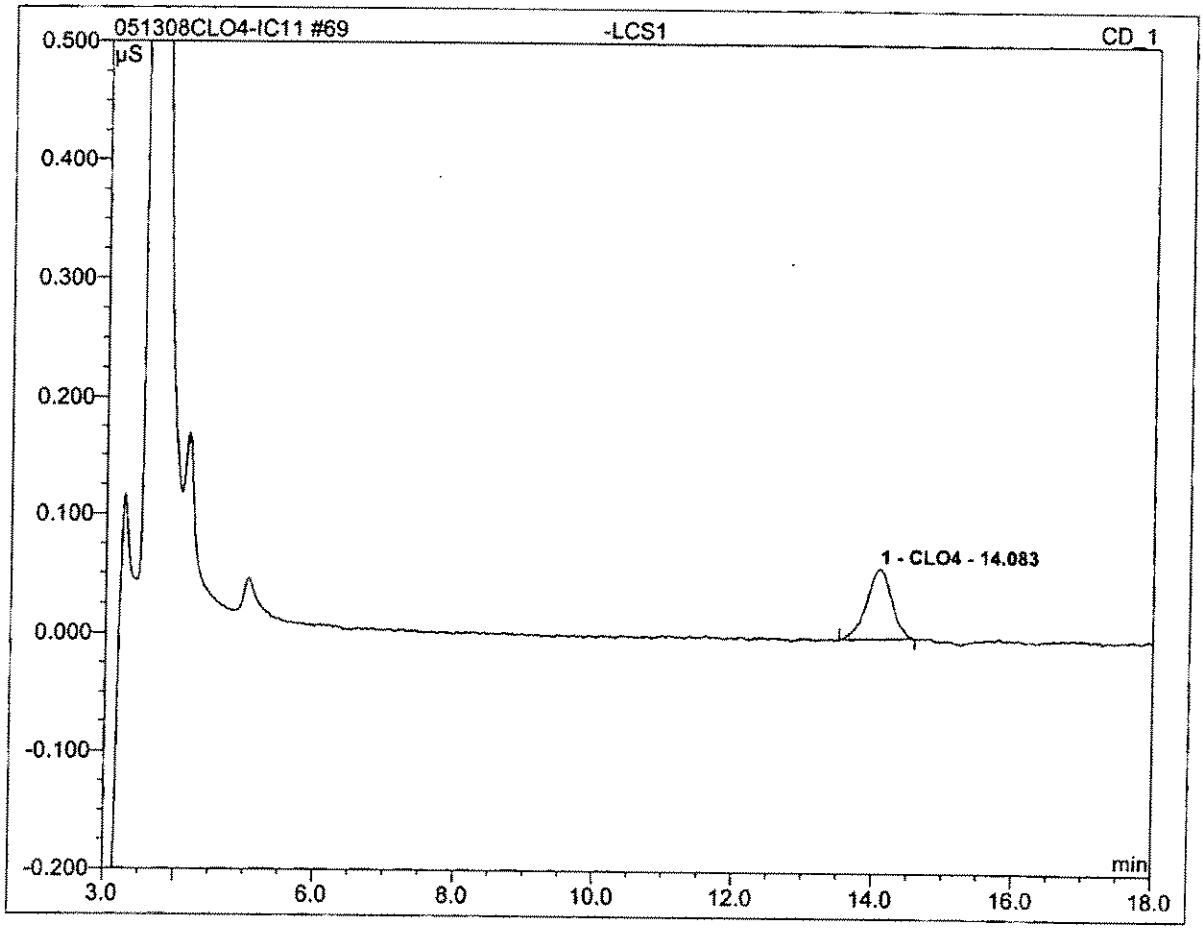


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	14.07	CLO4	0.212	0.091	100.00	98.343	BMB
Total:			0.212	0.091	100.00	98.343	

69 -LCS1

25

Sample Name:	**-LCS1**	*Channel:*	**CD_1**
Sample Type:	**unknown**	*Control Program:*	**Perchlorate-IC11**
Recording Time:	**05/14/2008 17:46**	*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	14.08	CLO4	0.059	0.025	100.00	26.623	BMB
Total:			0.059	0.025	100.00	26.623	

Perchlorate QC Checklist

rev: 27 Mar 03

Analysis Date: 5/30/08 Analyst: CLV

QC'd by [signature] Date 5/31/08

Instrument: IC9 Calculated MCT Level: 1436 umhos/cm

Original IPC conductance: 1402 umhos/cm Daily IPC conductance: 1400 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 = 18.9 %

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

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

PDA = 176

✓ 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

No.,	Sample Name,	Comment	Time,	Dil.Fac.,	Amount, CLO4 CD_1	
1,	CAL1,		05/29/08 22:34,	1.0,	n.a.	
2,	CAL2,	2	05/29/08 22:56,	1.0,	2.2448	
3,	CAL3,	4	05/29/08 23:17,	1.0,	3.8783	
4,	CAL4,	10	05/29/08 23:38,	1.0,	10.0462	
5,	CAL5,	25	05/30/08 00:00,	1.0,	24.6008	
6,	CAL6,	50	05/30/08 00:21,	1.0,	50.2704	
7,	CAL7,	100	05/30/08 00:46,	1.0,	99.9594	
8,	QCS,	20	05/30/08 01:07,	1.0,	19.9975	100 %
9,	IPC,	25	05/30/08 01:29,	1.0,	23.7671	95.1 %
10,	MBLANK,		05/30/08 01:50,	1.0,	n.a.	NDS½MRL
11,	MRL-2,	2	05/30/08 02:11,	1.0,	2.4134	121 %
12,	MRL-4,	4	05/30/08 02:36,	1.0,	4.0311	101 %
13,	LCS,	25	05/30/08 02:57,	1.0,	24.5037	98.0 %
14,	LCSD,	25	05/30/08 03:19,	1.0,	23.9581	95.8 %
15,	2805080943, —		05/30/08 03:40,	1.0,	n.a.	
16,	2805080943-MS,	25	05/30/08 04:02,	1.0,	24.3912	97.6 %
17,	2805080943-MSD,	25	05/30/08 04:26,	1.0,	24.0998	96.4 %
18,	2805090111, —		05/30/08 04:48,	1.0,	0.8252	
19,	2805090121_1/10000, •		05/30/08 05:09,	10000.0,	367341.2922	
20,	2805090122_1/25000, •		05/30/08 05:30,	25000.0,	673992.9750	
21,	2805090123_1/25000, •		05/30/08 05:52,	25000.0,	898674.7117	
22,	2805090124_1/25000, •		05/30/08 06:17,	25000.0,	952291.2348	
23,	2805090132_1/25000, •		05/30/08 06:38,	25000.0,	806621.8744	
24,	2805090133_1/25000, •		05/30/08 06:59,	25000.0,	825927.7180	
25,	2805090134_1/2500, •		05/30/08 07:21,	2500.0,	101709.0473	
26,	2805090135_1/2500, •		05/30/08 07:42,	2500.0,	62962.8773	
27,	CCSV,	25	05/30/08 08:03,	1.0,	24.8738	99.5 %
28,	2805090136_1/25000, •		05/30/08 08:25,	25000.0,	486326.3870	
29,	2805090137_1/50000, •		05/30/08 08:46,	50000.0,	1512951.4198	
30,	2805090138_1/1000, •		05/30/08 09:11,	1000.0,	26757.7192	
31,	2805090148,		05/30/08 09:32,	1.0,	n.a.	
32,	2805090152_1/500,		05/30/08 09:54,	500.0,	16414.5962	
33,	2805090155,		05/30/08 10:15,	1.0,	n.a.	
34,	2805090157_1/5000,		05/30/08 10:36,	5000.0,	222523.5333	
35,	2805090161,		05/30/08 11:01,	1.0,	n.a.	
36,	2805090171_1/100 DNR		05/30/08 11:22,	100.0,	70.3417	DNR
37,	2805090173_1/100 DNR		05/30/08 11:44,	100.0,	36967.0986	
38,	HCV,	100	05/30/08 12:05,	1.0,	101.2904	101 %
39,	IPC,	25	05/30/08 12:27,	1.0,	24.0968	96.4 %
40,	MBLANK,		05/30/08 12:51,	1.0,	n.a.	NDS½MRL
41,	MRL-2,	2	05/30/08 13:13,	1.0,	2.2006	110 %
42,	MRL-4,	4	05/30/08 13:34,	1.0,	4.3741	109 %
43,	LCS,	25	05/30/08 13:55,	1.0,	25.6232	102 %
44,	LCSD,	25	05/30/08 14:17,	1.0,	25.0332	100 %

Chromeleon (c) Dionex 1996-2000
Version 6.80 SP4 Build 2361 (130805)

45,	2805090174_1/4 DNR,		05/30/08 14:39,	4.0,	3.7397	DNR
46,	2805090175_1/4,		05/30/08 15:01,	4.0,	✓17.6063	
47,	2805090176_1/4 DNR,		05/30/08 15:22,	4.0,	5.9958	DNR
48,	2805090177_1/50,		05/30/08 15:44,	50.0,	✓1526.1571	
49,	2805090178_1/500,		05/30/08 16:05,	500.0,	✓19658.6676	
50,	2805090179_1/4,		05/30/08 16:26,	4.0,	✓20.6836	
51,	2805090180_1/100,		05/30/08 16:48,	100.0,	✓1916.4279	
52,	2805090181_1/250,		05/30/08 17:09,	250.0,	✓6616.2422	
53,	2805090274,		05/30/08 17:30,	1.0,	✓0.4913	
54,	2805090280,		05/30/08 17:55,	1.0,	✓0.3927	
55,	2805090280-MS,	25	05/30/08 18:16,	1.0,	23.4648	23.1/92.3%
56,	2805090280-MSD DNR,	MISINJECTED	05/30/08 18:38,	1.0,	12.9515	DNR
57,	2805090280-MSD,	RR	05/30/08 18:59,	1.0,	23.2262	22.8/91.3%
58,	CCSV,	25	05/30/08 19:21,	1.0,	25.3836	102%
59,	2805090182_1/250,		05/30/08 19:45,	250.0,	✓12095.5291	
60,	2805090184_1/100,		05/30/08 20:07,	100.0,	✓4119.7414	
61,	2805090185_1/100,		05/30/08 20:28,	100.0,	✓4421.8170	
62,	2805090186_1/2,		05/30/08 20:49,	2.0,	✓n.a.	
63,	2805090187,		05/30/08 21:11,	1.0,	✓n.a.	
64,	2805090189,		05/30/08 21:36,	1.0,	✓n.a.	
65,	2805090120_1/250 DNR		05/30/08 21:57,	250.0,	44451.5112	DNR
66,	2805100128_1/500 DNR	MISINJECTED	05/30/08 22:18,	500.0,	20875.9397	
67,	2805100129_1/500,		05/30/08 22:40,	500.0,	✓35797.7148	
68,	2805100130_1/500,		05/30/08 23:01,	500.0,	✓6560.3968	
69,	HCV,	100	05/30/08 23:26,	1.0,	99.6836	99.7%

MB: MM5/31/08

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

CONDUCTIVITY MW SOP REVISION 5
SM2510B

Analysis Date: 5/13/08
Analyst: CM
Reviewed By:
LIMS Check By:

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

Time of Analysis Start: 1252 End:
MRL 2umhos/cm: Rx# exp of solution:
KCl Std 1412 Rx# 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 = 3110

Run #	Sample Number	Sample ID	Client	Date Collected	Temp °C	pH	Scale (µmho/mmho)	Result: Instrument	Result: Reported (µmho/cm)	Comments
Blk	Blank				~1	7	mS		0.628	
STD	MRL 2umhos/cm									1-3—±50% of TV
STD	KCl - 1000 mhos/cm								975	950-1050—±5% of TV
1	28050809#3		[redacted]					510		
2	28050901 11		[redacted]					480		
3	0121	.	KM					6200		
4	0122	.						9100		
5	0123	.						9700		
6	0124	.						15160		
7	0132	.						14300		
8	0133	.						15100		
9	0134	.						6200		
10	0135	.						6000		
DUP	1							6000		RPD < 5%
11	0136	.						12100		
12	0137	.						17000		
13	0138	.	↓					4100		
14	0148		[redacted]					410		
15	0152		KM					16460		
16	0155		[redacted]					480		
17	0157		KM					14160		
18	0161		[redacted]					780		
19	0171		KM					5000		
20	0173		↓					5200		
DUP	↓	↓	↓					5200		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

Title: Temporary sequence for manual data acquisition
Datasource: IC-SERVER-4
Location: ICS3000\IC#9\2008\MAY
Timebase: ICS3000
#Samples: 69
Created: 5/29/2008 22:33:57 by dionex
Last Update: 5/31/2008 06:02:22 by dionex

No.	Name	Sample ID	Dil. Factor	Comment	Type	Program	Method
1	CAL1	0	1.0000		Standard	Dionex CLO4 Test	CLO4-IC3000
2	CAL2	R201449 EXP 07/28/09	1.0000	2	Standard	Dionex CLO4 Test	CLO4-IC3000
3	CAL3	4	1.0000	4	Standard	Dionex CLO4 Test	CLO4-IC3000
4	CAL4	10	1.0000	10	Standard	Dionex CLO4 Test	CLO4-IC3000
5	CAL5	25	1.0000	25	Standard	Dionex CLO4 Test	CLO4-IC3000
6	CAL6	50	1.0000	50	Standard	Dionex CLO4 Test	CLO4-IC3000
7	CAL7	100	1.0000	100	Standard	Dionex CLO4 Test	CLO4-IC3000
8	QCS	R201789 EXP 07/10/09	1.0000	20	Unknown	Dionex CLO4 Test	CLO4-IC3000
9	IPC	25	1.0000	25	Unknown	Dionex CLO4 Test	CLO4-IC3000
10	MBLANK		1.0000		Unknown	Dionex CLO4 Test	CLO4-IC3000
11	MRL-2	2	1.0000	2	Unknown	Dionex CLO4 Test	CLO4-IC3000
12	MRL-4	4	1.0000	4	Unknown	Dionex CLO4 Test	CLO4-IC3000
13	LCS	25	1.0000	25	Unknown	Dionex CLO4 Test	CLO4-IC3000
14	LCSD	25	1.0000	25	Unknown	Dionex CLO4 Test	CLO4-IC3000
15	2805080943		1.0000		Unknown	Dionex CLO4 Test	CLO4-IC3000
16	2805080943-MS	25	1.0000	25	Unknown	Dionex CLO4 Test	CLO4-IC3000
17	2805080943-MSD	25	1.0000	25	Unknown	Dionex CLO4 Test	CLO4-IC3000
18	2805090111		1.0000		Unknown	Dionex CLO4 Test	CLO4-IC3000
19	2805090121_1/10000		10000.0000		Unknown	Dionex CLO4 Test	CLO4-IC3000
20	2805090122_1/25000		25000.0000		Unknown	Dionex CLO4 Test	CLO4-IC3000
21	2805090123_1/25000		25000.0000		Unknown	Dionex CLO4 Test	CLO4-IC3000
22	2805090124_1/25000		25000.0000		Unknown	Dionex CLO4 Test	CLO4-IC3000
23	2805090132_1/25000		25000.0000		Unknown	Dionex CLO4 Test	CLO4-IC3000
24	2805090133_1/25000		25000.0000		Unknown	Dionex CLO4 Test	CLO4-IC3000
25	2805090134_1/2500		2500.0000		Unknown	Dionex CLO4 Test	CLO4-IC3000
26	2805090135_1/2500		2500.0000		Unknown	Dionex CLO4 Test	CLO4-IC3000
27	CCSV	25	1.0000	25	Unknown	Dionex CLO4 Test	CLO4-IC3000
28	2805090136_1/25000		25000.0000		Unknown	Dionex CLO4 Test	CLO4-IC3000
29	2805090137_1/50000		50000.0000		Unknown	Dionex CLO4 Test	CLO4-IC3000
30	2805090138_1/1000		1000.0000		Unknown	Dionex CLO4 Test	CLO4-IC3000
31	2805090148		1.0000		Unknown	Dionex CLO4 Test	CLO4-IC3000
32	2805090152_1/500		500.0000		Unknown	Dionex CLO4 Test	CLO4-IC3000
33	2805090155		1.0000		Unknown	Dionex CLO4 Test	CLO4-IC3000
34	2805090157_1/5000		5000.0000		Unknown	Dionex CLO4 Test	CLO4-IC3000
35	2805090161		1.0000		Unknown	Dionex CLO4 Test	CLO4-IC3000
36	2805090171_1/100 DNR		100.0000		Unknown	Dionex CLO4 Test	CLO4-IC3000
37	2805090173_1/100 DNR		100.0000		Unknown	Dionex CLO4 Test	CLO4-IC3000
38	HCV	100	1.0000	100	Unknown	Dionex CLO4 Test	CLO4-IC3000
39	IPC	25	1.0000	25	Unknown	Dionex CLO4 Test	CLO4-IC3000
40	MBLANK		1.0000		Unknown	Dionex CLO4 Test	CLO4-IC3000
41	MRL-2	2	1.0000	2	Unknown	Dionex CLO4 Test	CLO4-IC3000
42	MRL-4	4	1.0000	4	Unknown	Dionex CLO4 Test	CLO4-IC3000
43	LCS	25	1.0000	25	Unknown	Dionex CLO4 Test	CLO4-IC3000
44	LCSD	25	1.0000	25	Unknown	Dionex CLO4 Test	CLO4-IC3000
45	2805090174_1/4 DNR		4.0000		Unknown	Dionex CLO4 Test	CLO4-IC3000
46	2805090175_1/4		4.0000		Unknown	Dionex CLO4 Test	CLO4-IC3000
47	2805090176_1/4 DNR		4.0000		Unknown	Dionex CLO4 Test	CLO4-IC3000
48	2805090177_1/50		50.0000		Unknown	Dionex CLO4 Test	CLO4-IC3000
49	2805090178_1/500		500.0000		Unknown	Dionex CLO4 Test	CLO4-IC3000

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Title: Temporary sequence for manual data acquisition
Datasource: IC-SERVER-4
Location: ICS3000\IC#9\2008\MAY
Timebase: ICS3000
#Samples: 69
Created: 5/29/2008 22:33:57 by dionex
Last Update: 5/31/2008 06:02:22 by dionex

No.	Name	Sample ID	Dil. Factor	Comment	Type	Program	Method
50	2805090179_1/4		4.0000		Unknown	Dionex CLO4 Test	CLO4-IC3000
51	2805090180_1/100		100.0000		Unknown	Dionex CLO4 Test	CLO4-IC3000
52	2805090181_1/250		250.0000		Unknown	Dionex CLO4 Test	CLO4-IC3000
53	2805090274		1.0000		Unknown	Dionex CLO4 Test	CLO4-IC3000
54	2805090280		1.0000		Unknown	Dionex CLO4 Test	CLO4-IC3000
55	2805090280-MS	25	1.0000	25	Unknown	Dionex CLO4 Test	CLO4-IC3000
56	2805090280-MSD DNR	25	1.0000	MISINJECTED	Unknown	Dionex CLO4 Test	CLO4-IC3000
57	2805090280-MSD	25	1.0000	RR	Unknown	Dionex CLO4 Test	CLO4-IC3000
58	CCSV	25	1.0000	25	Unknown	Dionex CLO4 Test	CLO4-IC3000
59	2805090182_1/250		1.0000		Unknown	Dionex CLO4 Test	CLO4-IC3000
60	2805090184_1/100		1.0000		Unknown	Dionex CLO4 Test	CLO4-IC3000
61	2805090185_1/100		1.0000		Unknown	Dionex CLO4 Test	CLO4-IC3000
62	2805090186_1/2		1.0000		Unknown	Dionex CLO4 Test	CLO4-IC3000
63	2805090187		1.0000		Unknown	Dionex CLO4 Test	CLO4-IC3000
64	2805090189		1.0000		Unknown	Dionex CLO4 Test	CLO4-IC3000
65	2805090120_1/250 DNR		250.0000		Unknown	Dionex CLO4 Test	CLO4-IC3000
66	2805100128_1/500 DNR		500.0000	MISINJECTED	Unknown	Dionex CLO4 Test	CLO4-IC3000
67	2805100129_1/500		500.0000		Unknown	Dionex CLO4 Test	CLO4-IC3000
68	2805100130_1/500		500.0000		Unknown	Dionex CLO4 Test	CLO4-IC3000
69	HCV	100	1.0000	100	Unknown	Dionex CLO4 Test	CLO4-IC3000

Title: Temporary sequence for manual data acquisition
Datasource: IC-SERVER-4
Location: ICS3000\IC#9\2008\MAY
Timebase: ICS3000
#Samples: 69

Created: 5/29/2008 22:33:57 by dionex
Last Update: 5/31/2008 06:02:22 by dionex

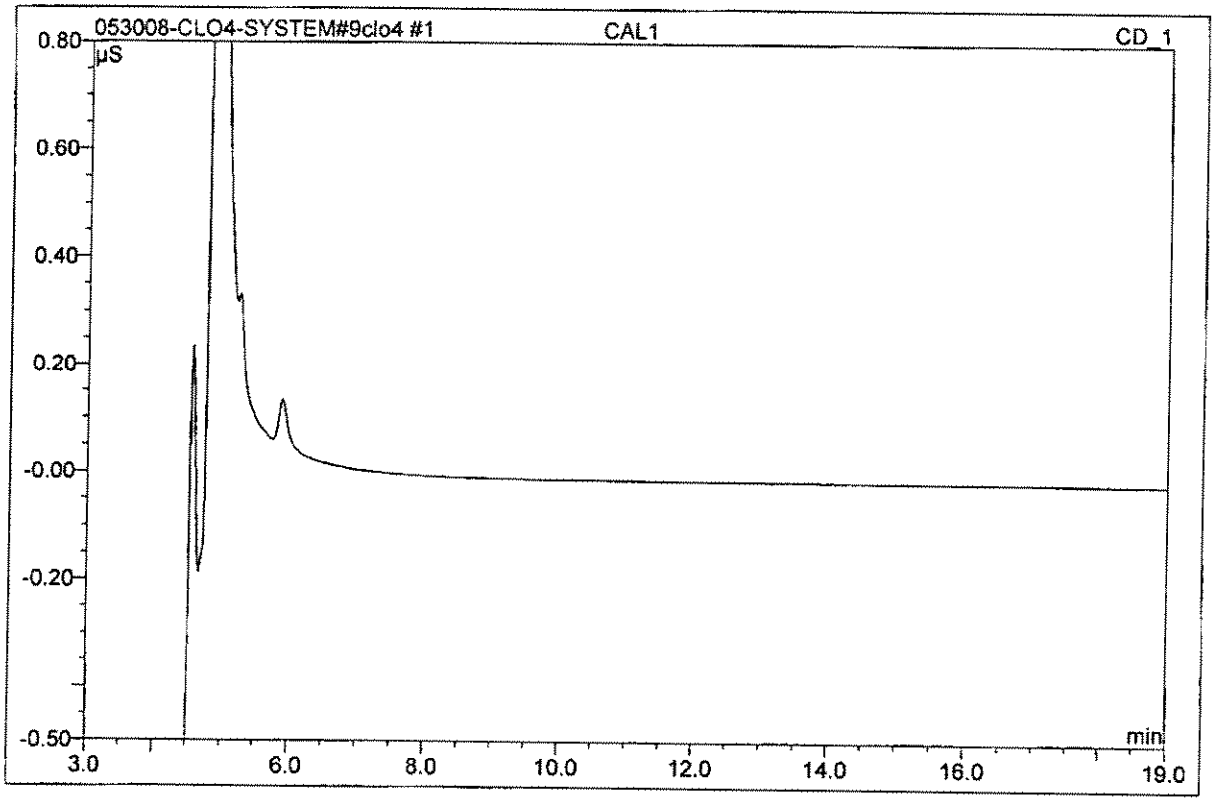
No.	Name	Status	Inj. Date/Time	*Analyst
1	CAL1	Finished	5/29/2008 22:34:48	CLV
2	CAL2	Finished	5/29/2008 22:56:12	CLV
3	CAL3	Finished	5/29/2008 23:17:35	CLV
4	CAL4	Finished	5/29/2008 23:38:59	CLV
5	CAL5	Finished	5/30/2008 00:00:22	CLV
6	CAL6	Finished	5/30/2008 00:21:46	CLV
7	CAL7	Finished	5/30/2008 00:46:23	CLV
8	QCS	Finished	5/30/2008 01:07:47	CLV
9	IPC	Finished	5/30/2008 01:29:11	CLV
10	MBLANK	Finished	5/30/2008 01:50:34	CLV
11	MRL-2	Finished	5/30/2008 02:11:58	CLV
12	MRL-4	Finished	5/30/2008 02:36:36	CLV
13	LCS	Finished	5/30/2008 02:57:59	CLV
14	LCSD	Finished	5/30/2008 03:19:23	CLV
15	2805080943	Finished	5/30/2008 03:40:46	CLV
16	2805080943-MS	Finished	5/30/2008 04:02:10	CLV
17	2805080943-MSD	Finished	5/30/2008 04:26:48	CLV
18	2805090111	Finished	5/30/2008 04:48:11	CLV
19	2805090121_1/10000	Finished	5/30/2008 05:09:35	CLV
20	2805090122_1/25000	Finished	5/30/2008 05:30:59	CLV
21	2805090123_1/25000	Finished	5/30/2008 05:52:22	CLV
22	2805090124_1/25000	Finished	5/30/2008 06:17:00	CLV
23	2805090132_1/25000	Finished	5/30/2008 06:38:23	CLV
24	2805090133_1/25000	Finished	5/30/2008 06:59:47	CLV
25	2805090134_1/2500	Finished	5/30/2008 07:21:11	CLV
26	2805090135_1/2500	Finished	5/30/2008 07:42:34	CLV
27	CCSV	Finished	5/30/2008 08:03:58	CLV
28	2805090136_1/25000	Finished	5/30/2008 08:25:21	CLV
29	2805090137_1/50000	Finished	5/30/2008 08:46:45	CLV
30	2805090138_1/1000	Finished	5/30/2008 09:11:22	CLV
31	2805090148	Finished	5/30/2008 09:32:46	CLV
32	2805090152_1/500	Finished	5/30/2008 09:54:09	CLV
33	2805090155	Finished	5/30/2008 10:15:33	CLV
34	2805090157_1/5000	Finished	5/30/2008 10:36:57	CLV
35	2805090161	Finished	5/30/2008 11:01:35	CLV
36	2805090171_1/100 DNR	Finished	5/30/2008 11:22:59	CLV
37	2805090173_1/100 DNR	Finished	5/30/2008 11:44:22	CLV
38	HCV	Finished	5/30/2008 12:05:47	CLV
39	IPC	Finished	5/30/2008 12:27:10	CLV
40	MBLANK	Finished	5/30/2008 12:51:48	CLV
41	MRL-2	Finished	5/30/2008 13:13:11	CLV
42	MRL-4	Finished	5/30/2008 13:34:35	CLV
43	LCS	Finished	5/30/2008 13:55:59	CLV
44	LCSD	Finished	5/30/2008 14:17:22	CLV
45	2805090174_1/4 DNR	Finished	5/30/2008 14:39:49	CLV
46	2805090175_1/4	Finished	5/30/2008 15:01:13	CLV
47	2805090176_1/4 DNR	Finished	5/30/2008 15:22:36	CLV
48	2805090177_1/50	Finished	5/30/2008 15:44:00	CLV
49	2805090178_1/500	Finished	5/30/2008 16:05:24	CLV

Title: Temporary sequence for manual data acquisition
Datasource: IC-SERVER-4
Location: ICS3000\IC#9\2008\MAY
Timebase: ICS3000
#Samples: 69
Created: 5/29/2008 22:33:57 by dionex
Last Update: 5/31/2008 06:02:22 by dionex

No.	Name	Status	Inj. Date/Time	*Analyst
50	2805090179_1/4	Finished	5/30/2008 16:26:47	CLV
51	2805090180_1/100	Finished	5/30/2008 16:48:11	CLV
52	2805090181_1/250	Finished	5/30/2008 17:09:35	CLV
53	2805090274	Finished	5/30/2008 17:30:59	CLV
54	2805090280	Finished	5/30/2008 17:55:35	CLV
55	2805090280-MS	Finished	5/30/2008 18:16:59	CLV
56	2805090280-MSD DNR	Finished	5/30/2008 18:38:23	CLV
57	2805090280-MSD	Finished	5/30/2008 18:59:47	CLV
58	CCSV	Finished	5/30/2008 19:21:11	CLV
59	2805090182_1/250	Finished	5/30/2008 19:45:47	CLV
60	2805090184_1/100	Finished	5/30/2008 20:07:11	CLV
61	2805090185_1/100	Finished	5/30/2008 20:28:35	CLV
62	2805090186_1/2	Finished	5/30/2008 20:49:58	CLV
63	2805090187	Finished	5/30/2008 21:11:22	CLV
64	2805090189	Finished	5/30/2008 21:36:00	CLV
65	2805090120_1/250 DNR	Finished	5/30/2008 21:57:23	CLV
66	2805100128_1/500 DNR	Finished	5/30/2008 22:18:47	CLV
67	2805100129_1/500	Finished	5/30/2008 22:40:11	CLV
68	2805100130_1/500	Finished	5/30/2008 23:01:34	CLV
69	HCV	Finished	5/30/2008 23:26:11	CLV

1 CAL1

Sample Type	**standard**	*Injection Volume:*	**1000.0**
Control Program	**Dionex CLO4 Test**	*Channel:*	**CD_1**
Quantif. Method	**CLO4-IC3000**	*Dilution Factor:*	**1.0000**
Run Time (min)	**19.00**	*Analyst*	**CLV**
Recording Time	**05/29/08 22:34**		

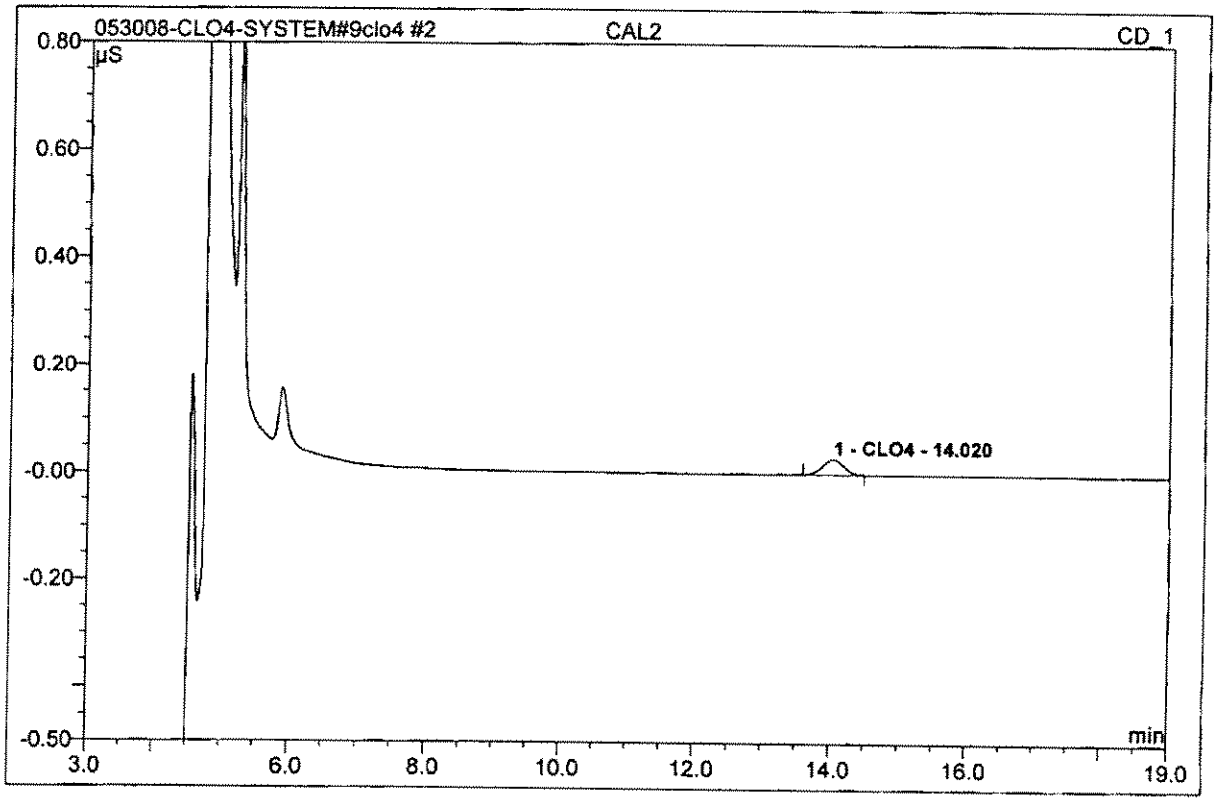


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
Total:			0.000	0.000	0.00	0.000	

2 CAL2

2

Sample Type	**standard**	*Injection Volume:*	**1000.0**
Control Program	**Dionex CLO4 Test**	*Channel:*	**CD_1**
Quantif. Method	**CLO4-IC3000**	*Dilution Factor:*	**1.0000**
Run Time (min)	**19.00**	*Analyst*	**CLV**
Recording Time	**05/29/08 22:56**		

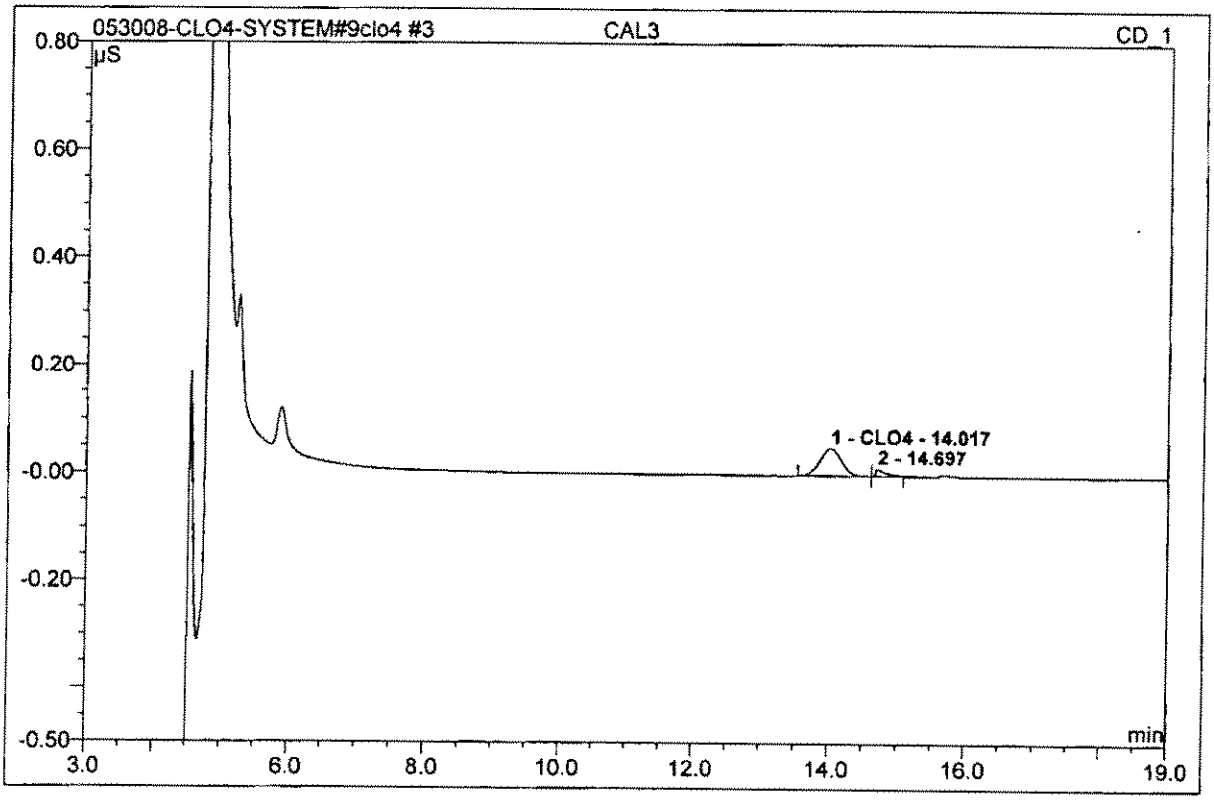


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	14.02	CLO4	0.028	0.010	100.00	2.245	BMB
Total:			0.028	0.010	100.00	2.245	

3 CAL3

4

Sample Type	**standard**	*Injection Volume:*	**1000.0**
Control Program	**Dionex CLO4 Test**	*Channel:*	**CD_1**
Quantif. Method	**CLO4-IC3000**	*Dilution Factor:*	**1.0000**
Run Time (min)	**19.00**	*Analyst*	**CLV**
Recording Time	**05/29/08 23:17**		

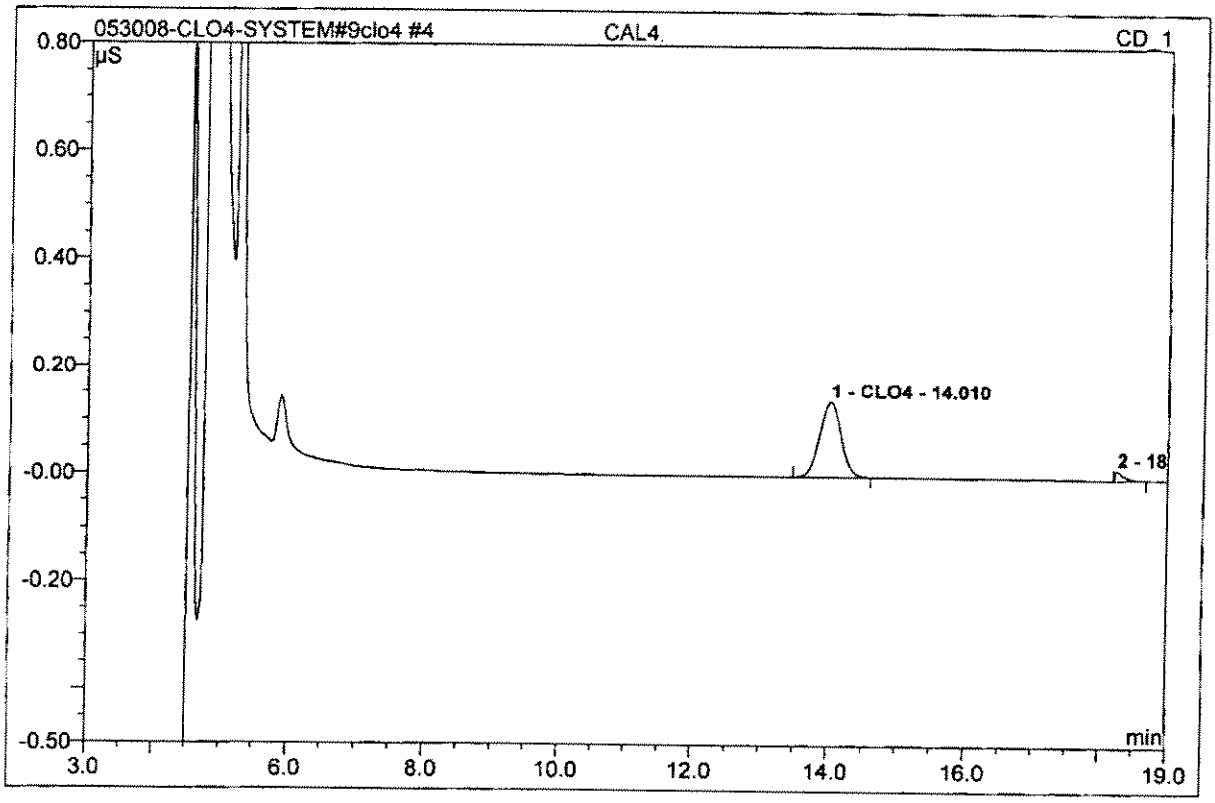


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	14.02	CLO4	0.051	0.018	89.38	3.878	BM
Total:			0.051	0.018	89.38	3.878	

4 CAL4

10

Sample Type	**standard**	*Injection Volume:*	**1000.0**
Control Program	**Dionex CLO4 Test**	*Channel:*	**CD_1**
Quantif. Method	**CLO4-IC3000**	*Dilution Factor:*	**1.0000**
Run Time (min)	**19.00**	*Analyst*	**CLV**
Recording Time	**05/29/08 23:38**		

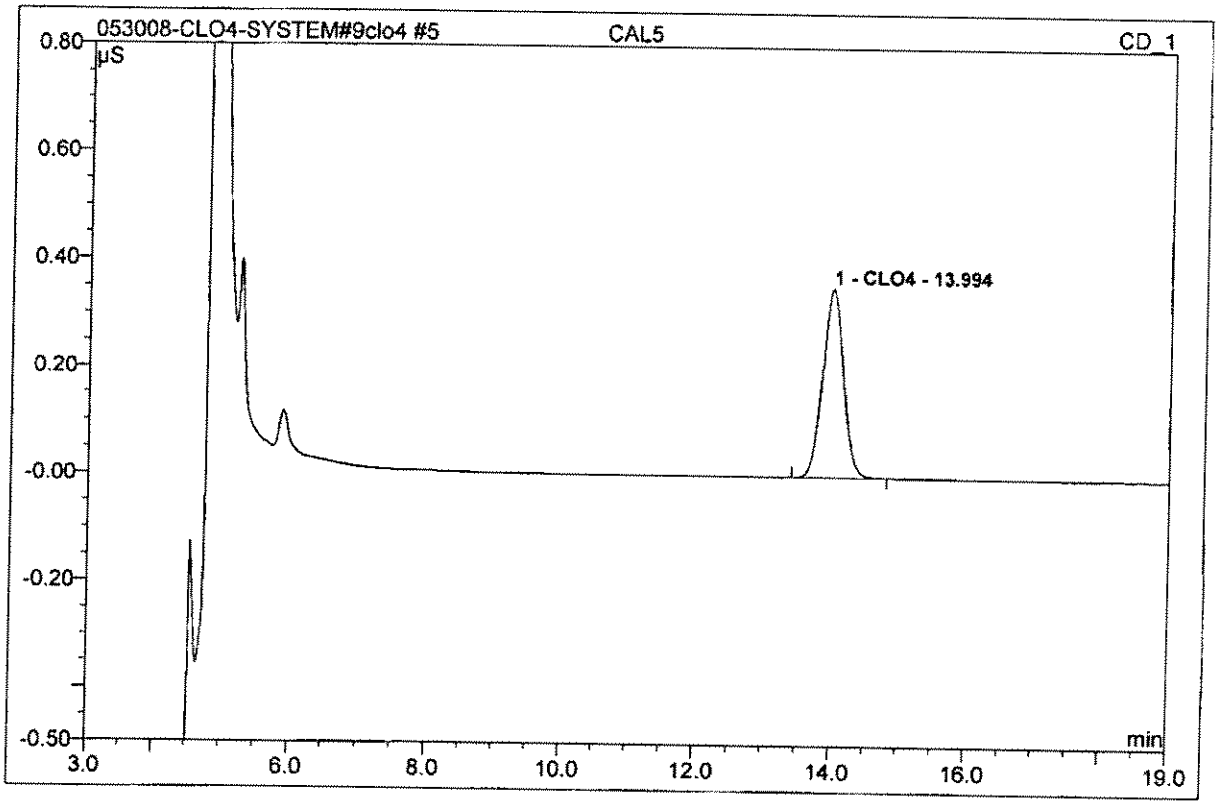


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	14.01	CLO4	0.139	0.050	95.13	10.046	BMB
Total:			0.139	0.050	95.13	10.046	

5 CAL5

25

Sample Type	**standard**	*Injection Volume:*	**1000.0**
Control Program	**Dionex CLO4 Test**	*Channel:*	**CD_1**
Quantif. Method	**CLO4-IC3000**	*Dilution Factor:*	**1.0000**
Run Time (min)	**19.00**	*Analyst*	**CLV**
Recording Time	**05/30/08 00:00**		

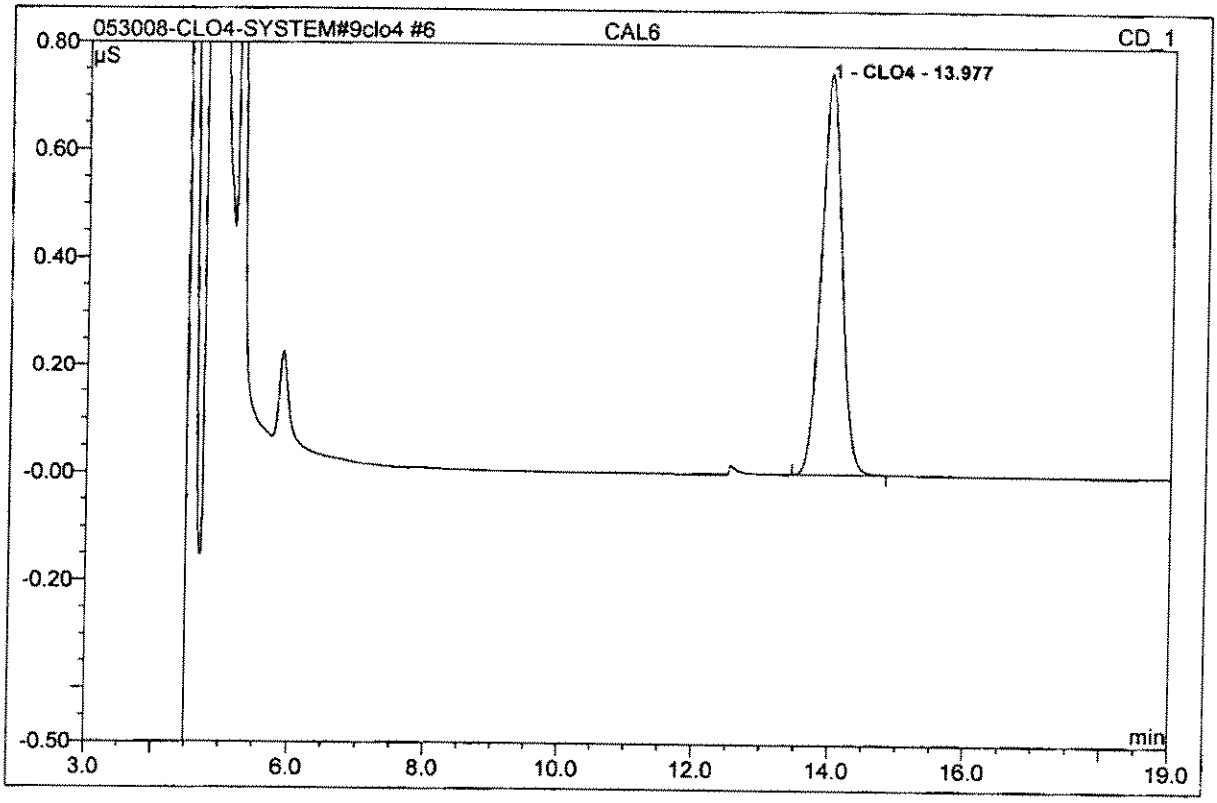


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	13.99	CLO4	0.352	0.125	100.00	24.601	BMB
Total:			0.352	0.125	100.00	24.601	

6 CAL6

50

Sample Type	**standard**	*Injection Volume:*	**1000.0**
Control Program	**Dionex CLO4 Test**	*Channel:*	**CD_1**
Quantif. Method	**CLO4-IC3000**	*Dilution Factor:*	**1.0000**
Run Time (min)	**19.00**	*Analyst*	**CLV**
Recording Time	**05/30/08 00:21**		

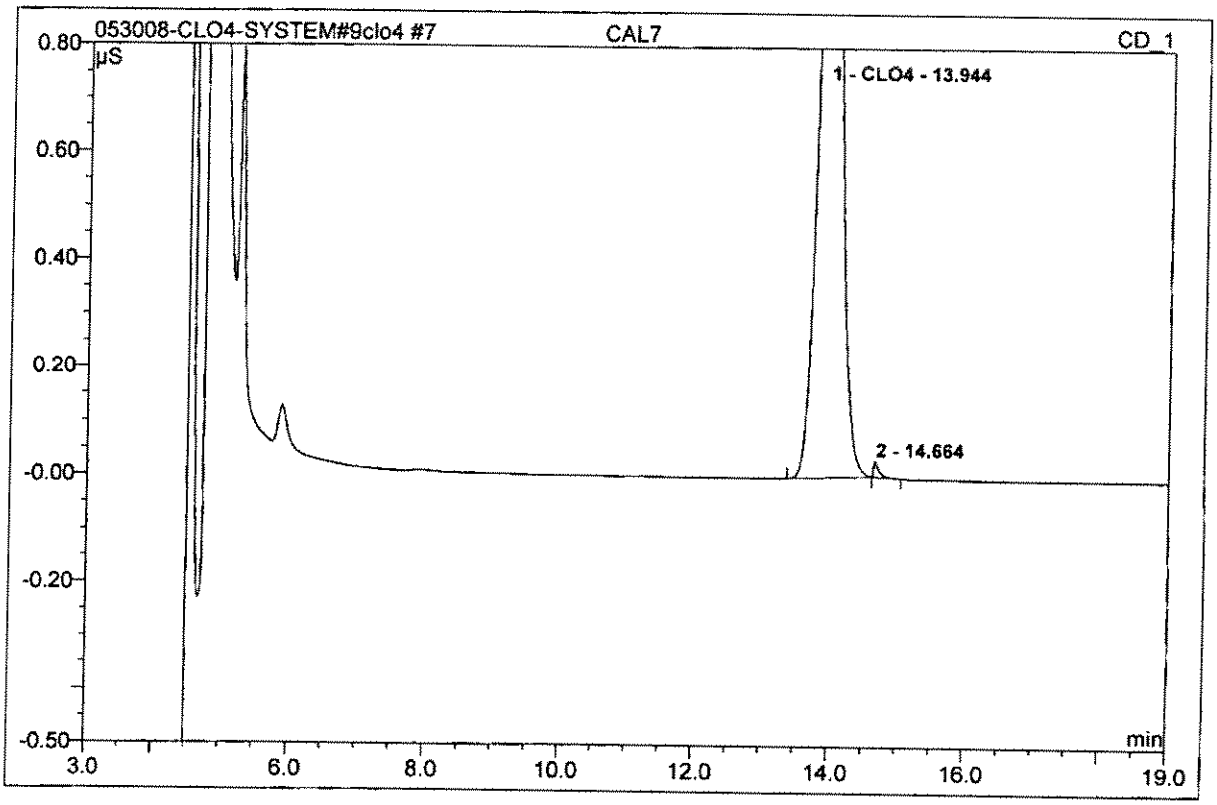


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	13.98	CLO4	0.747	0.264	100.00	50.270	BMB
Total:			0.747	0.264	100.00	50.270	

7 CAL7

100

Sample Type	**standard**	*Injection Volume:*	**1000.0**
Control Program	**Dionex CLO4 Test**	*Channel:*	**CD_1**
Quantif. Method	**CLO4-IC3000**	*Dilution Factor:*	**1.0000**
Run Time (min)	**19.00**	*Analyst*	**CLV**
Recording Time	**05/30/08 00:46**		

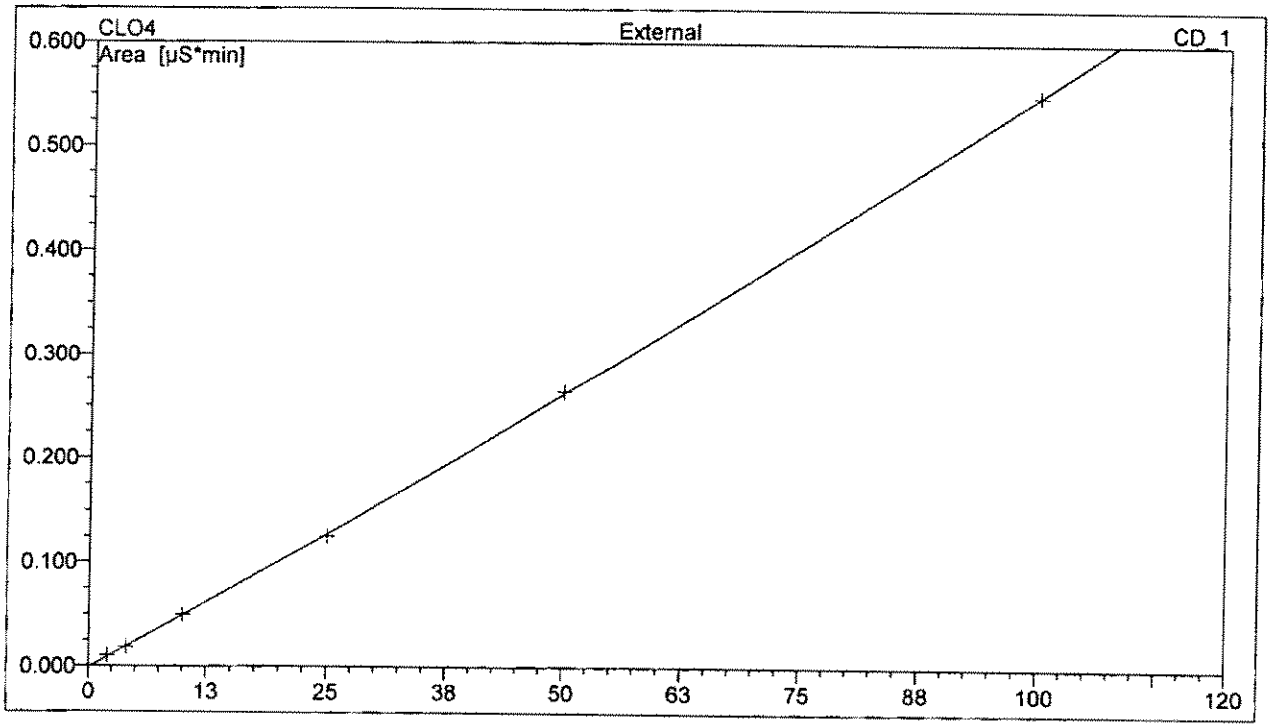


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	13.94	CLO4	1.577	0.550	99.54	99.959	BMB
Total:			1.577	0.550	99.54	99.959	

7 CAL7

100

Sample Type:	**standard**	*Channel:*	**CD_1**
Control Program:	**Dionex CLO4 Test**	*Wavelength:*	**CD_1**
Quantif. Method:	**CLO4-IC3000**	*Dilution Factor:*	**1.0000**
Recording Time:	**05/30/08 00:46**	*Analyst:*	**CLV**
Run Time (min):	**19.00**		

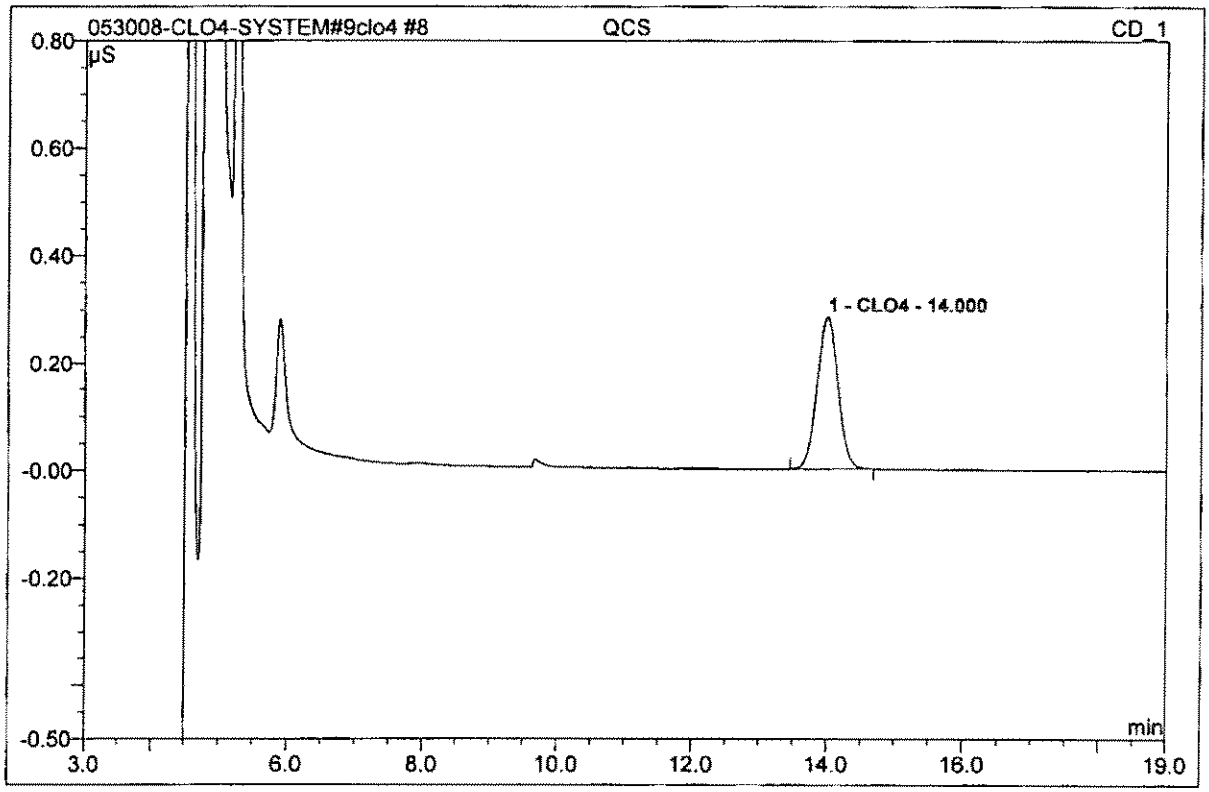


No.	Ret.Time min	Peak Name	Cal.Type	Points	Corr.Coeff. %	Offset	Slope	Curve
1	13.94	CLO4	QOff	6	99.9714	-0.0014	0.0050	0.0000
2	14.66	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Average:					99.9714	-0.0014	0.0050	0.0000

8 QCS

20

Sample Type	**unknown**	*Injection Volume:*	**1000.0**
Control Program	**Dionex CLO4 Test**	*Channel:*	**CD_1**
Quantif. Method	**CLO4-IC3000**	*Dilution Factor:*	**1.0000**
Run Time (min)	**19.00**	*Analyst*	**CLV**
Recording Time	**05/30/08 01:07**		

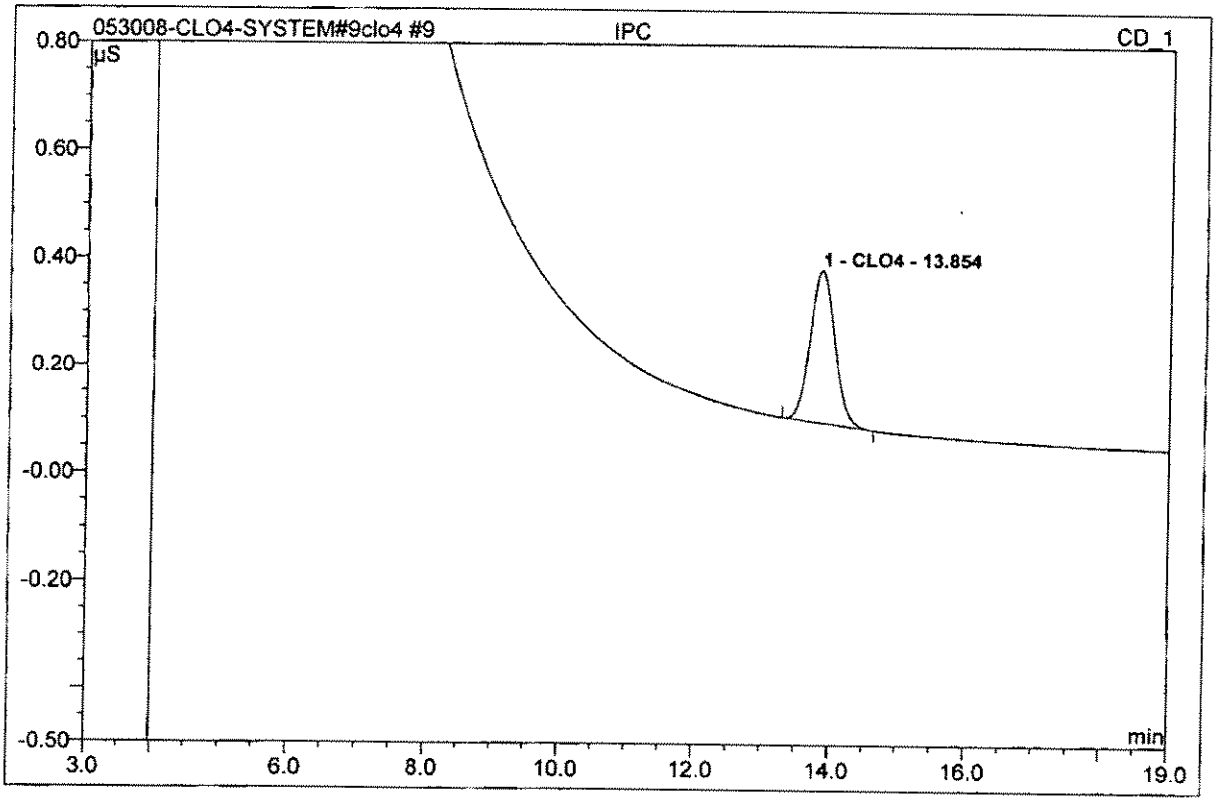


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	14.00	CLO4	0.284	0.101	100.00	19.997	BMB
Total:			0.284	0.101	100.00	19.997	

9 IPC

25

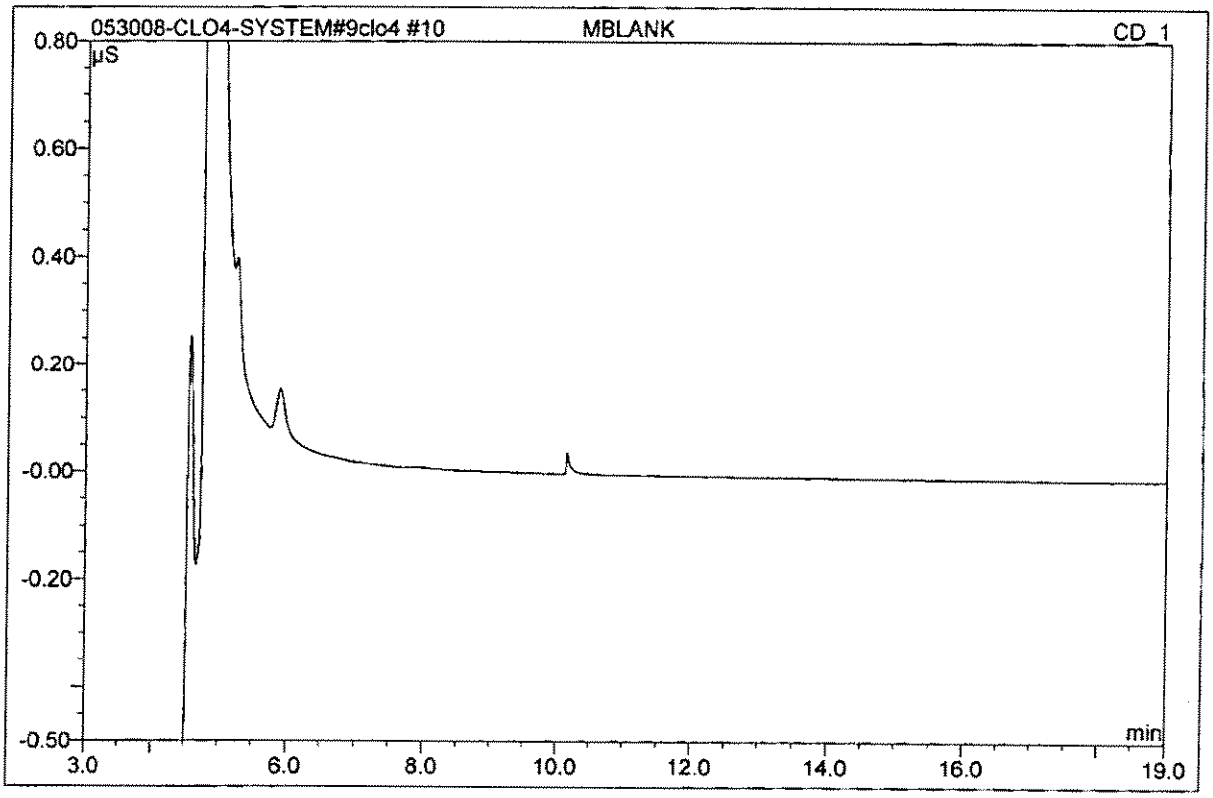
Sample Type	**unknown**	*Injection Volume:*	**1000.0**
Control Program	**Dionex CLO4 Test**	*Channel:*	**CD_1**
Quantif. Method	**CLO4-IC3000**	*Dilution Factor:*	**1.0000**
Run Time (min)	**19.00**	*Analyst*	**CLV**
Recording Time	**05/30/08 01:29**		



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	13.85	CLO4	0.285	0.121	100.00	23.767	BMB
Total:			0.285	0.121	100.00	23.767	

10 MBLANK

Sample Type	**unknown**	*Injection Volume:*	**1000.0**
Control Program	**Dionex CLO4 Test**	*Channel:*	**CD_1**
Quantif. Method	**CLO4-IC3000**	*Dilution Factor:*	**1.0000**
Run Time (min)	**19.00**	*Analyst*	**CLV**
Recording Time	**05/30/08 01:50**		

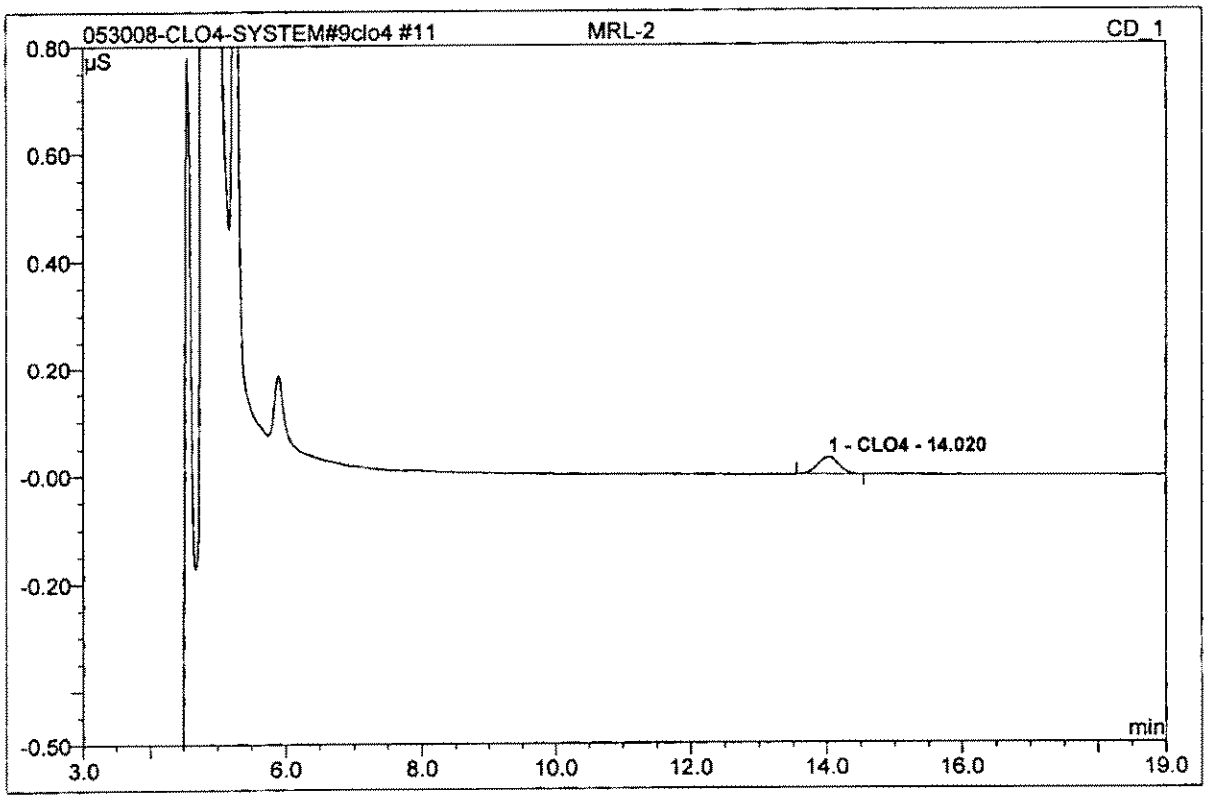


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
Total:			0.000	0.000	0.00	0.000	

11 MRL-2

2

Sample Type	**unknown**	*Injection Volume:*	**1000.0**
Control Program	**Dionex CLO4 Test**	*Channel:*	**CD_1**
Quantif. Method	**CLO4-IC3000**	*Dilution Factor:*	**1.0000**
Run Time (min)	**19.00**	*Analyst*	**CLV**
Recording Time	**05/30/08 02:11**		

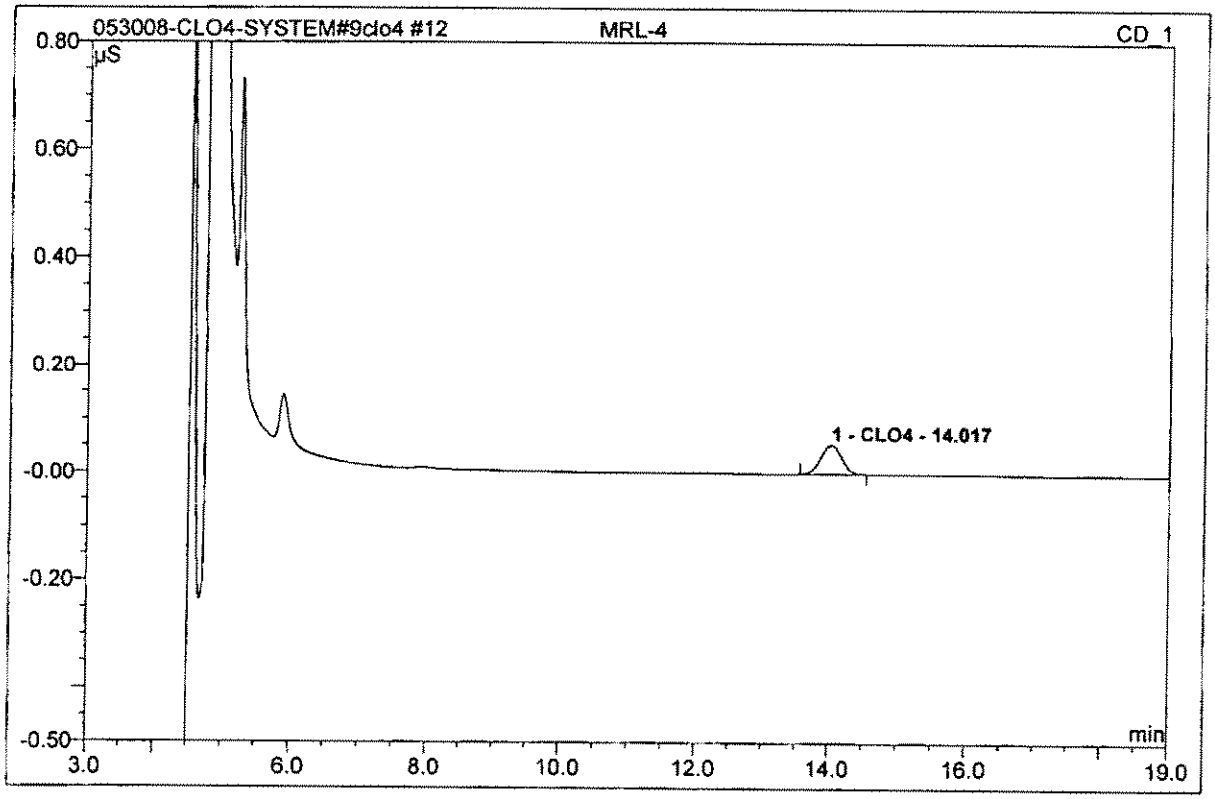


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	14.02	CLO4	0.030	0.011	100.00	2.413	BMB
Total:			0.030	0.011	100.00	2.413	

12 MRL-4

4

Sample Type	**unknown**	*Injection Volume:*	**1000.0**
Control Program	**Dionex CLO4 Test**	*Channel:*	**CD_1**
Quantif. Method	**CLO4-IC3000**	*Dilution Factor:*	**1.0000**
Run Time (min)	**19.00**	*Analyst*	**CLV**
Recording Time	**05/30/08 02:36**		

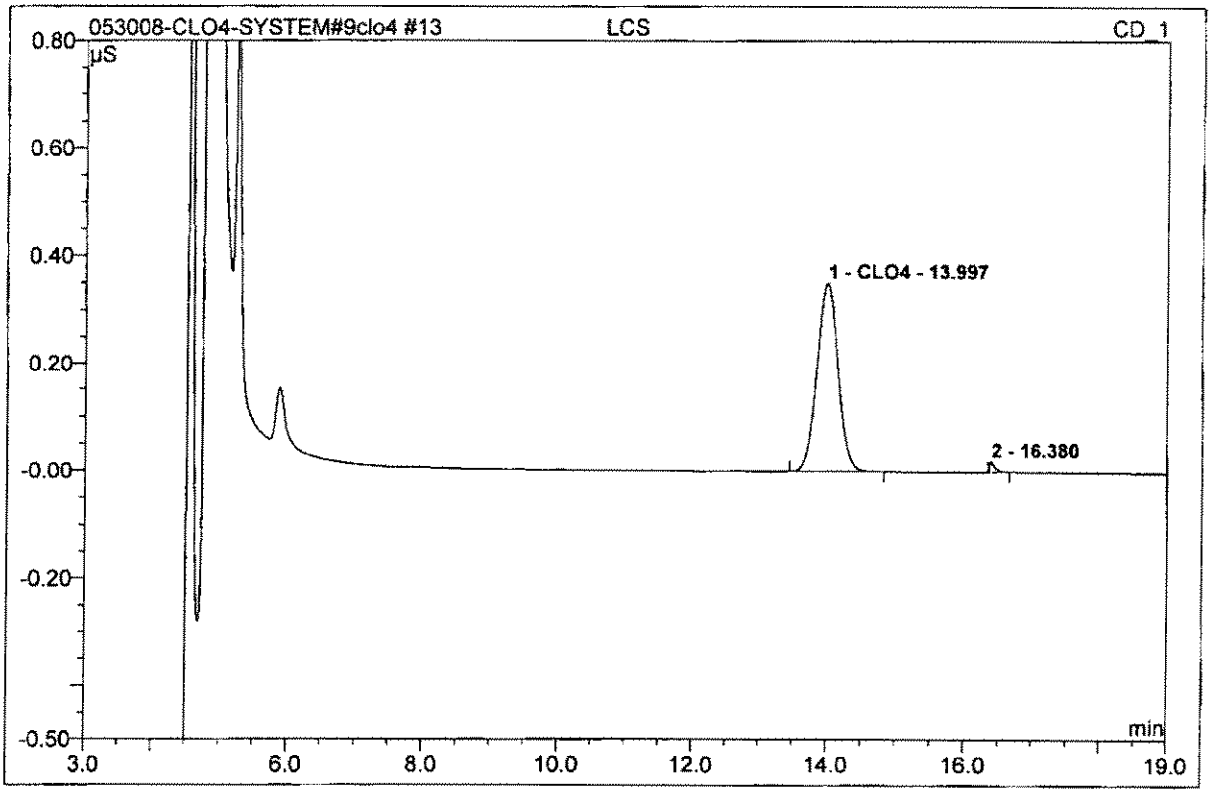


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	14.02	CLO4	0.053	0.019	100.00	4.031	BMB
Total:			0.053	0.019	100.00	4.031	

13 LCS

25

Sample Type	**unknown**	*Injection Volume:*	**1000.0**
Control Program	**Dionex CLO4 Test**	*Channel:*	**CD_1**
Quantif. Method	**CLO4-IC3000**	*Dilution Factor:*	**1.0000**
Run Time (min)	**19.00**	*Analyst*	**CLV**
Recording Time	**05/30/08 02:57**		

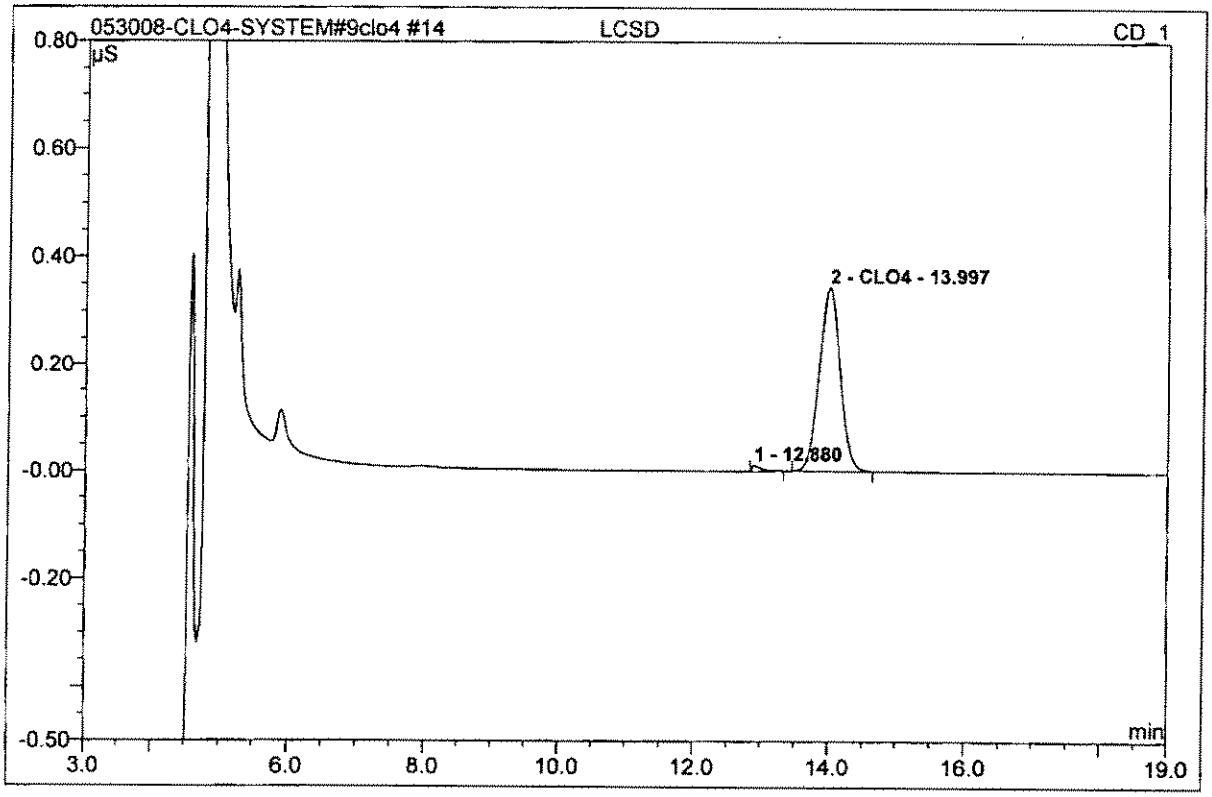


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	14.00	CLO4	0.350	0.125	98.64	24.504	BMB
Total:			0.350	0.125	98.64	24.504	

14 LCSD

25

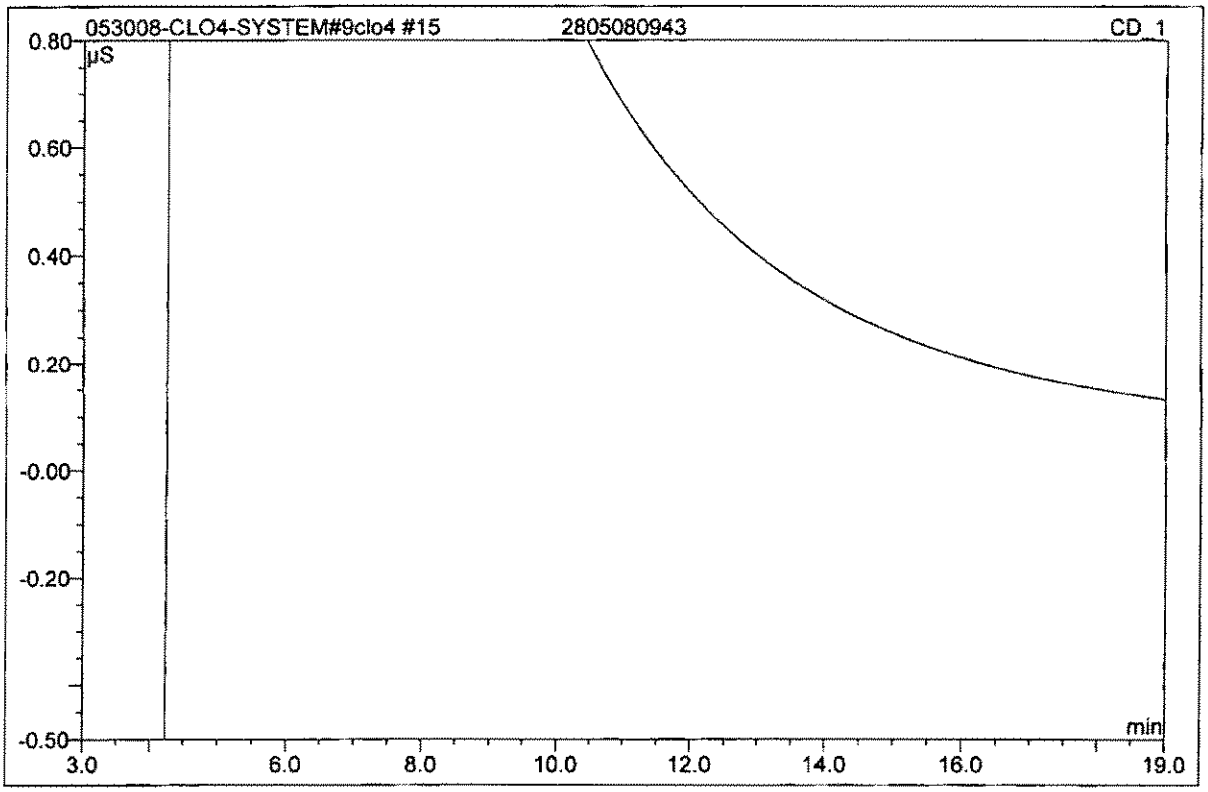
Sample Type	**unknown**	*Injection Volume:*	**1000.0**
Control Program	**Dionex CLO4 Test**	*Channel:*	**CD_1**
Quantif. Method	**CLO4-IC3000**	*Dilution Factor:*	**1.0000**
Run Time (min)	**19.00**	*Analyst*	**CLV**
Recording Time	**05/30/08 03:19**		



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
2	14.00	CLO4	0.343	0.122	98.61	23.958	BMB
Total:			0.343	0.122	98.61	23.958	

15 2805080943

Sample Type	**unknown**	*Injection Volume:*	**1000.0**
Control Program	**Dionex CLO4 Test**	*Channel:*	**CD_1**
Quantif. Method	**CLO4-IC3000**	*Dilution Factor:*	**1.0000**
Run Time (min)	**19.00**	*Analyst*	**CLV**
Recording Time	**05/30/08 03:40**		

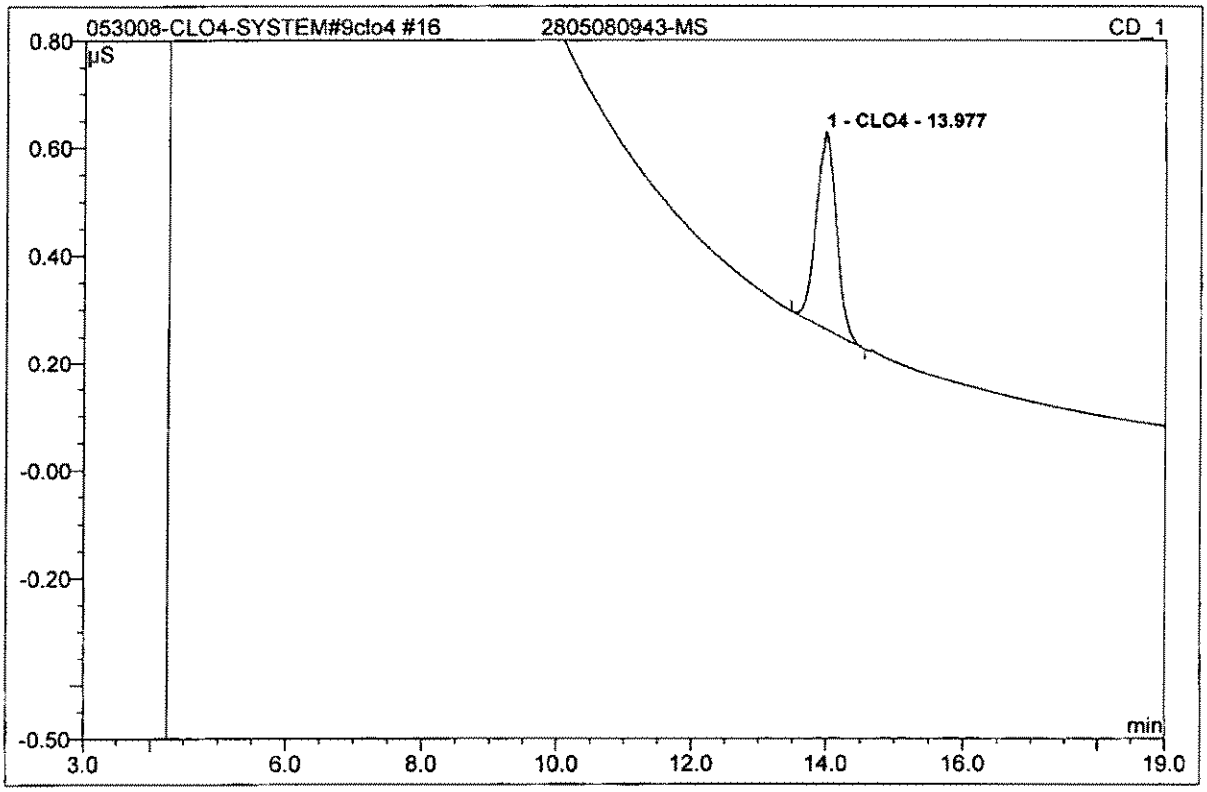


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
Total:			0.000	0.000	0.00	0.000	

16 2805080943-MS

25

Sample Type	**unknown**	*Injection Volume:*	**1000.0**
Control Program	**Dionex CLO4 Test**	*Channel:*	**CD_1**
Quantif. Method	**CLO4-IC3000**	*Dilution Factor:*	**1.0000**
Run Time (min)	**19.00**	*Analyst*	**CLV**
Recording Time	**05/30/08 04:02**		

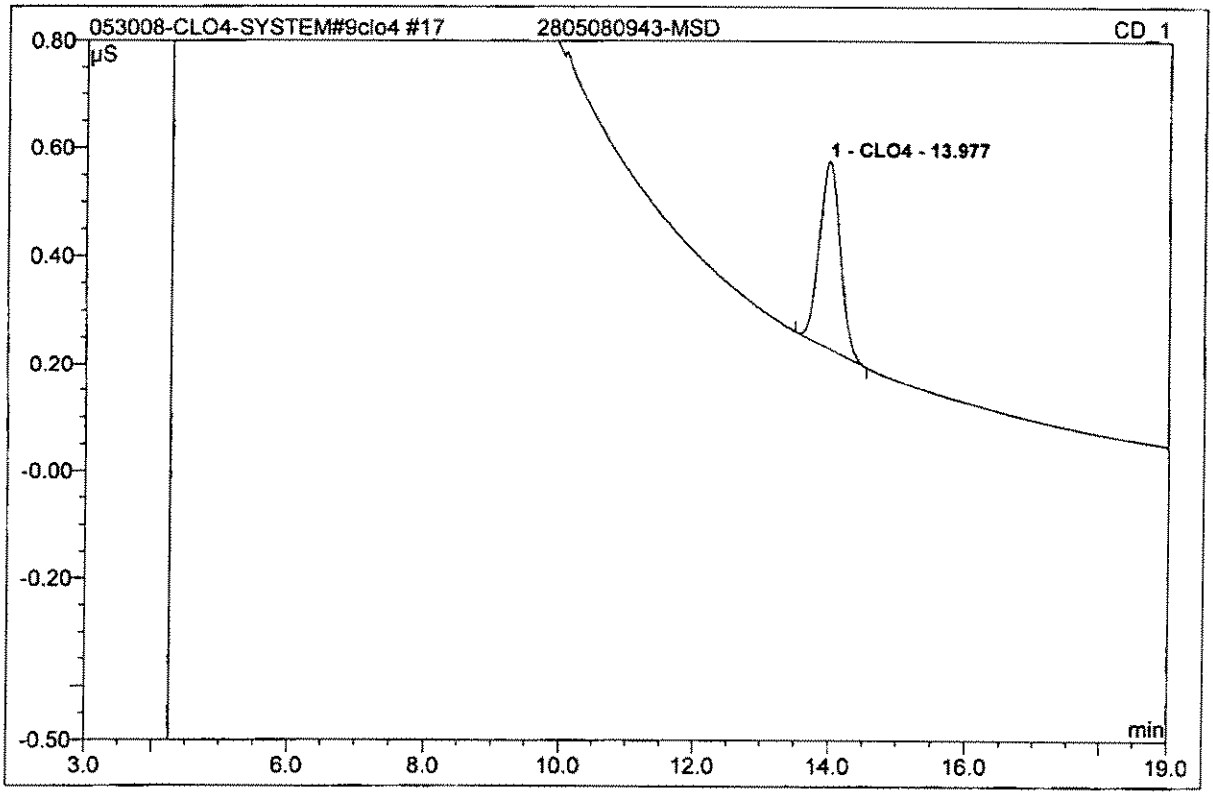


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	13.98	CLO4	0.366	0.124	100.00	24.391	BMB
Total:			0.366	0.124	100.00	24.391	

17 2805080943-MSD

25

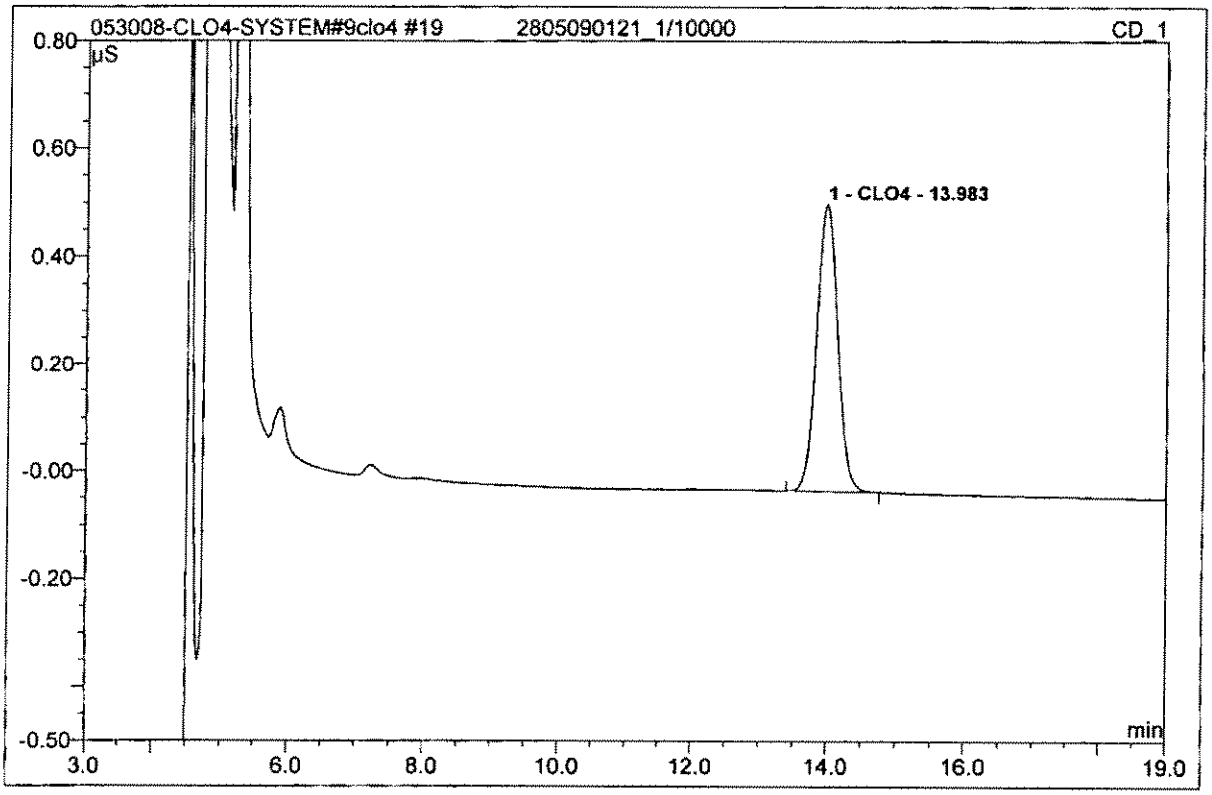
Sample Type	**unknown**	*Injection Volume:*	**1000.0**
Control Program	**Dionex CLO4 Test**	*Channel:*	**CD_1**
Quantif. Method	**CLO4-IC3000**	*Dilution Factor:*	**1.0000**
Run Time (min)	**19.00**	*Analyst*	**CLV**
Recording Time	**05/30/08 04:26**		



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	13.98	CLO4	0.345	0.123	100.00	24.100	BMB
Total:			0.345	0.123	100.00	24.100	

19 2805090121_1/10000

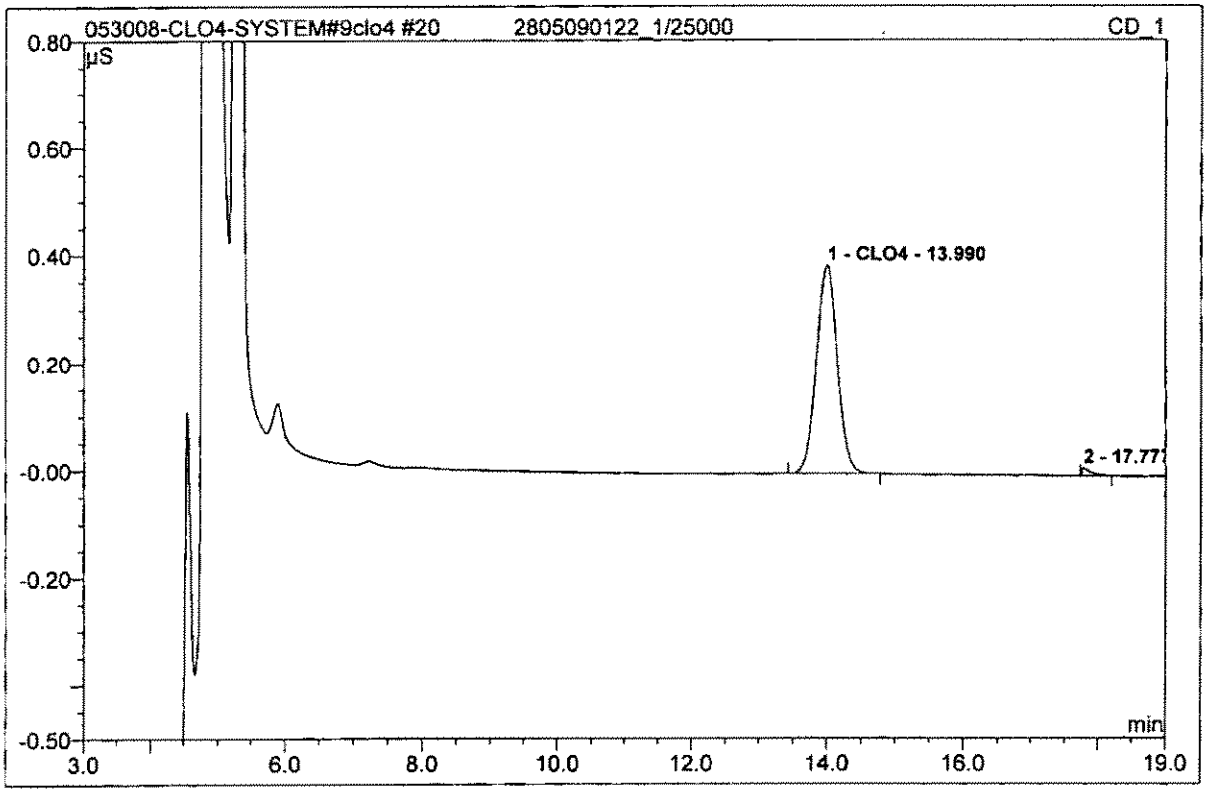
Sample Type	**unknown**	*Injection Volume:*	**1000.0**
Control Program	**Dionex CLO4 Test**	*Channel:*	**CD_1**
Quantif. Method	**CLO4-IC3000**	*Dilution Factor:*	**10000.0000**
Run Time (min)	**19.00**	*Analyst*	**CLV**
Recording Time	**05/30/08 05:09**		



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	13.98	CLO4	0.535	0.190	100.00	367341.292	BMB
Total:			0.535	0.190	100.00	367341.292	

20 2805090122_1/25000

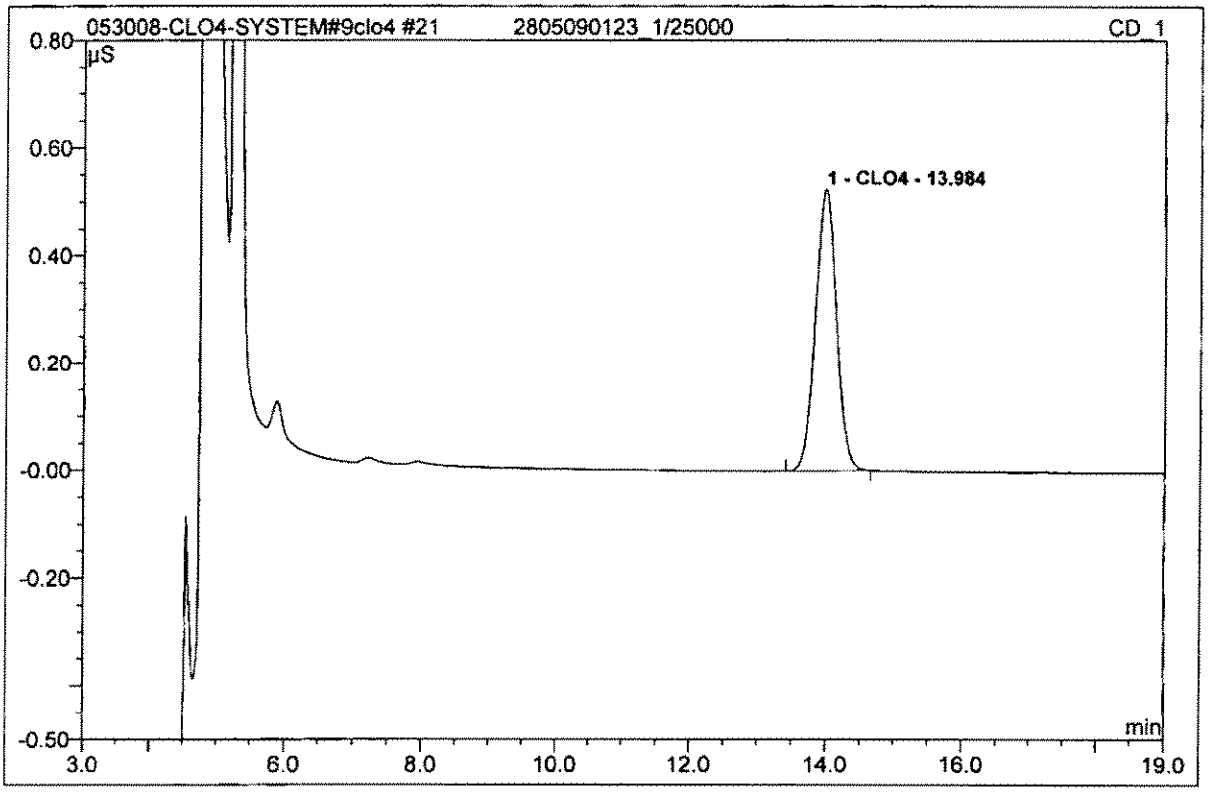
Sample Type	**unknown**	*Injection Volume:*	**1000.0**
Control Program	**Dionex CLO4 Test**	*Channel:*	**CD_1**
Quantif. Method	**CLO4-IC3000**	*Dilution Factor:*	**25000.0000**
Run Time (min)	**19.00**	*Analyst*	**CLV**
Recording Time	**05/30/08 05:30**		



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	13.99	CLO4	0.387	0.138	98.50	673992.975	BMB
Total:			0.387	0.138	98.50	673992.975	

21 2805090123_1/25000

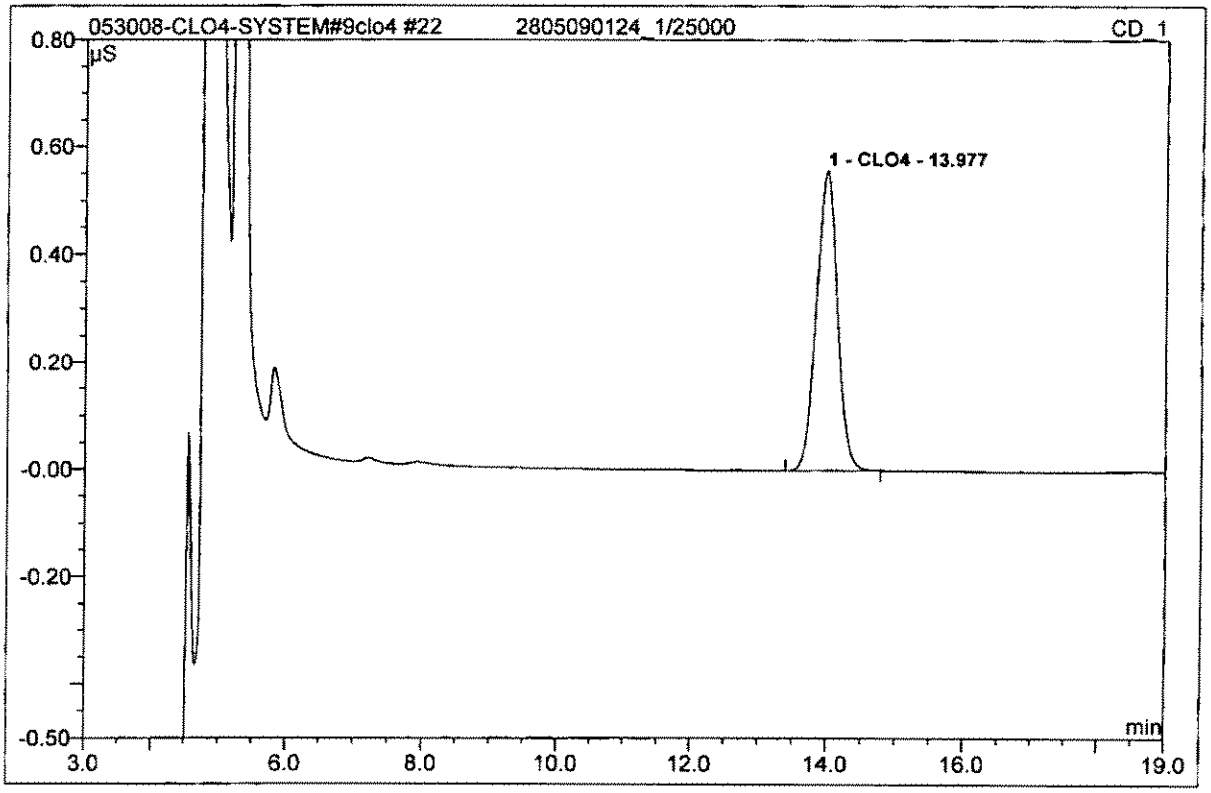
Sample Type	**unknown**	*Injection Volume:*	**1000.0**
Control Program	**Dionex CLO4 Test**	*Channel:*	**CD_1**
Quantif. Method	**CLO4-IC3000**	*Dilution Factor:*	**25000.0000**
Run Time (min)	**19.00**	*Analyst*	**CLV**
Recording Time	**05/30/08 05:52**		



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	13.98	CLO4	0.525	0.186	100.00	898674.712	BMB
Total:			0.525	0.186	100.00	898674.712	

22 2805090124_1/25000

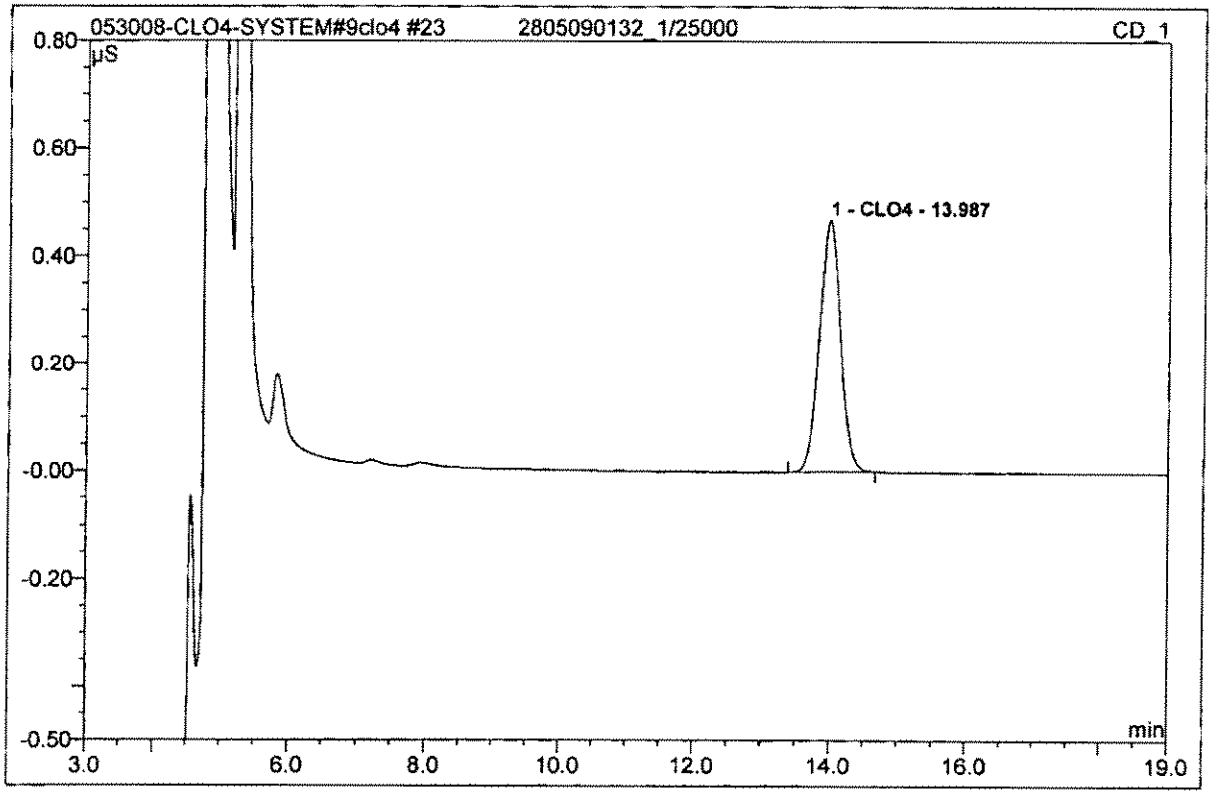
Sample Type	**unknown**	*Injection Volume:*	**1000.0**
Control Program	**Dionex CLO4 Test**	*Channel:*	**CD_1**
Quantif. Method	**CLO4-IC3000**	*Dilution Factor:*	**25000.0000**
Run Time (min)	**19.00**	*Analyst*	**CLV**
Recording Time	**05/30/08 06:17**		



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	13.98	CLO4	0.557	0.197	100.00	952291.235	BMB
Total:			0.557	0.197	100.00	952291.235	

23 2805090132_1/25000

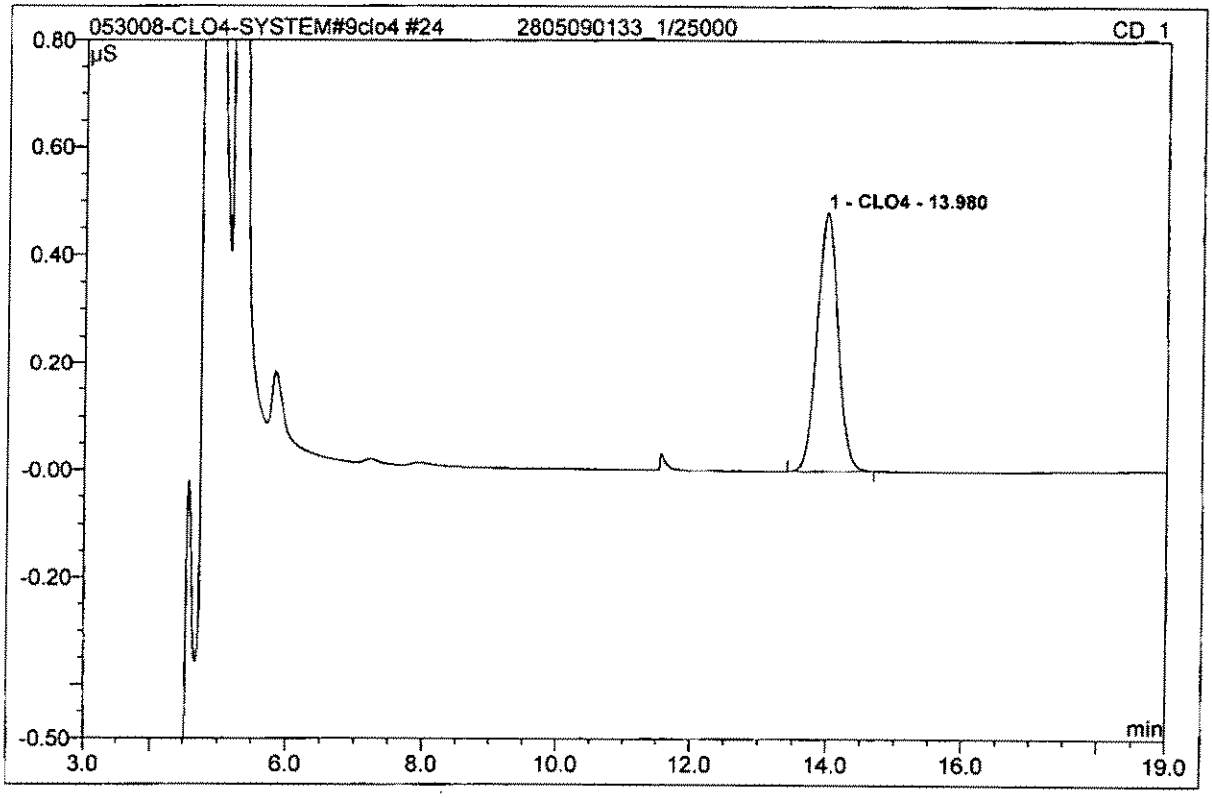
Sample Type	**unknown**	*Injection Volume:*	**1000.0**
Control Program	**Dionex CLO4 Test**	*Channel:*	**CD_1**
Quantif. Method	**CLO4-IC3000**	*Dilution Factor:*	**25000.0000**
Run Time (min)	**19.00**	*Analyst*	**CLV**
Recording Time	**05/30/08 06:38**		



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	13.99	CLO4	0.468	0.166	100.00	806621.874	BMB
Total:			0.468	0.166	100.00	806621.874	

24 2805090133_1/25000

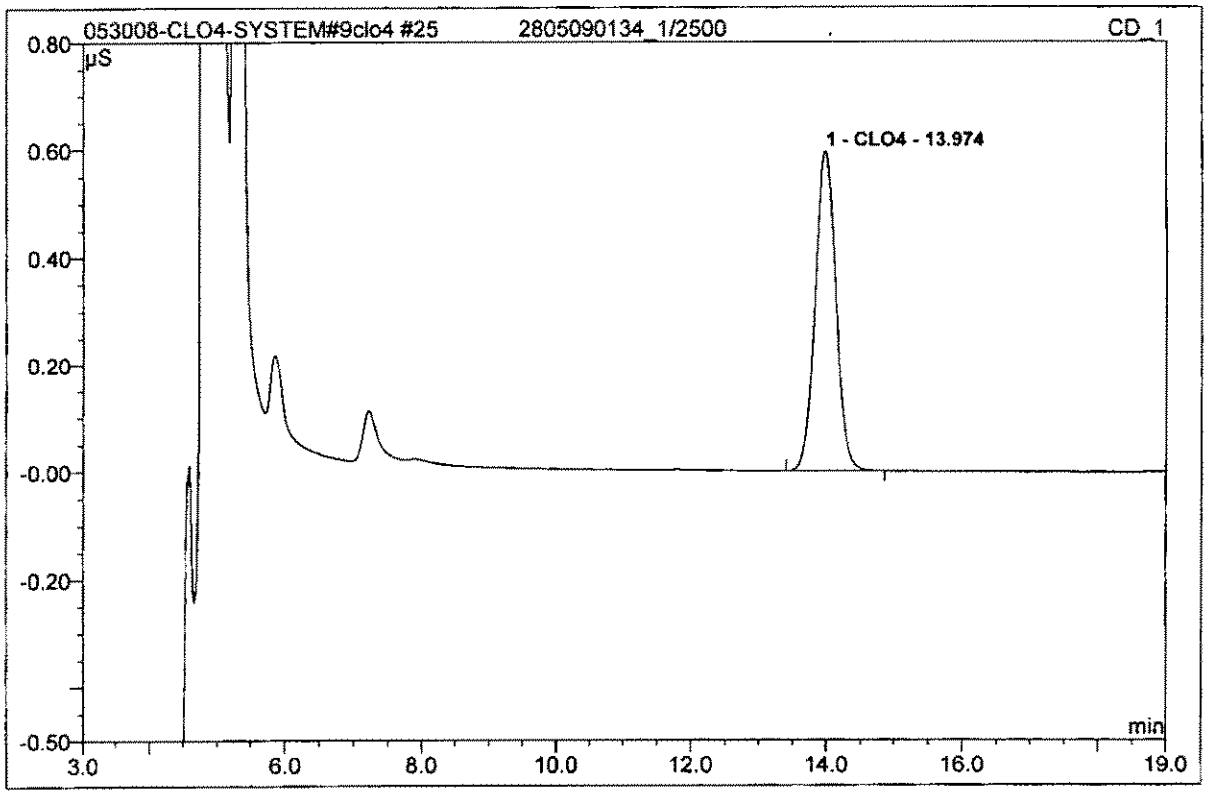
Sample Type	**unknown**	*Injection Volume:*	**1000.0**
Control Program	**Dionex CLO4 Test**	*Channel:*	**CD_1**
Quantif. Method	**CLO4-IC3000**	*Dilution Factor:*	**25000.0000**
Run Time (min)	**19.00**	*Analyst*	**CLV**
Recording Time	**05/30/08 06:59**		



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	13.98	CLO4	0.480	0.170	100.00	825927.718	BMB
Total:			0.480	0.170	100.00	825927.718	

25 2805090134_1/2500

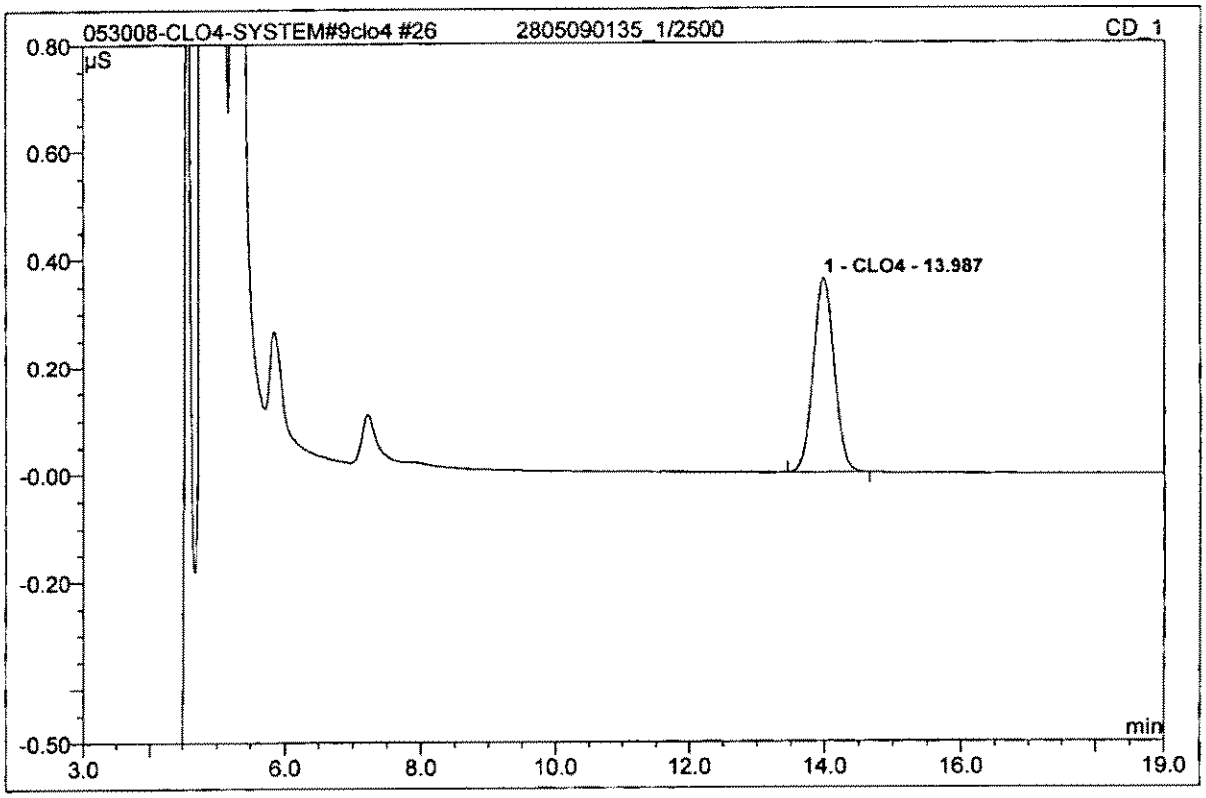
Sample Type	**unknown**	*Injection Volume:*	**1000.0**
Control Program	**Dionex CLO4 Test**	*Channel:*	**CD_1**
Quantif. Method	**CLO4-IC3000**	*Dilution Factor:*	**2500.0000**
Run Time (min)	**19.00**	*Analyst*	**CLV**
Recording Time	**05/30/08 07:21**		



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	13.97	CLO4	0.597	0.211	100.00	101709.047	BMB
Total:			0.597	0.211	100.00	101709.047	

26 2805090135_1/2500

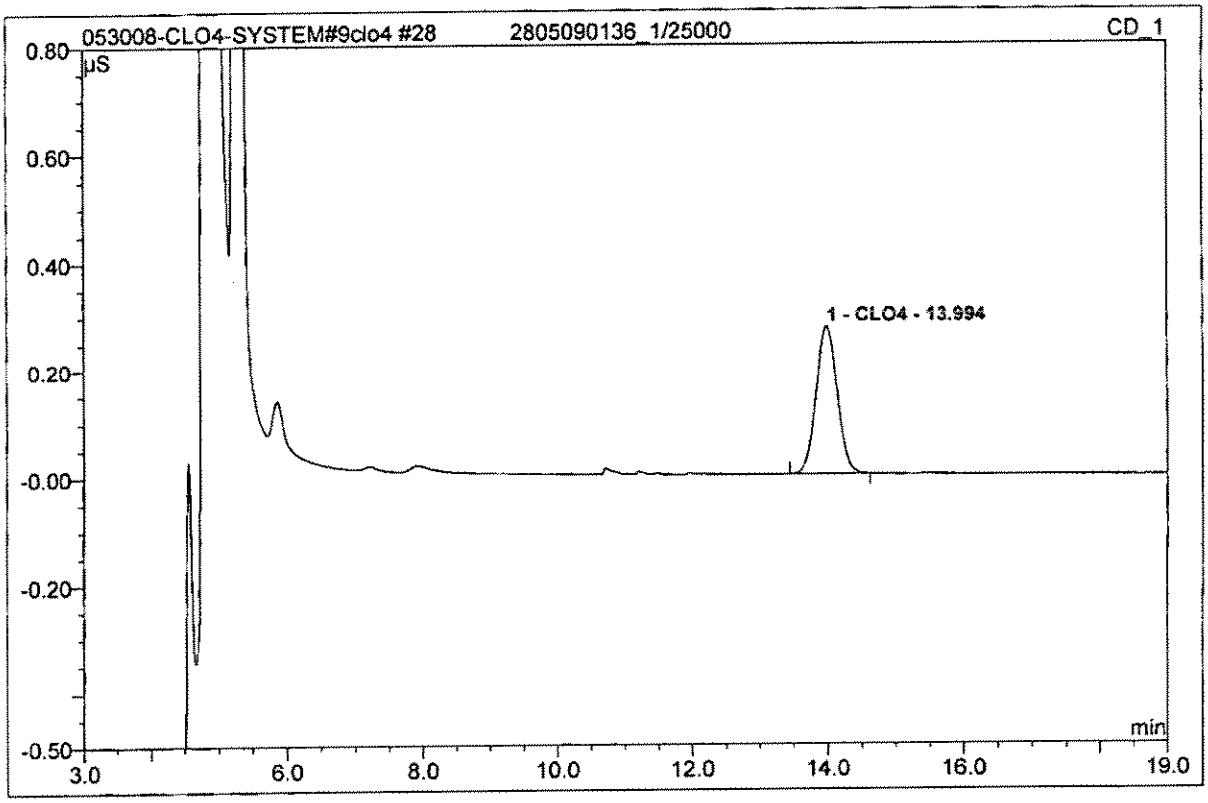
Sample Type	**unknown**	*Injection Volume:*	**1000.0**
Control Program	**Dionex CLO4 Test**	*Channel:*	**CD_1**
Quantif. Method	**CLO4-IC3000**	*Dilution Factor:*	**2500.0000**
Run Time (min)	**19.00**	*Analyst*	**CLV**
Recording Time	**05/30/08 07:42**		



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	13.99	CLO4	0.361	0.128	100.00	62962.877	BMB
Total:			0.361	0.128	100.00	62962.877	

28 2805090136_1/25000

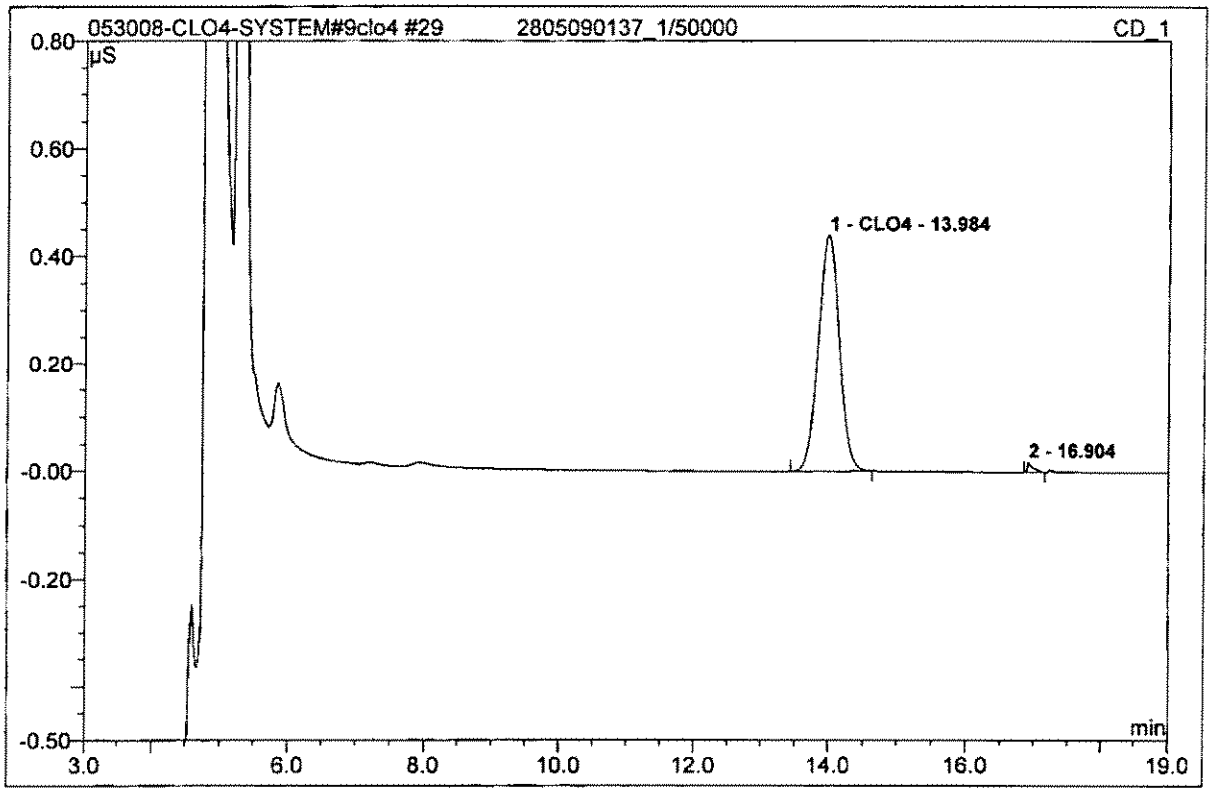
Sample Type	**unknown**	*Injection Volume:*	**1000.0**
Control Program	**Dionex CLO4 Test**	*Channel:*	**CD_1**
Quantif. Method	**CLO4-IC3000**	*Dilution Factor:*	**25000.0000**
Run Time (min)	**19.00**	*Analyst*	**CLV**
Recording Time	**05/30/08 08:25**		



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	13.99	CLO4	0.276	0.098	100.00	486326.387	BMB
Total:			0.276	0.098	100.00	486326.387	

29 2805090137_1/50000

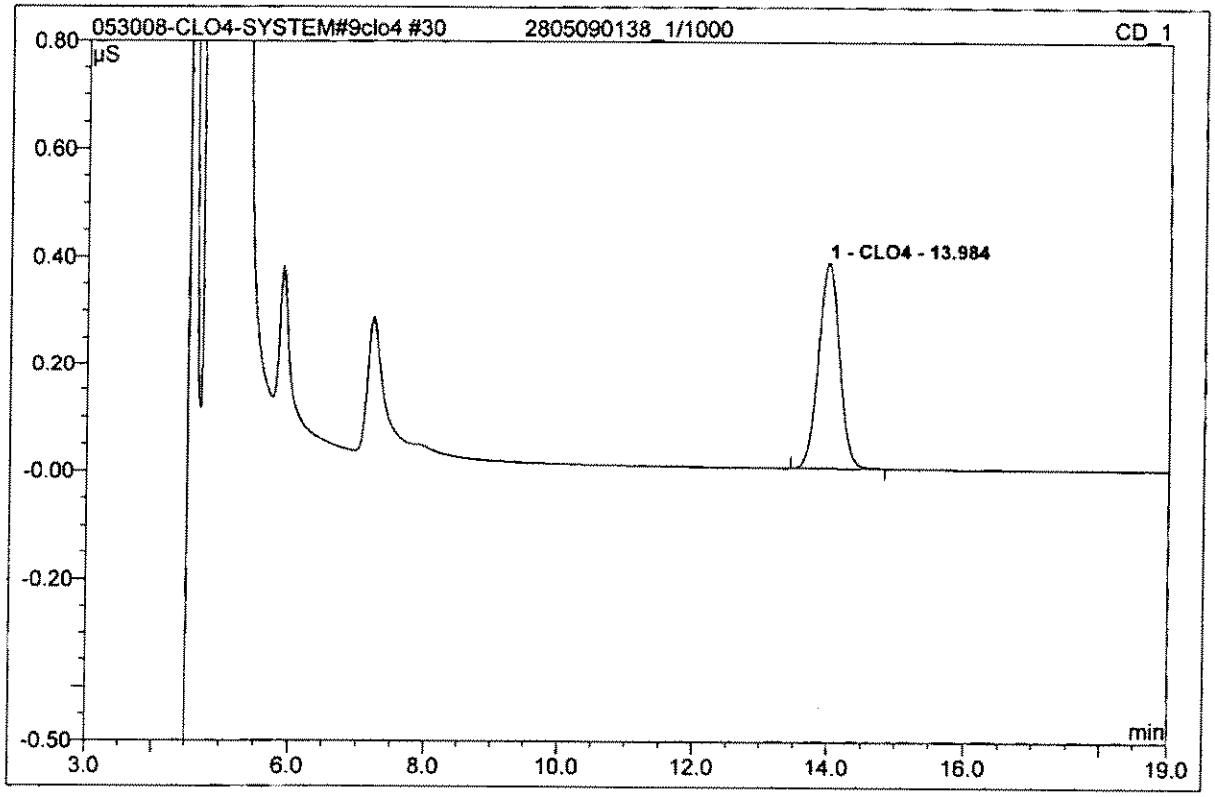
Sample Type	**unknown**	*Injection Volume:*	**1000.0**
Control Program	**Dionex CLO4 Test**	*Channel:*	**CD_1**
Quantif. Method	**CLO4-IC3000**	*Dilution Factor:*	**50000.0000**
Run Time (min)	**19.00**	*Analyst*	**CLV**
Recording Time	**05/30/08 08:46**		



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	13.98	CLO4	0.438	0.155	98.88	##########	BMB
Total:			0.438	0.155	98.88	##########	

30 2805090138_1/1000

Sample Type	**unknown**	*Injection Volume:*	**1000.0**
Control Program	**Dionex CLO4 Test**	*Channel:*	**CD_1**
Quantif. Method	**CLO4-IC3000**	*Dilution Factor:*	**1000.0000**
Run Time (min)	**19.00**	*Analyst*	**CLV**
Recording Time	**05/30/08 09:11**		

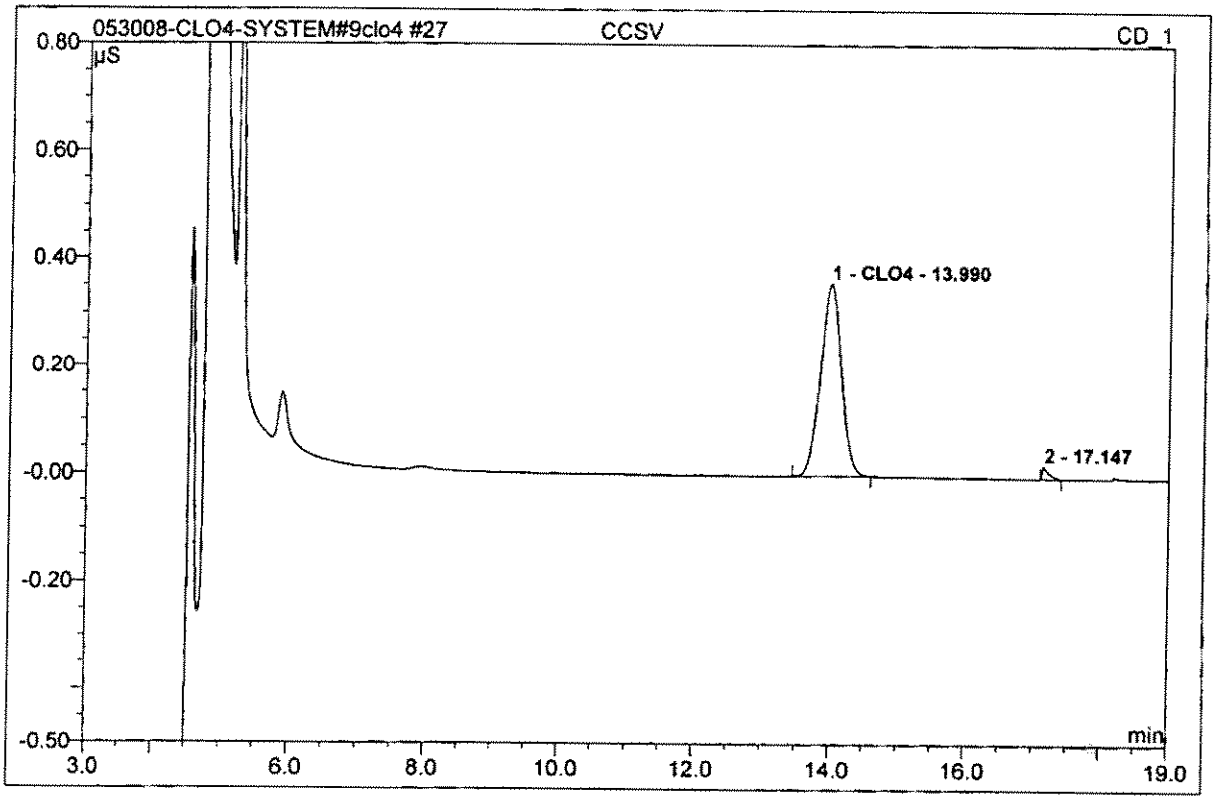


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	13.98	CLO4	0.384	0.137	100.00	26757.719	BMB
Total:			0.384	0.137	100.00	26757.719	

27 CCSV

25

Sample Type	**unknown**	*Injection Volume:*	**1000.0**
Control Program	**Dionex CLO4 Test**	*Channel:*	**CD_1**
Quantif. Method	**CLO4-IC3000**	*Dilution Factor:*	**1.0000**
Run Time (min)	**19.00**	*Analyst*	**CLV**
Recording Time	**05/30/08 08:03**		



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	13.99	CLO4	0.357	0.127	98.15	24.874	BMB
Total:			0.357	0.127	98.15	24.874	

Perchlorate QC Checklist

rev: 27 Mar 03

Analysis Date: 6/1/08 **Analyst:** CW

QC'd by M **Date** 7 Jun 08

Instrument: IC9 **Calculated MCT Level:** 1436 umhos/cm

Original IPC conductance: 1400 umhos/cm **Daily IPC conductance:** 1400 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 = 16.6%

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

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

PDA = 16.7%

✓ 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

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

CONDUCTIVITY MW SOP REVISION 5
SM2510B

Analysis Date: 5/13/08
Analyst: CK
Reviewed By:
LIMS Check By:

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

Time of Analysis Start: 1245 End:
MRL 2umhos/cm: Rg# exp of solution:
KCl Std 1413 Rg# 701819 exp of solution 9/08
TV = 1412 µmho/cm @ 25°C for 0.0100M
Reading: 1400
Instrument: YSI Model 3200 SN:01A0504 Year Aquired 2001 New

IPC = 3110

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	mS		0450	
STD	MRL 2umhos/cm									1-3—±50% of TV
STD	KCl - 1000 mhos/cm								975	950-1050—±5% of TV
1	2805160126		[redacted]					300		
2	0127		[redacted]					250		
3	2805090077		[redacted]					250		
4	0078		*					250		
5	0112	.	KM					7900		
6	0115	.						5400		
7	0116	.						8600		
8	0117	.						4700		
9	0118	.						6200		
10	0119	.						1500		
DUP	↓							1500		RPD = 5%
11	0120							2800		
12										
13										
14										
15										
16										
17										
18										
19										
20										
DUP	2805090120		KM					2800		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

No.,	Sample Name,	Comment	Time,	Dil.Fac.,	Amount, CLO4 CD_1	
1,	CAL1,		05/29/08 22:34,	1.0,	n.a.	
2,	CAL2,	2	05/29/08 22:56,	1.0,	2.2448	
3,	CAL3,	4	05/29/08 23:17,	1.0,	3.8783	
4,	CAL4,	10	05/29/08 23:38,	1.0,	10.0462	
5,	CAL5,	25	05/30/08 00:00,	1.0,	24.6008	
6,	CAL6,	50	05/30/08 00:21,	1.0,	50.2704	
7,	CAL7,	100	05/30/08 00:46,	1.0,	99.9594	
8,	QCS,	20	05/31/08 22:18,	1.0,	18.9946	95.0%
9,	IPC,	EC=1436	05/31/08 22:40,	1.0,	23.3779	93.5%
10,	MBLANK,		05/31/08 23:01,	1.0,	n.a.	ND≤1/3MRL
11,	MRL-2,	2	05/31/08 23:23,	1.0,	2.0720	104%
12,	MRL-4,	4	05/31/08 23:47,	1.0,	3.8812	97.0%
13,	LCS,	25	06/01/08 00:09,	1.0,	23.9188	95.7%
14,	LCSD,	25	06/01/08 00:30,	1.0,	22.7483	91.0%
15,	2805130436_1/100,		06/01/08 00:51,	100.0,	2641.9845	
16,	2805090120_1/1000,		06/01/08 01:13,	1000.0,	47394.6436	
17,	2805100128_1/1000,		06/01/08 01:34,	1000.0,	35629.5078	
18,	2805100134_1/5,		06/01/08 01:56,	5.0,	n.a.	
19,	2805100136_1/10 DNR,		06/01/08 02:17,	10.0,	6.7204	DNR
20,	2805130439_1/10000,		06/01/08 02:38,	10000.0,	315694.6558	
21,	2805130453_1/500,		06/01/08 03:00,	500.0,	15980.2958	
22,	2805130454_1/50000 DI		06/01/08 03:21,	50000.0,	29739.4570	DNR
23,	2805130461_1/5 DNR,		06/01/08 03:43,	5.0,	n.a.	DNR
24,	2805130597_1/2,		06/01/08 04:04,	2.0,	n.a.	
25,	2805130597-MS,	25	06/01/08 04:25,	2.0,	46.8918	234/93.8%
26,	2805130597-MSD,	25	06/01/08 04:47,	2.0,	46.8528	234/93.7%
27,	CCSV,	25	06/01/08 05:08,	1.0,	24.4867	98.0%
28,	2805130462_1/10000,		06/01/08 05:29,	10000.0,	245688.0617	
29,	2805130463_1/2,		06/01/08 05:51,	2.0,	3.6591	
30,	2805130606_1/2,		06/01/08 06:12,	2.0,	n.a.	
31,	2805130611_1/2,		06/01/08 06:34,	2.0,	n.a.	
32,	2805130621_1/2,		06/01/08 06:55,	2.0,	n.a.	
33,	2805130625_1/2,		06/01/08 07:16,	2.0,	n.a.	
34,	2805130630_1/10 DNR,	EC=14200/CON	06/01/08 07:38,	10.0,	n.a.	DNR
35,	2805140073_1/100,		06/01/08 07:59,	100.0,	821.3392	
36,	2805140074_1/100,		06/01/08 08:21,	100.0,	1462.0166	
37,	2805140075_1/500,		06/01/08 08:42,	500.0,	24462.0128	
38,	HCV,	100	06/01/08 09:03,	1.0,	98.5425	98.5%
39,	IPC,	25	06/01/08 09:25,	1.0,	23.3983	93.6%
40,	MBLANK,		06/01/08 09:46,	1.0,	n.a.	ND≤1/3MRL
41,	MRL-2,	2	06/01/08 10:08,	1.0,	2.3319	98.5% on 117%
42,	MRL-4,	4	06/01/08 10:29,	1.0,	4.0036	
43,	LCS,	25	06/01/08 10:50,	1.0,	24.1487	
44,	LCSD DNR,	25	06/01/08 11:12,	1.0,	15.0803	run #58

45,	2805140076_1/500,		06/01/08 11:33,	500.0,	24199.2061	
46,	2805140077_1/500 DNR		06/01/08 11:55,	500.0,	76250.6261	DNR
47,	2805140078_1/500 DNR		06/01/08 12:16,	500.0,	344.8166	DNR
48,	2805140079_1/500,		06/01/08 12:37,	500.0,	4634.3451	
49,	2805140081_1/500,		06/01/08 12:59,	500.0,	4504.5351	
50,	2805140082_1/500 DNR		06/01/08 13:20,	500.0,	383513.5792	DNR
51,	2805140083_1/500 DNR		06/01/08 13:42,	500.0,	n.a.	
52,	2805140084_1/500,		06/01/08 14:03,	500.0,	8903.3037	
53,	2805140085_1/500 DNR		06/01/08 14:24,	500.0,	n.a.	DNR
54,	2805140089_1/2,		06/01/08 14:46,	2.0,	n.a.	
55,	2805140089-MS,	25	06/01/08 15:07,	2.0,	47.0717	235/94.1 %
56,	2805140089-MSD,	25	06/01/08 15:29,	2.0,	46.8213	234/93.6 %
57,	CCSV,	25	06/01/08 15:56,	1.0,	24.9724	99.9 %
58,	LCSD,	RR	06/01/08 16:17,	1.0,	24.5015	98.0 %
59,	2805140086_1/500,		06/01/08 16:39,	500.0,	5311.5052	
60,	2805140087_1/500,		06/01/08 17:00,	500.0,	5334.0665	
61,	2805140088_1/500,		06/01/08 17:21,	500.0,	6178.9220	
62,	2805140090_1/500 DNR		06/01/08 17:43,	500.0,	496227.2089	
63,	2805140091_1/500 DNR		06/01/08 18:04,	500.0,	364943.8931	
64,	2805140092_1/500 DNR		06/01/08 18:25,	500.0,	59002.8874	
65,	2805140093_1/500 DNR		06/01/08 18:47,	500.0,	357869.9503	DNR
66,	2805140094_1/500 DNR		06/01/08 19:08,	500.0,	353043.5106	
67,	2805140095_1/500 DNR		06/01/08 19:30,	500.0,	1748.2745	
68,	2805140096_1/500,		06/01/08 19:51,	500.0,	3030.0340	
69,	HCV,	100	06/01/08 20:12,	1.0,	100.9745	101 %

NB. MM 6/9/08

Title: Temporary sequence for manual data acquisition
Datasource: IC-SERVER-4
Location: ICS3000\IC#9\2008\JUNE
Timebase: ICS3000
#Samples: 69
Created: 6/3/2008 10:59:33 by dionex
Last Update: 6/3/2008 11:06:39 by dionex

No.	Name	Sample ID	Dil. Factor	Comment	Type	Program
1	CAL1	0	1.0000		Standard	Dionex CLO4 Test
2	CAL2	R201449 EXP 07/28/09	1.0000	2	Standard	Dionex CLO4 Test
3	CAL3	4	1.0000	4	Standard	Dionex CLO4 Test
4	CAL4	10	1.0000	10	Standard	Dionex CLO4 Test
5	CAL5	25	1.0000	25	Standard	Dionex CLO4 Test
6	CAL6	50	1.0000	50	Standard	Dionex CLO4 Test
7	CAL7	100	1.0000	100	Standard	Dionex CLO4 Test
8	QCS	R201789 EXP 07/10/09	1.0000	20	Unknown	Dionex CLO4 Test
9	IPC	25	1.0000	EC=1436	Unknown	Dionex CLO4 Test
10	MBLANK		1.0000		Unknown	Dionex CLO4 Test
11	MRL-2	2	1.0000	2	Unknown	Dionex CLO4 Test
12	MRL-4	4	1.0000	4	Unknown	Dionex CLO4 Test
13	LCS	25	1.0000	25	Unknown	Dionex CLO4 Test
14	LCSD	25	1.0000	25	Unknown	Dionex CLO4 Test
15	2805130436_1/100		100.0000		Unknown	Dionex CLO4 Test
16	2805090120_1/1000		1000.0000		Unknown	Dionex CLO4 Test
17	2805100128_1/1000		1000.0000		Unknown	Dionex CLO4 Test
18	2805100134_1/5		5.0000		Unknown	Dionex CLO4 Test
19	2805100136_1/10 DNR		10.0000		Unknown	Dionex CLO4 Test
20	2805130439_1/10000		10000.0000		Unknown	Dionex CLO4 Test
21	2805130453_1/500		500.0000		Unknown	Dionex CLO4 Test
22	2805130454_1/50000 DNR		50000.0000		Unknown	Dionex CLO4 Test
23	2805130461_1/5 DNR		5.0000		Unknown	Dionex CLO4 Test
24	2805130597_1/2		2.0000		Unknown	Dionex CLO4 Test
25	2805130597-MS	25	2.0000	25	Unknown	Dionex CLO4 Test
26	2805130597-MSD	25	2.0000	25	Unknown	Dionex CLO4 Test
27	CCSV	25	1.0000	25	Unknown	Dionex CLO4 Test
28	2805130462_1/10000		10000.0000		Unknown	Dionex CLO4 Test
29	2805130463_1/2		2.0000		Unknown	Dionex CLO4 Test
30	2805130606_1/2		2.0000		Unknown	Dionex CLO4 Test
31	2805130611_1/2		2.0000		Unknown	Dionex CLO4 Test
32	2805130621_1/2		2.0000		Unknown	Dionex CLO4 Test
33	2805130625_1/2		2.0000		Unknown	Dionex CLO4 Test
34	2805130630_1/10 DNR		10.0000	EC=14200/CONFIRMATION ONLY	Unknown	Dionex CLO4 Test
35	2805140073_1/100		100.0000		Unknown	Dionex CLO4 Test
36	2805140074_1/100		100.0000		Unknown	Dionex CLO4 Test
37	2805140075_1/500		500.0000		Unknown	Dionex CLO4 Test
38	HCV	100	1.0000	100	Unknown	Dionex CLO4 Test
39	IPC	25	1.0000	25	Unknown	Dionex CLO4 Test
40	MBLANK		1.0000		Unknown	Dionex CLO4 Test
41	MRL-2	2	1.0000	2	Unknown	Dionex CLO4 Test
42	MRL-4	4	1.0000	4	Unknown	Dionex CLO4 Test
43	LCS	25	1.0000	25	Unknown	Dionex CLO4 Test
44	LCSD DNR	25	1.0000	25	Unknown	Dionex CLO4 Test
45	2805140076_1/500		500.0000		Unknown	Dionex CLO4 Test
46	2805140077_1/500 DNR		500.0000		Unknown	Dionex CLO4 Test
47	2805140078_1/500 DNR		500.0000		Unknown	Dionex CLO4 Test
48	2805140079_1/500		500.0000		Unknown	Dionex CLO4 Test
49	2805140081_1/500		500.0000		Unknown	Dionex CLO4 Test

Title: Temporary sequence for manual data acquisition
Datasource: IC-SERVER-4
Location: ICS3000\IC#9\2008\JUNE
Timebase: ICS3000
#Samples: 69
Created: 6/3/2008 10:59:33 by dionex
Last Update: 6/3/2008 11:06:39 by dionex

No.	Name	Method	Status	Inj. Date/Time	*Analyst
1	CAL1	CLO4-IC3000	Finished	5/29/2008 22:34:48	CLV
2	CAL2	CLO4-IC3000	Finished	5/29/2008 22:56:12	CLV
3	CAL3	CLO4-IC3000	Finished	5/29/2008 23:17:35	CLV
4	CAL4	CLO4-IC3000	Finished	5/29/2008 23:38:59	CLV
5	CAL5	CLO4-IC3000	Finished	5/30/2008 00:00:22	CLV
6	CAL6	CLO4-IC3000	Finished	5/30/2008 00:21:46	CLV
7	CAL7	CLO4-IC3000	Finished	5/30/2008 00:46:23	CLV
8	QCS	CLO4-IC3000	Finished	5/31/2008 22:18:55	CLV
9	IPC	CLO4-IC3000	Finished	5/31/2008 22:40:18	CLV
10	MBLANK	CLO4-IC3000	Finished	5/31/2008 23:01:42	CLV
11	MRL-2	CLO4-IC3000	Finished	5/31/2008 23:23:05	CLV
12	MRL-4	CLO4-IC3000	Finished	5/31/2008 23:47:42	CLV
13	LCS	CLO4-IC3000	Finished	6/1/2008 00:09:06	CLV
14	LCSD	CLO4-IC3000	Finished	6/1/2008 00:30:30	CLV
15	2805130436_1/100	CLO4-IC3000	Finished	6/1/2008 00:51:54	CLV
16	2805090120_1/1000	CLO4-IC3000	Finished	6/1/2008 01:13:18	CLV
17	2805100128_1/1000	CLO4-IC3000	Finished	6/1/2008 01:34:41	CLV
18	2805100134_1/5	CLO4-IC3000	Finished	6/1/2008 01:56:04	CLV
19	2805100136_1/10 DNR	CLO4-IC3000	Finished	6/1/2008 02:17:27	CLV
20	2805130439_1/10000	CLO4-IC3000	Finished	6/1/2008 02:38:50	CLV
21	2805130453_1/500	CLO4-IC3000	Finished	6/1/2008 03:00:14	CLV
22	2805130454_1/50000 DNR	CLO4-IC3000	Finished	6/1/2008 03:21:37	CLV
23	2805130461_1/5 DNR	CLO4-IC3000	Finished	6/1/2008 03:43:00	CLV
24	2805130597_1/2	CLO4-IC3000	Finished	6/1/2008 04:04:23	CLV
25	2805130597-MS	CLO4-IC3000	Finished	6/1/2008 04:25:47	CLV
26	2805130597-MSD	CLO4-IC3000	Finished	6/1/2008 04:47:10	CLV
27	CCSV	CLO4-IC3000	Finished	6/1/2008 05:08:33	CLV
28	2805130462_1/10000	CLO4-IC3000	Finished	6/1/2008 05:29:56	CLV
29	2805130463_1/2	CLO4-IC3000	Finished	6/1/2008 05:51:20	CLV
30	2805130606_1/2	CLO4-IC3000	Finished	6/1/2008 06:12:43	CLV
31	2805130611_1/2	CLO4-IC3000	Finished	6/1/2008 06:34:06	CLV
32	2805130621_1/2	CLO4-IC3000	Finished	6/1/2008 06:55:30	CLV
33	2805130625_1/2	CLO4-IC3000	Finished	6/1/2008 07:16:53	CLV
34	2805130630_1/10 DNR	CLO4-IC3000	Finished	6/1/2008 07:38:16	CLV
35	2805140073_1/100	CLO4-IC3000	Finished	6/1/2008 07:59:40	CLV
36	2805140074_1/100	CLO4-IC3000	Finished	6/1/2008 08:21:11	CLV
37	2805140075_1/500	CLO4-IC3000	Finished	6/1/2008 08:42:35	CLV
38	HCV	CLO4-IC3000	Finished	6/1/2008 09:03:59	CLV
39	IPC	CLO4-IC3000	Finished	6/1/2008 09:25:22	CLV
40	MBLANK	CLO4-IC3000	Finished	6/1/2008 09:46:46	CLV
41	MRL-2	CLO4-IC3000	Finished	6/1/2008 10:08:10	CLV
42	MRL-4	CLO4-IC3000	Finished	6/1/2008 10:29:33	CLV
43	LCS	CLO4-IC3000	Finished	6/1/2008 10:50:56	CLV
44	LCSD DNR	CLO4-IC3000	Finished	6/1/2008 11:12:20	CLV
45	2805140076_1/500	CLO4-IC3000	Finished	6/1/2008 11:33:43	CLV
46	2805140077_1/500 DNR	CLO4-IC3000	Finished	6/1/2008 11:55:07	CLV
47	2805140078_1/500 DNR	CLO4-IC3000	Finished	6/1/2008 12:16:31	CLV
48	2805140079_1/500	CLO4-IC3000	Finished	6/1/2008 12:37:54	CLV
49	2805140081_1/500	CLO4-IC3000	Finished	6/1/2008 12:59:18	CLV

Title: Temporary sequence for manual data acquisition
Datasource: IC-SERVER-4
Location: ICS3000\IC#9\2008\JUNE
Timebase: ICS3000
#Samples: 69
Created: 6/3/2008 10:59:33 by dionex
Last Update: 6/3/2008 11:06:39 by dionex

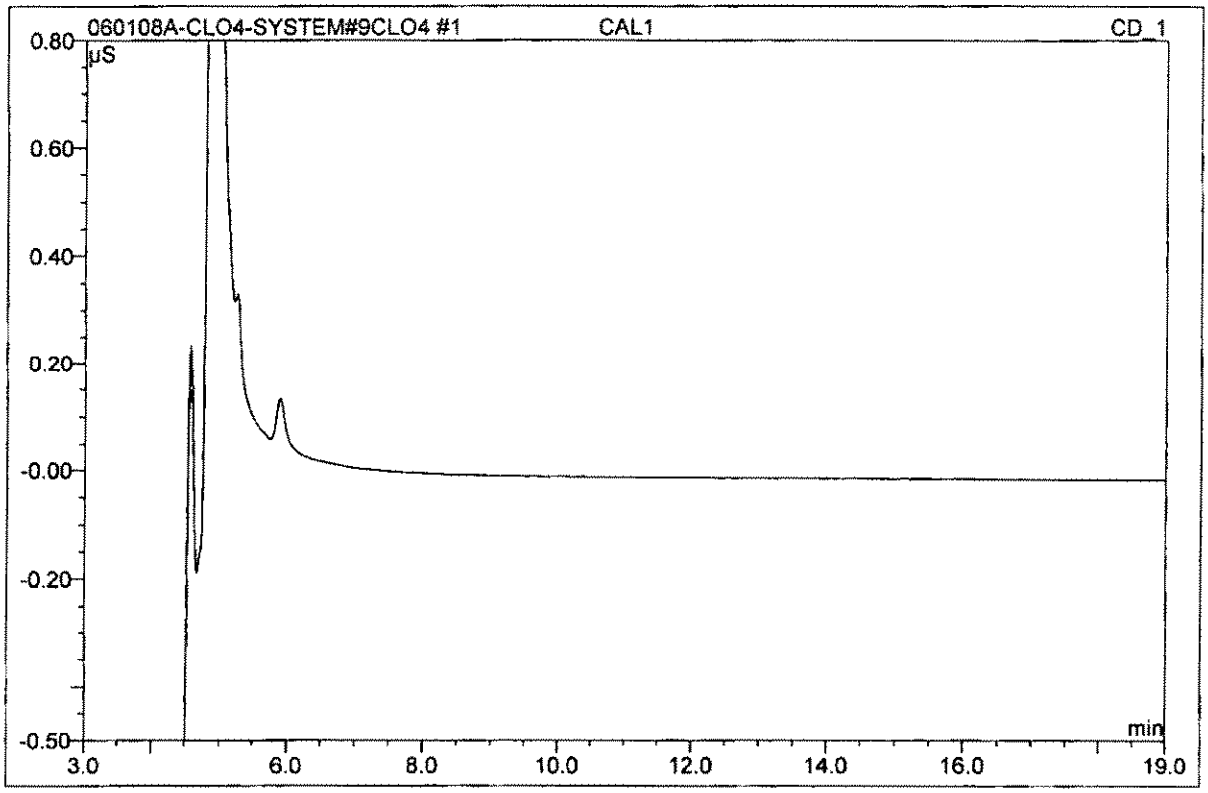
No.	Name	Sample ID	Dil. Factor	Comment	Type	Program
50	2805140082_1/500 DNR		500.0000		Unknown	Dionex CLO4 Test
51	2805140083_1/500 DNR		500.0000		Unknown	Dionex CLO4 Test
52	2805140084_1/500		500.0000		Unknown	Dionex CLO4 Test
53	2805140085_1/500 DNR		500.0000		Unknown	Dionex CLO4 Test
54	2805140089_1/2		2.0000		Unknown	Dionex CLO4 Test
55	2805140089-MS		2.0000	25	Unknown	Dionex CLO4 Test
56	2805140089-MSD		2.0000	25	Unknown	Dionex CLO4 Test
57	CCSV		1.0000	25	Unknown	Dionex CLO4 Test
58	LCSD	25	1.0000	RR	Unknown	Dionex CLO4 Test
59	2805140086_1/500		500.0000		Unknown	Dionex CLO4 Test
60	2805140087_1/500		500.0000		Unknown	Dionex CLO4 Test
61	2805140088_1/500		500.0000		Unknown	Dionex CLO4 Test
62	2805140090_1/500 DNR		500.0000		Unknown	Dionex CLO4 Test
63	2805140091_1/500 DNR		500.0000		Unknown	Dionex CLO4 Test
64	2805140092_1/500 DNR		500.0000		Unknown	Dionex CLO4 Test
65	2805140093_1/500 DNR		500.0000		Unknown	Dionex CLO4 Test
66	2805140094_1/500 DNR		500.0000		Unknown	Dionex CLO4 Test
67	2805140095_1/500 DNR		500.0000		Unknown	Dionex CLO4 Test
68	2805140096_1/500		500.0000		Unknown	Dionex CLO4 Test
69	HCV	100	1.0000	100	Unknown	Dionex CLO4 Test

Title: Temporary sequence for manual data acquisition
Datasource: IC-SERVER-4
Location: ICS3000\IC#9\2008\JUNE
Timebase: ICS3000 Created: 6/3/2008 10:59:33 by dionex
#Samples: 69 Last Update: 6/3/2008 11:06:39 by dionex

No.	Name	Method	Status	Inj. Date/Time	*Analyst
50	2805140082_1/500 DNR	CLO4-IC3000	Finished	6/1/2008 13:20:41	CLV
51	2805140083_1/500 DNR	CLO4-IC3000	Finished	6/1/2008 13:42:05	CLV
52	2805140084_1/500	CLO4-IC3000	Finished	6/1/2008 14:03:28	CLV
53	2805140085_1/500 DNR	CLO4-IC3000	Finished	6/1/2008 14:24:52	CLV
54	2805140089_1/2	CLO4-IC3000	Finished	6/1/2008 14:46:15	CLV
55	2805140089-MS	CLO4-IC3000	Finished	6/1/2008 15:07:39	CLV
56	2805140089-MSD	CLO4-IC3000	Finished	6/1/2008 15:29:02	CLV
57	CCSV	CLO4-IC3000	Finished	6/1/2008 15:56:15	CLV
58	LCSD	CLO4-IC3000	Finished	6/1/2008 16:17:38	CLV
59	2805140086_1/500	CLO4-IC3000	Finished	6/1/2008 16:39:02	CLV
60	2805140087_1/500	CLO4-IC3000	Finished	6/1/2008 17:00:25	CLV
61	2805140088_1/500	CLO4-IC3000	Finished	6/1/2008 17:21:49	CLV
62	2805140090_1/500 DNR	CLO4-IC3000	Finished	6/1/2008 17:43:12	CLV
63	2805140091_1/500 DNR	CLO4-IC3000	Finished	6/1/2008 18:04:36	CLV
64	2805140092_1/500 DNR	CLO4-IC3000	Finished	6/1/2008 18:25:59	CLV
65	2805140093_1/500 DNR	CLO4-IC3000	Finished	6/1/2008 18:47:23	CLV
66	2805140094_1/500 DNR	CLO4-IC3000	Finished	6/1/2008 19:08:46	CLV
67	2805140095_1/500 DNR	CLO4-IC3000	Finished	6/1/2008 19:30:10	CLV
68	2805140096_1/500	CLO4-IC3000	Finished	6/1/2008 19:51:33	CLV
69	HCV	CLO4-IC3000	Finished	6/1/2008 20:12:57	CLV

1 CAL1

Sample Type	**standard**	*Injection Volume:*	**1000.0**
Control Program	**Dionex CLO4 Test**	*Channel:*	**CD_1**
Quantif. Method	**CLO4-IC3000**	*Dilution Factor:*	**1.0000**
Run Time (min)	**19.00**	*Analyst*	**CLV**
Recording Time	**05/29/08 22:34**		

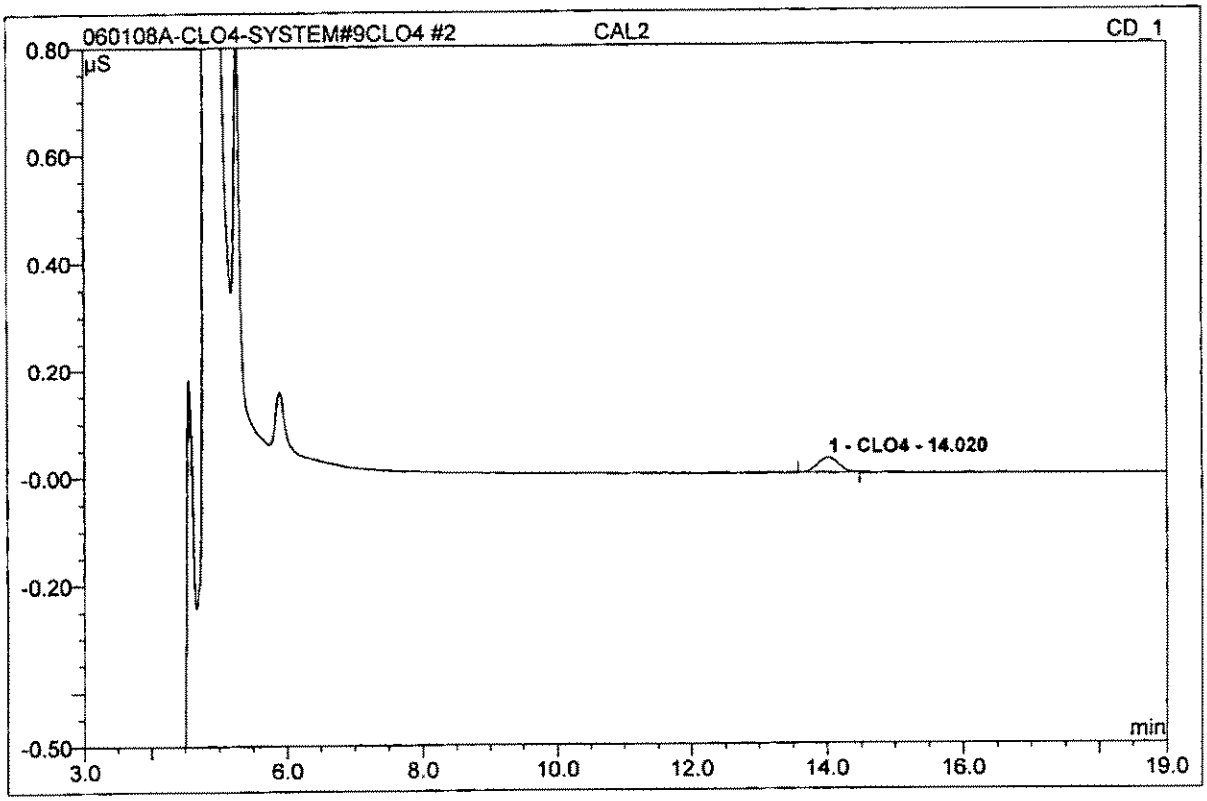


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
Total:			0.000	0.000	0.00	0.000	

2 CAL2

2

Sample Type	**standard**	*Injection Volume:*	**1000.0**
Control Program	**Dionex CLO4 Test**	*Channel:*	**CD_1**
Quantif. Method	**CLO4-IC3000**	*Dilution Factor:*	**1.0000**
Run Time (min)	**19.00**	*Analyst*	**CLV**
Recording Time	**05/29/08 22:56**		



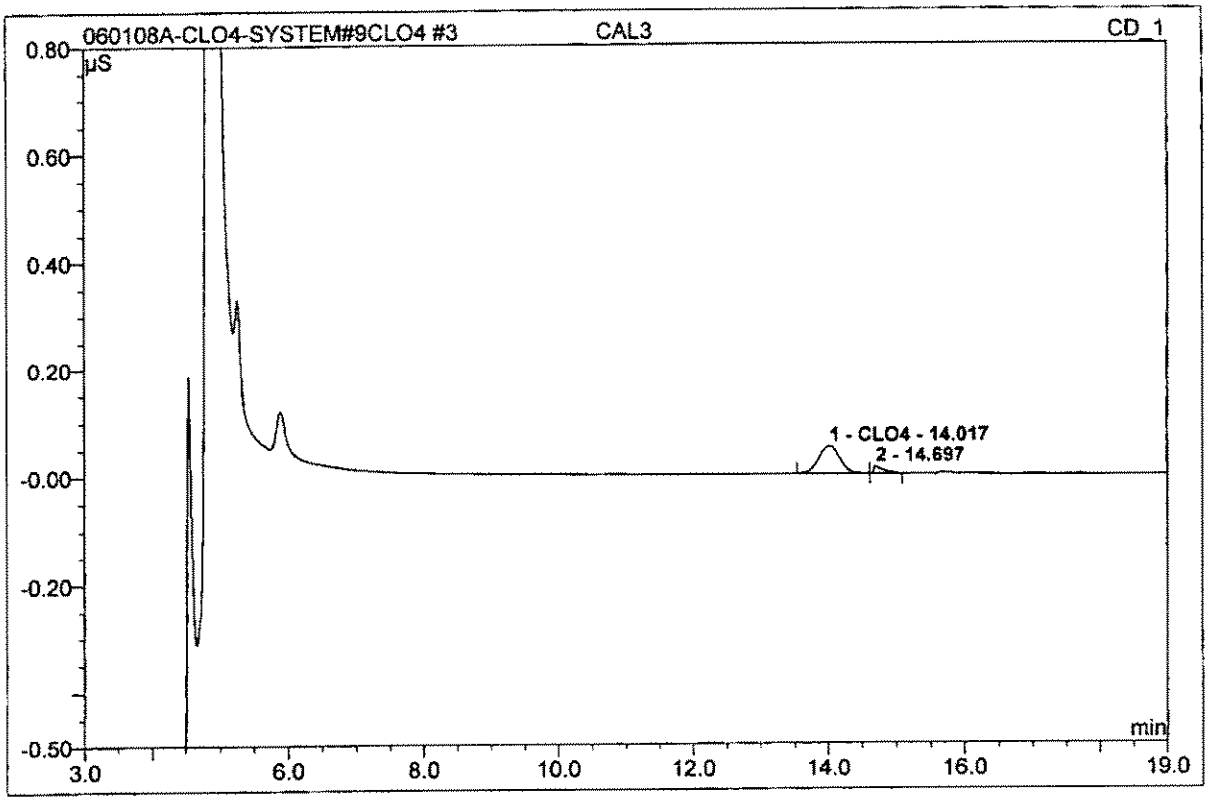
No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	14.02	CLO4	0.028	0.010	100.00	2.245	BMB
Total:			0.028	0.010	100.00	2.245	

Chromeleon (c) Dionex 1996-2000
Version 6.80 SP4 Build 2361 (130805)

3 CAL3

4

Sample Type	**standard**	*Injection Volume:*	**1000.0**
Control Program	**Dionex CLO4 Test**	*Channel:*	**CD_1**
Quantif. Method	**CLO4-IC3000**	*Dilution Factor:*	**1.0000**
Run Time (min)	**19.00**	*Analyst*	**CLV**
Recording Time	**05/29/08 23:17**		

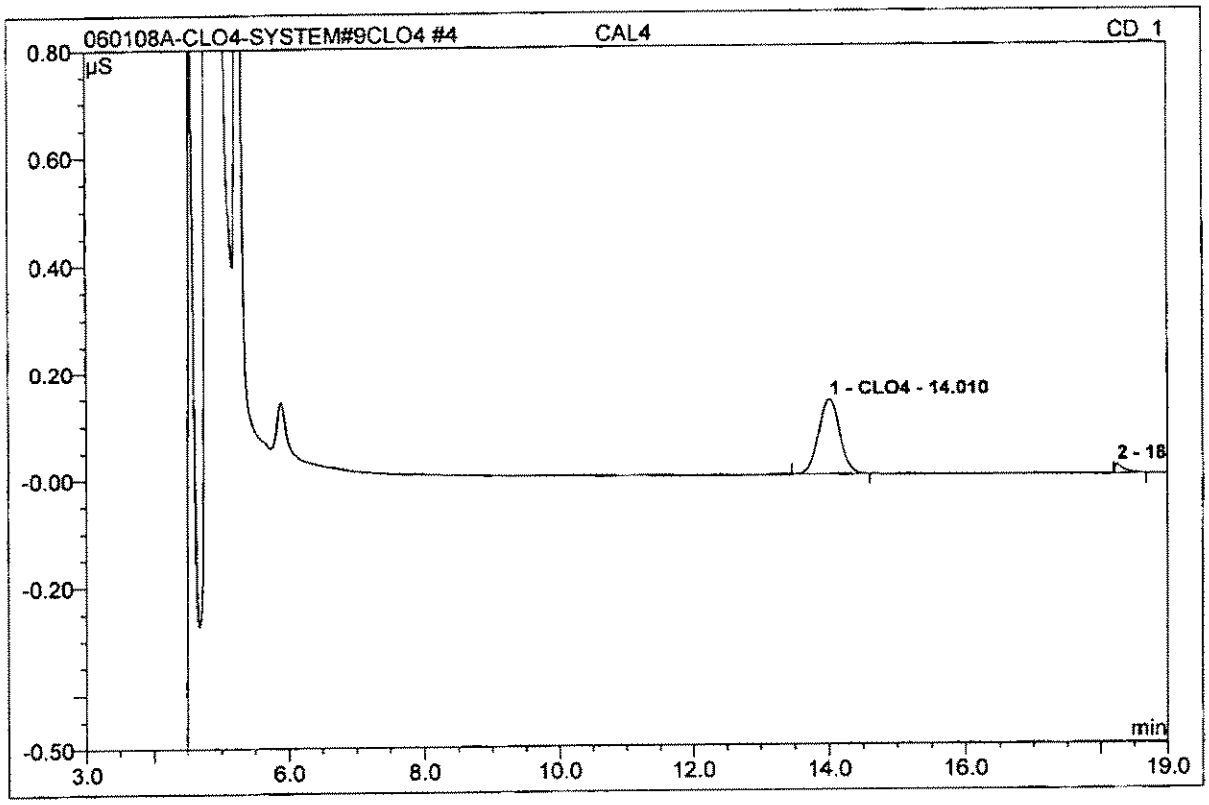


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	14.02	CLO4	0.051	0.018	89.38	3.878	BM
Total:			0.051	0.018	89.38	3.878	

4 CAL4

10

Sample Type	**standard**	*Injection Volume:*	**1000.0**
Control Program	**Dionex CLO4 Test**	*Channel:*	**CD_1**
Quantif. Method	**CLO4-IC3000**	*Dilution Factor:*	**1.0000**
Run Time (min)	**19.00**	*Analyst*	**CLV**
Recording Time	**05/29/08 23:38**		



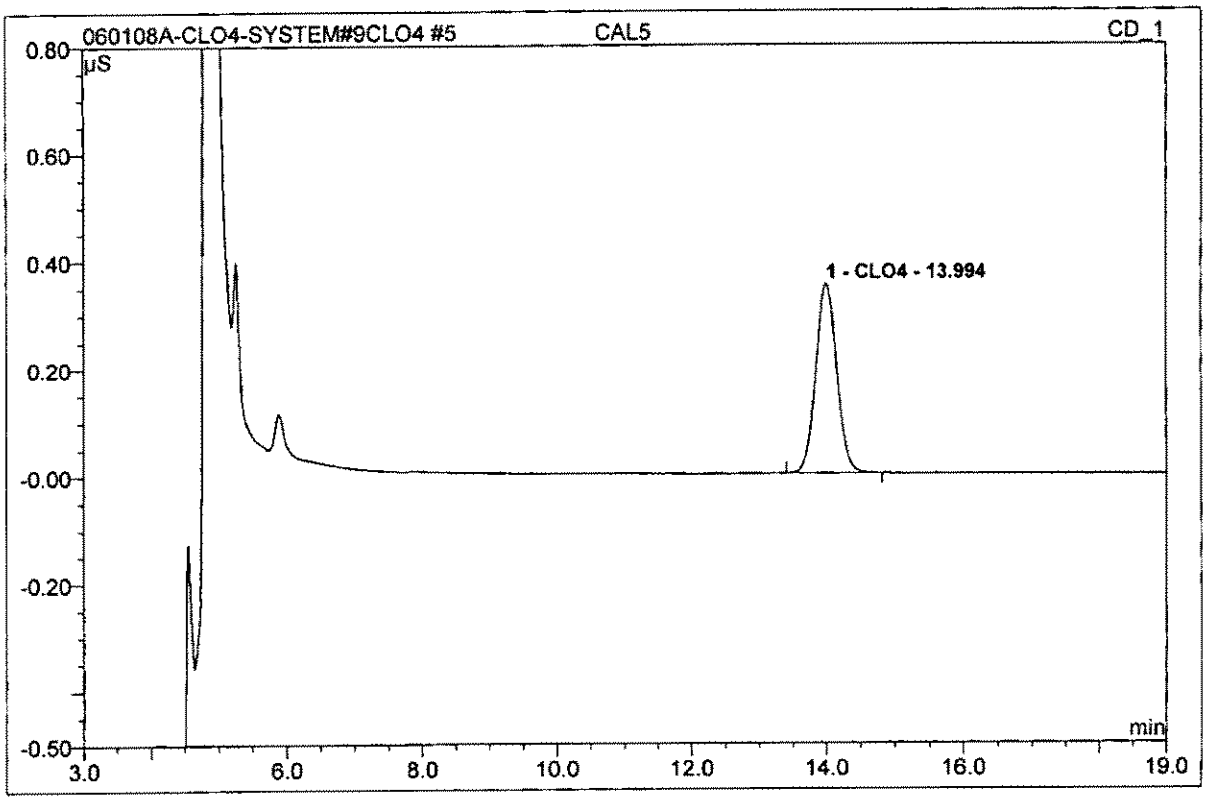
No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	14.01	CLO4	0.139	0.050	95.13	10.046	BMB
Total:			0.139	0.050	95.13	10.046	

Chromeleon (c) Dionex 1996-2000
Version 6.80 SP4 Build 2361 (130805)

5 CAL5

25

Sample Type	**standard**	*Injection Volume:*	**1000.0**
Control Program	**Dionex CLO4 Test**	*Channel:*	**CD_1**
Quantif. Method	**CLO4-IC3000**	*Dilution Factor:*	**1.0000**
Run Time (min)	**19.00**	*Analyst*	**CLV**
Recording Time	**05/30/08 00:00**		

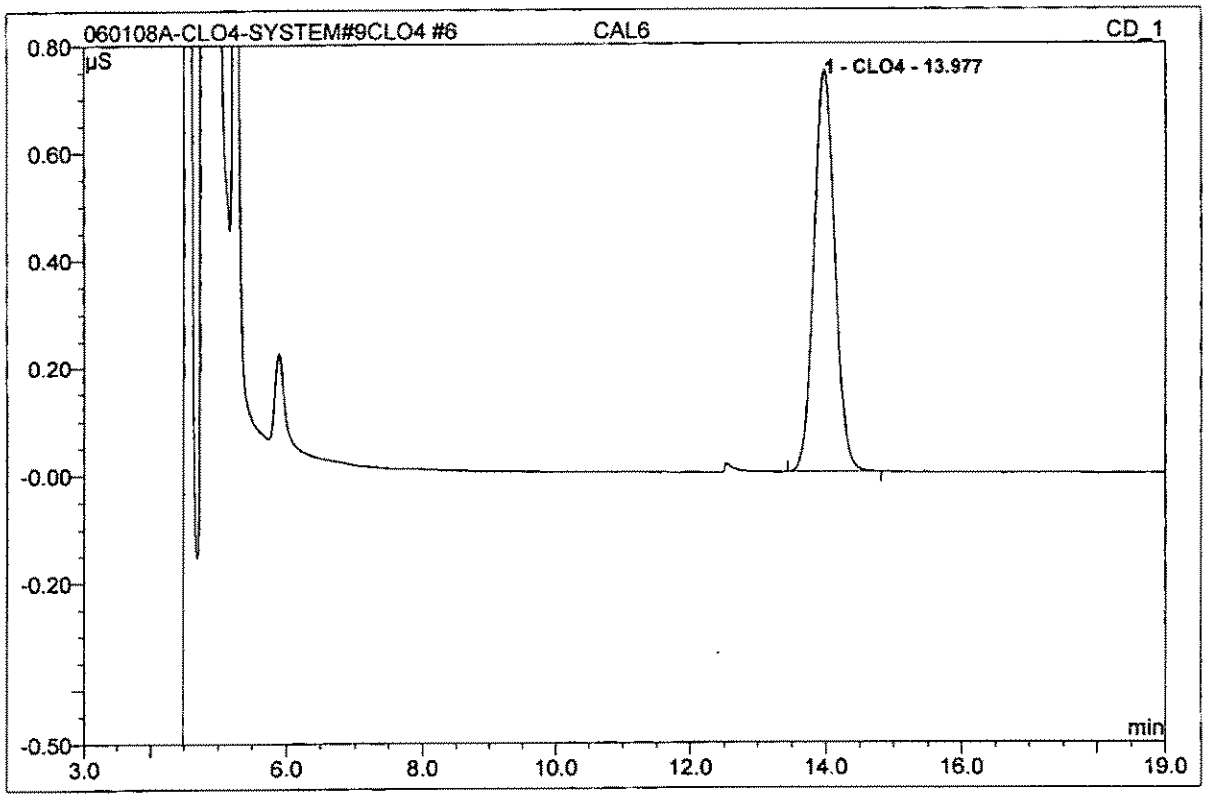


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	13.99	CLO4	0.352	0.125	100.00	24.601	BMB
Total:			0.352	0.125	100.00	24.601	

6 CAL6

50

Sample Type	**standard**	*Injection Volume:*	**1000.0**
Control Program	**Dionex CLO4 Test**	*Channel:*	**CD_1**
Quantif. Method	**CLO4-IC3000**	*Dilution Factor:*	**1.0000**
Run Time (min)	**19.00**	*Analyst*	**CLV**
Recording Time	**05/30/08 00:21**		

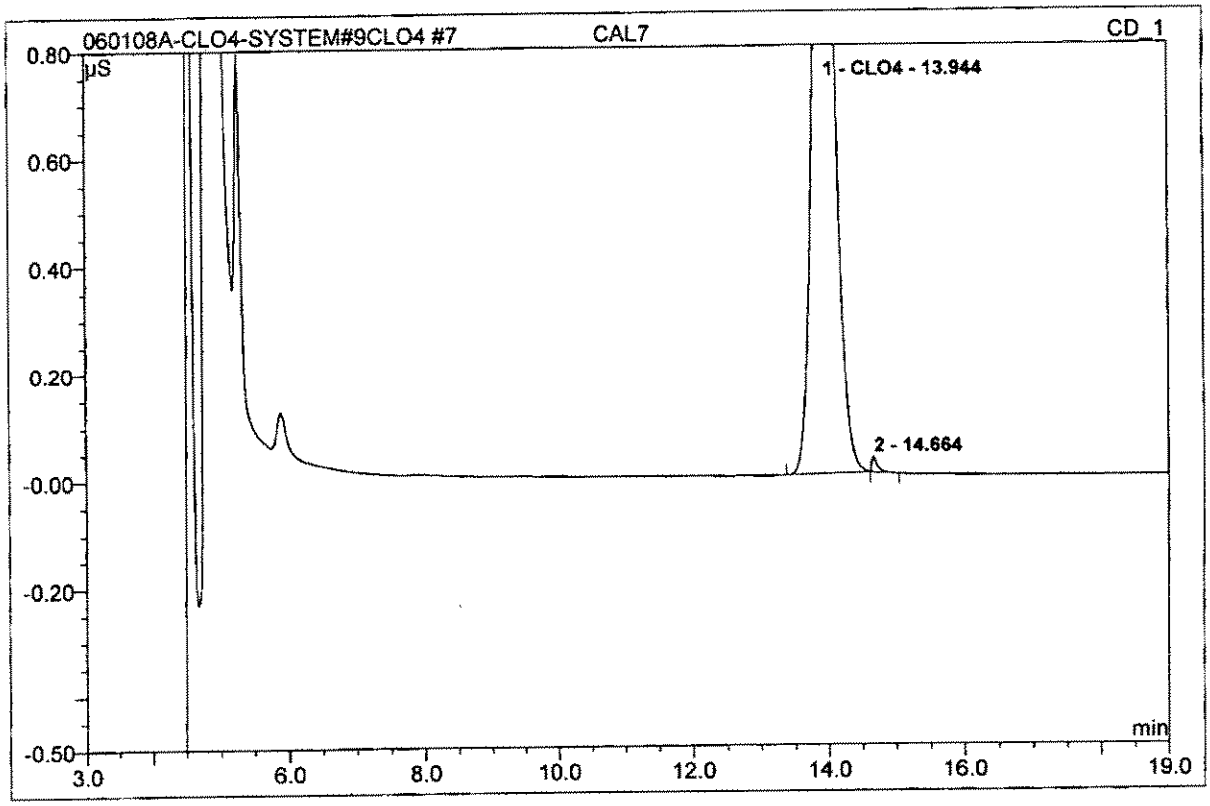


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	13.98	CLO4	0.747	0.264	100.00	50.270	BMB
Total:			0.747	0.264	100.00	50.270	

7 CAL7

100

Sample Type	**standard**	*Injection Volume:*	**1000.0**
Control Program	**Dionex CLO4 Test**	*Channel:*	**CD_1**
Quantif. Method	**CLO4-IC3000**	*Dilution Factor:*	**1.0000**
Run Time (min)	**19.00**	*Analyst*	**CLV**
Recording Time	**05/30/08 00:46**		

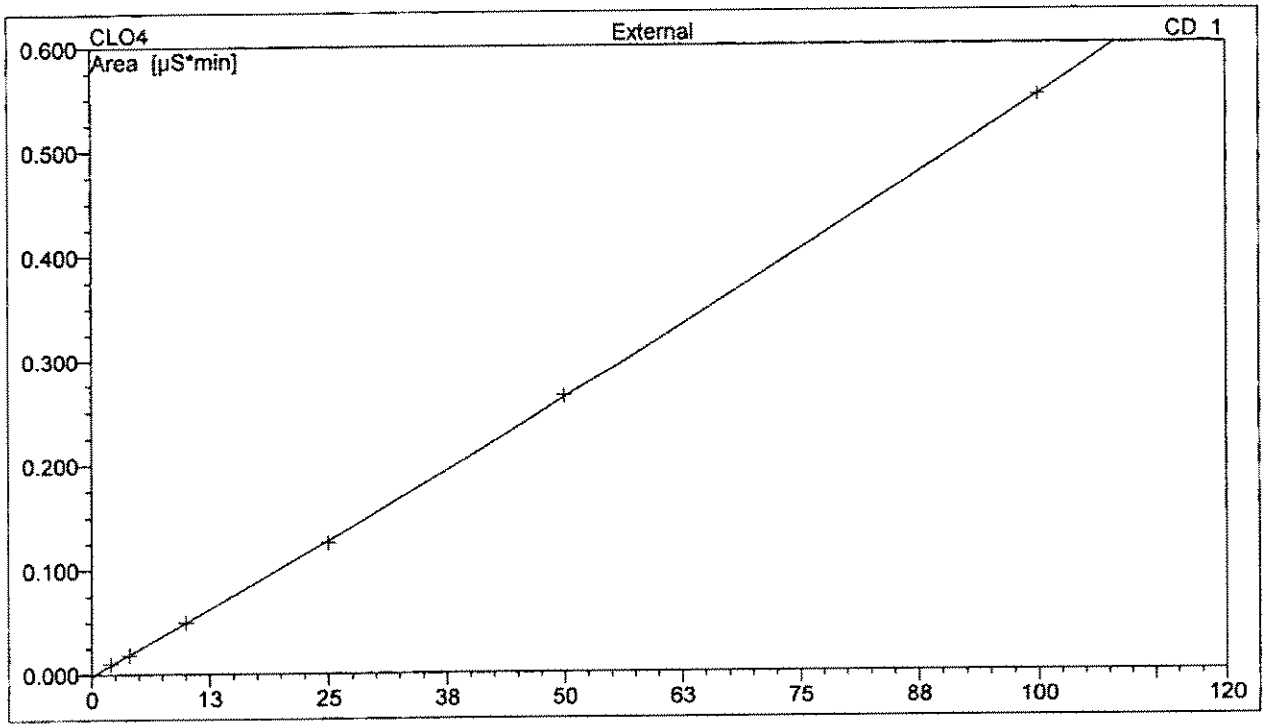


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	13.94	CLO4	1.577	0.550	99.54	99.959	BMB
Total:			1.577	0.550	99.54	99.959	

7 CAL7

100

Sample Type:	**standard**	*Channel:*	**CD_1**
Control Program:	**Dionex CLO4 Test**	*Wavelength:*	**CD_1**
Quantif. Method:	**CLO4-IC3000**	*Dilution Factor:*	**1.0000**
Recording Time:	**05/30/08 00:46**	*Analyst:*	**CLV**
Run Time (min):	**19.00**		

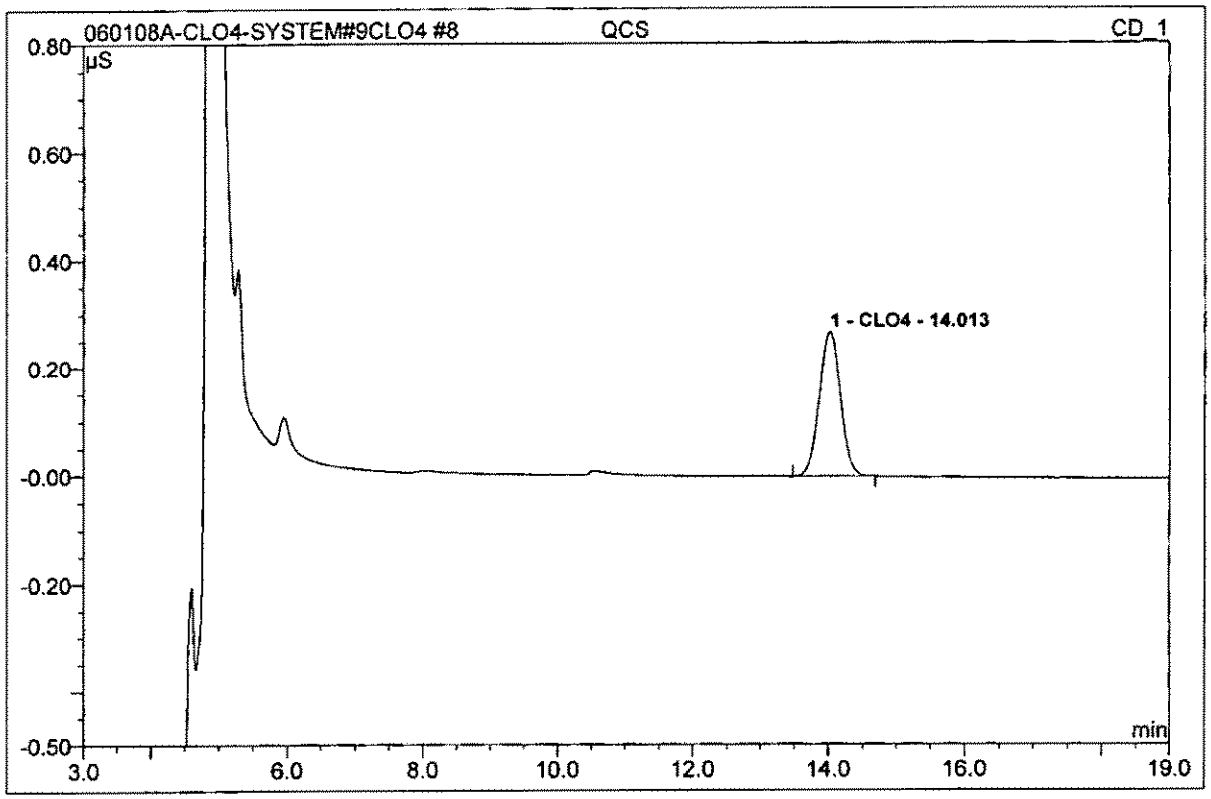


No.	Ret.Time min	Peak Name	Cal.Type	Points	Corr.Coeff. %	Offset	Slope	Curve
1	13.94	CLO4	QOff	6	99.9714	-0.0014	0.0050	0.0000
2	14.66	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Average:					99.9714	-0.0014	0.0050	0.0000

8 QCS

20

Sample Type	**unknown**	*Injection Volume:*	**1000.0**
Control Program	**Dionex CLO4 Test**	*Channel:*	**CD_1**
Quantif. Method	**CLO4-IC3000**	*Dilution Factor:*	**1.0000**
Run Time (min)	**19.00**	*Analyst*	**CLV**
Recording Time	**05/31/08 22:18**		

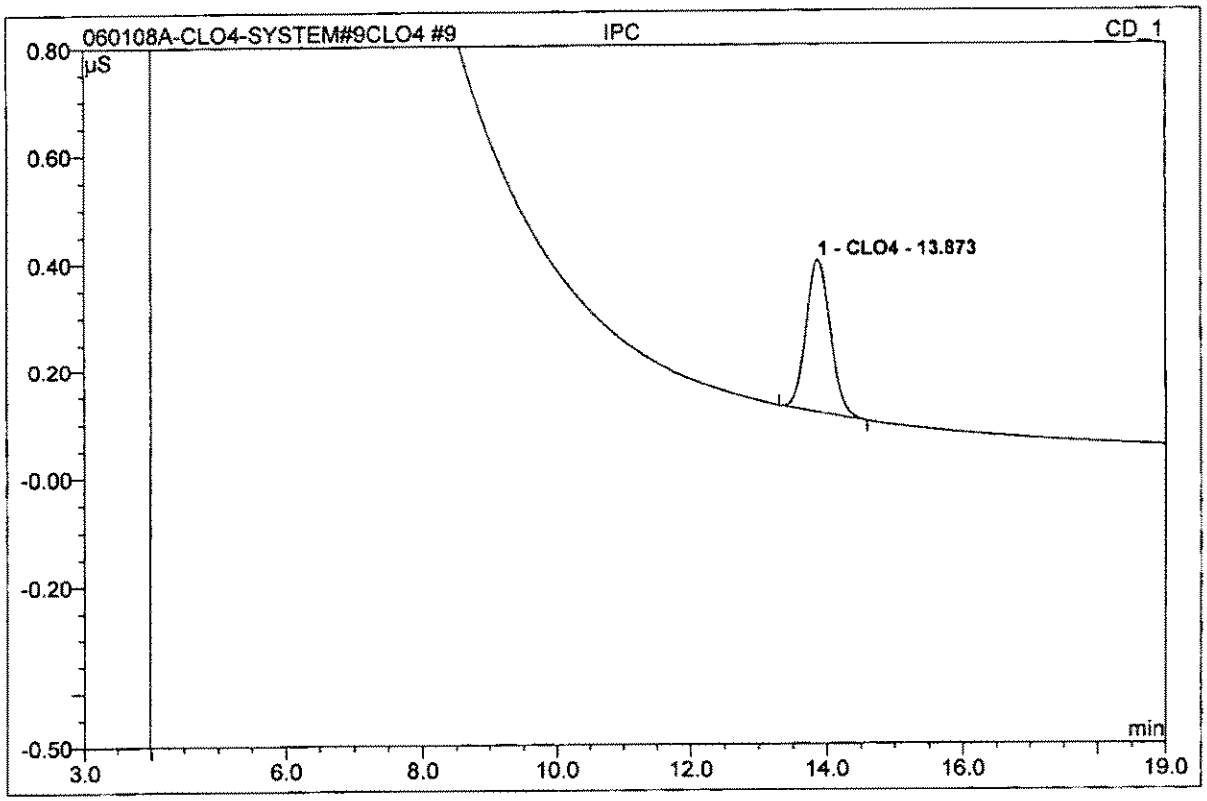


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	14.01	CLO4	0.269	0.096	100.00	18.995	BMB
Total:			0.269	0.096	100.00	18.995	

9 IPC

EC=1436

Sample Type	**unknown**	*Injection Volume:*	**1000.0**
Control Program	**Dionex CLO4 Test**	*Channel:*	**CD_1**
Quantif. Method	**CLO4-IC3000**	*Dilution Factor:*	**1.0000**
Run Time (min)	**19.00**	*Analyst*	**CLV**
Recording Time	**05/31/08 22:40**		

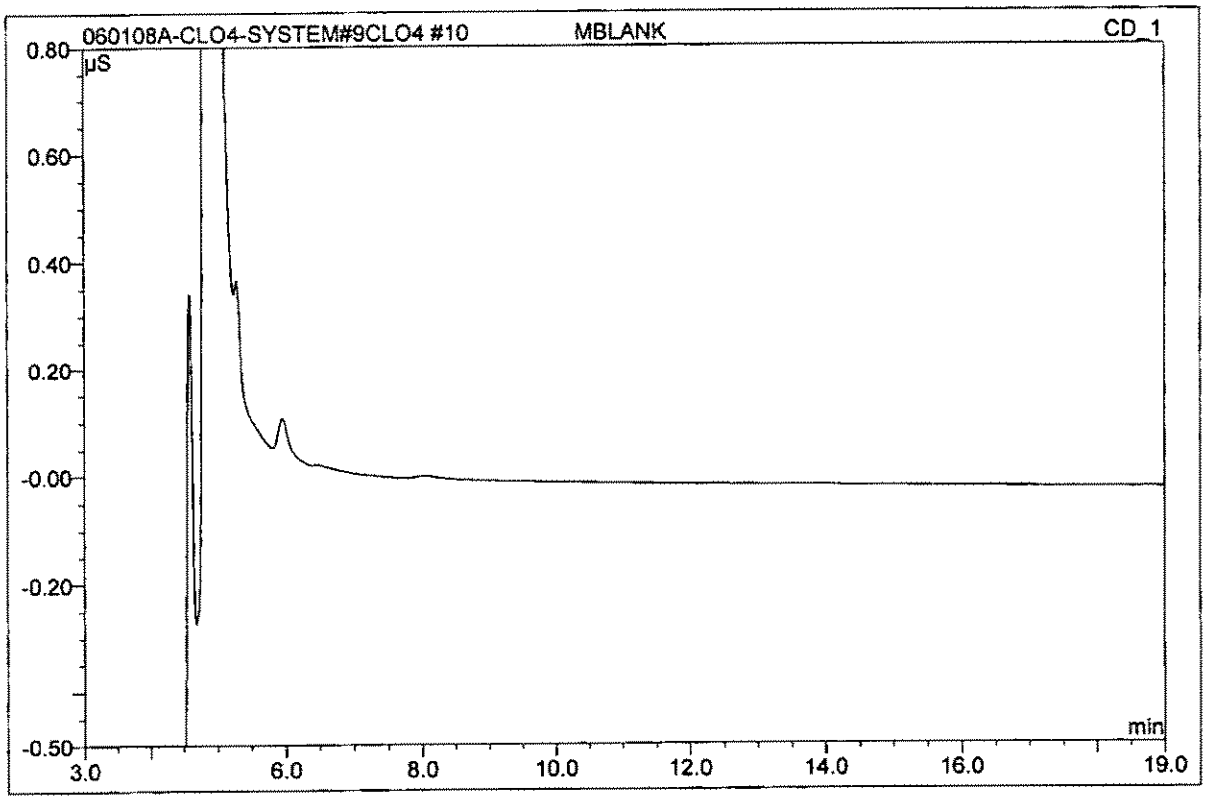


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	13.87	CLO4	0.286	0.119	100.00	23.378	BMB
Total:			0.286	0.119	100.00	23.378	

Chromeleon (c) Dionex 1996-2000
Version 6.80 SP4 Build 2361 (130805)

10 MBLANK

Sample Type	**unknown**	*Injection Volume:*	**1000.0**
Control Program	**Dionex CLO4 Test**	*Channel:*	**CD_1**
Quantif. Method	**CLO4-IC3000**	*Dilution Factor:*	**1.0000**
Run Time (min)	**19.00**	*Analyst*	**CLV**
Recording Time	**05/31/08 23:01**		

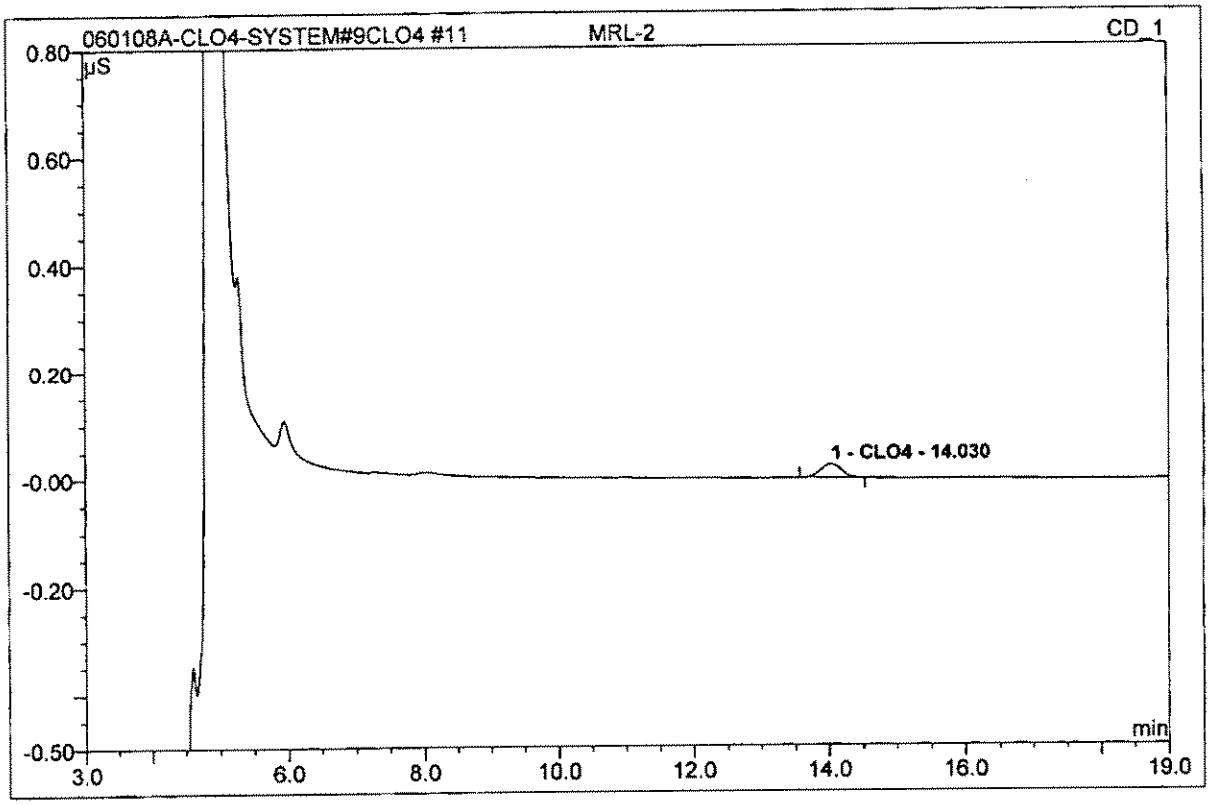


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
Total:			0.000	0.000	0.00	0.000	

11 MRL-2

2

Sample Type	**unknown**	*Injection Volume:*	**1000.0**
Control Program	**Dionex CLO4 Test**	*Channel:*	**CD_1**
Quantif. Method	**CLO4-IC3000**	*Dilution Factor:*	**1.0000**
Run Time (min)	**19.00**	*Analyst*	**CLV**
Recording Time	**05/31/08 23:23**		

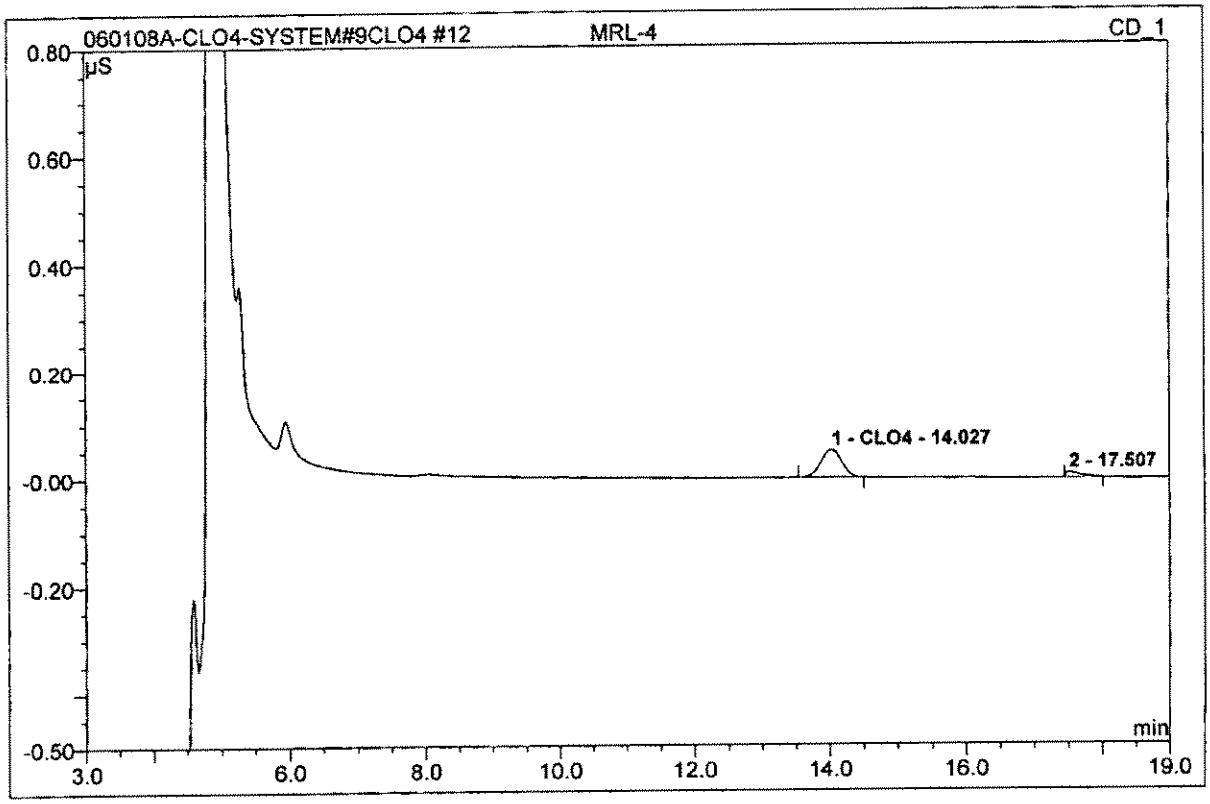


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	14.03	CLO4	0.025	0.009	100.00	2.072	BMB
Total:			0.025	0.009	100.00	2.072	

12 MRL-4

4

Sample Type	**unknown**	*Injection Volume:*	**1000.0**
Control Program	**Dionex CLO4 Test**	*Channel:*	**CD_1**
Quantif. Method	**CLO4-IC3000**	*Dilution Factor:*	**1.0000**
Run Time (min)	**19.00**	*Analyst*	**CLV**
Recording Time	**05/31/08 23:47**		



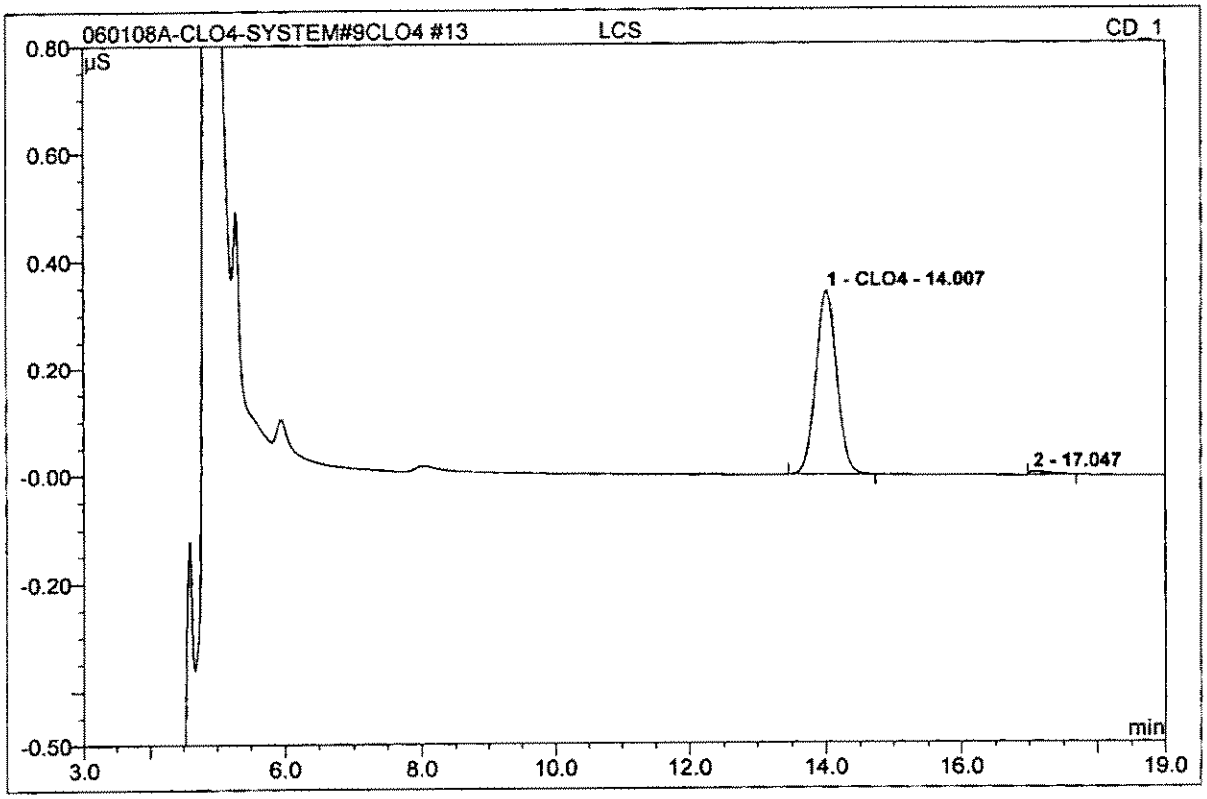
No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	14.03	CLO4	0.051	0.018	88.35	3.881	BMB
Total:			0.051	0.018	88.35	3.881	

Chromeleon (c) Dionex 1996-2000
Version 6.80 SP4 Build 2361 (130805)

13 LCS

25

Sample Type	**unknown**	*Injection Volume:*	**1000.0**
Control Program	**Dionex CLO4 Test**	*Channel:*	**CD_1**
Quantif. Method	**CLO4-IC3000**	*Dilution Factor:*	**1.0000**
Run Time (min)	**19.00**	*Analyst*	**CLV**
Recording Time	**06/01/08 00:09**		



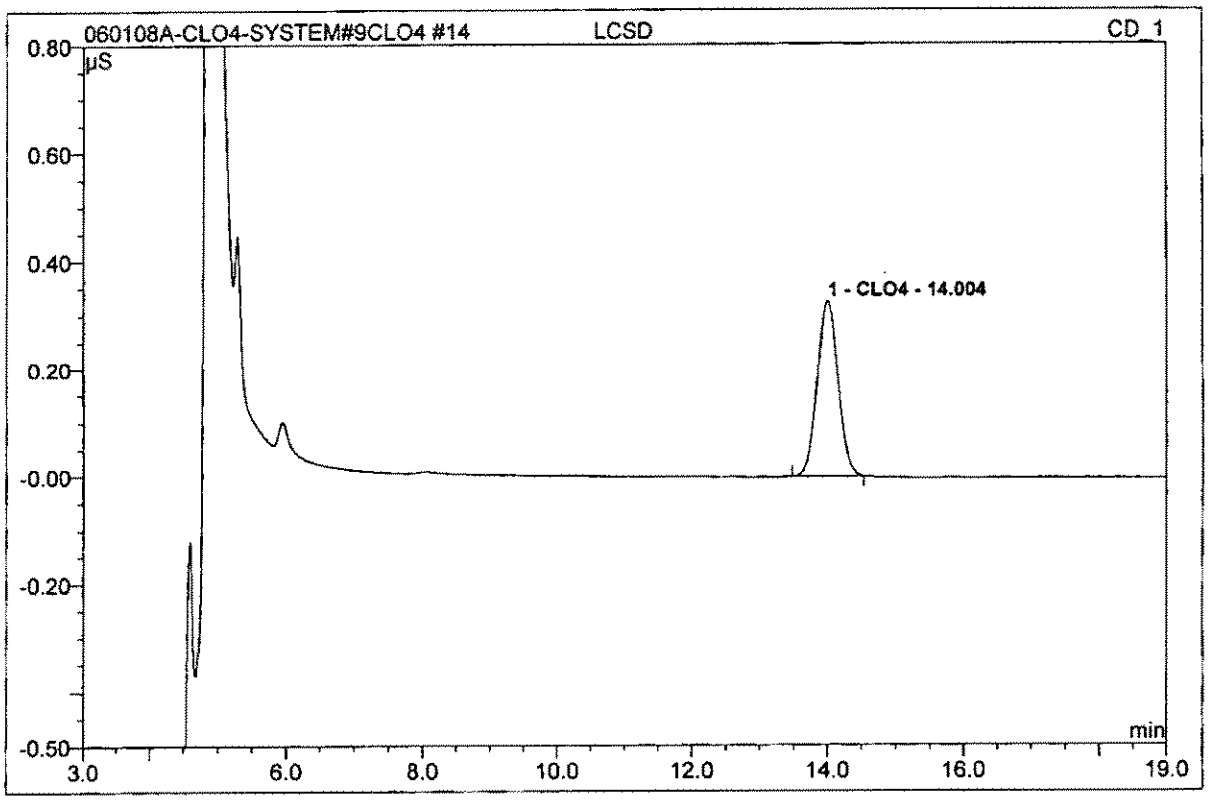
No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	14.01	CLO4	0.342	0.122	98.35	23.919	BMB
Total:			0.342	0.122	98.35	23.919	

Chromeleon (c) Dionex 1996-2000
Version 6.80 SP4 Build 2361 (130805)

14 LCSD

25

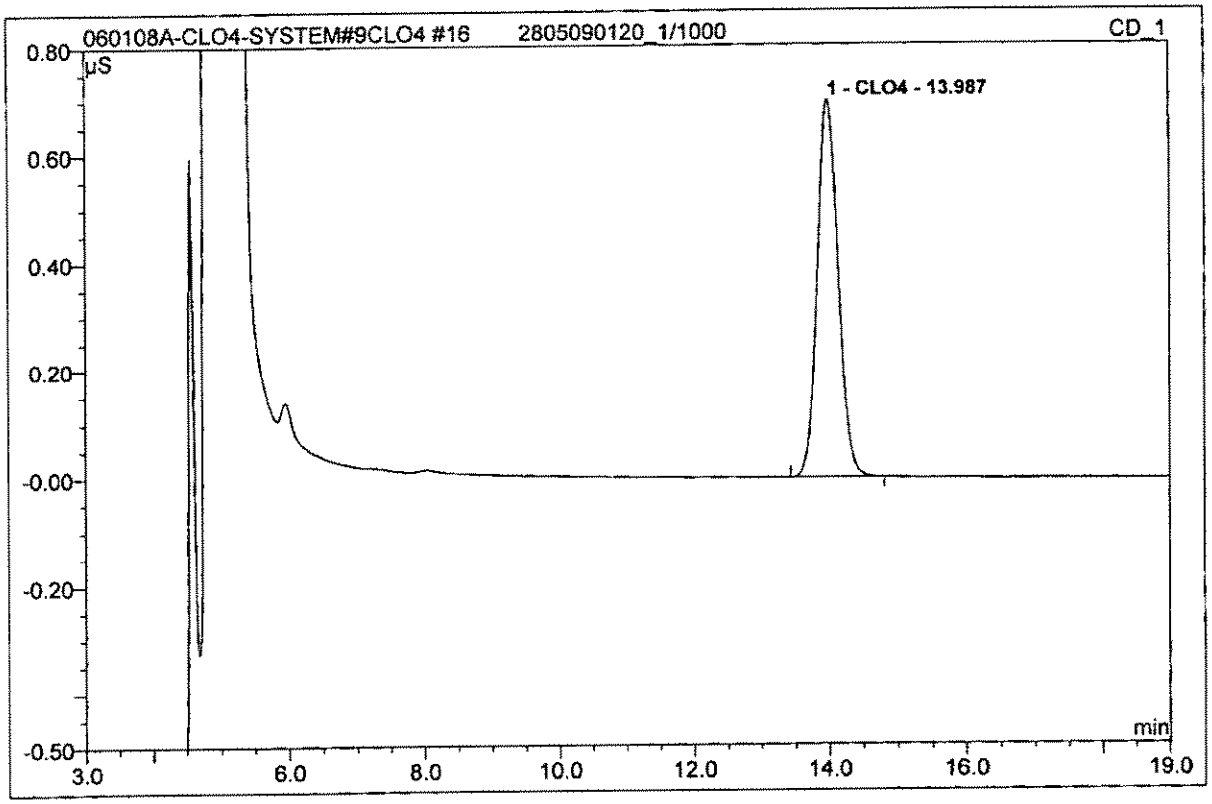
Sample Type	**unknown**	*Injection Volume:*	**1000.0**
Control Program	**Dionex CLO4 Test**	*Channel:*	**CD_1**
Quantif. Method	**CLO4-IC3000**	*Dilution Factor:*	**1.0000**
Run Time (min)	**19.00**	*Analyst*	**CLV**
Recording Time	**06/01/08 00:30**		



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	14.00	CLO4	0.326	0.116	100.00	22.748	BMB
Total:			0.326	0.116	100.00	22.748	

16 2805090120_1/1000

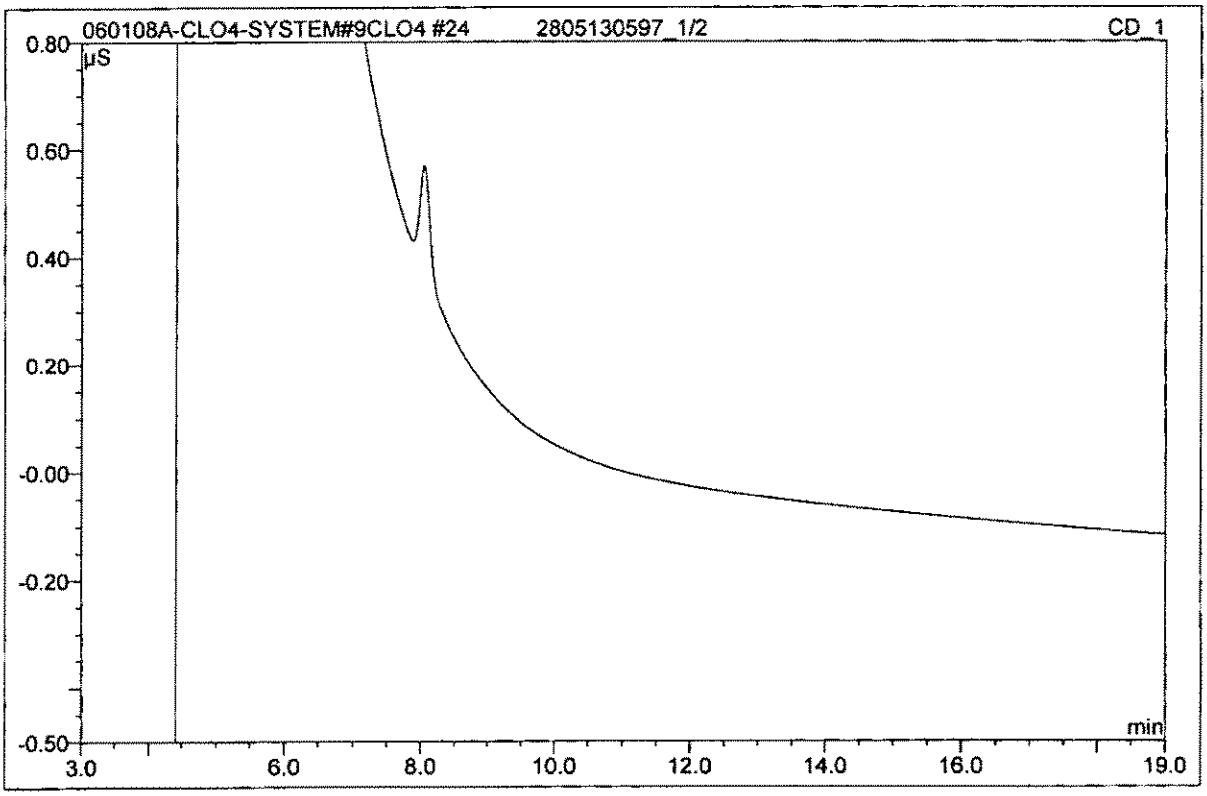
Sample Type	**unknown**	*Injection Volume:*	**1000.0**
Control Program	**Dionex CLO4 Test**	*Channel:*	**CD_1**
Quantif. Method	**CLO4-IC3000**	*Dilution Factor:*	**1000.0000**
Run Time (min)	**19.00**	*Analyst*	**CLV**
Recording Time	**06/01/08 01:13**		



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	13.99	CLO4	0.701	0.248	100.00	47394.644	BMB
Total:			0.701	0.248	100.00	47394.644	

24 2805130597_1/2

Sample Type	**unknown**	*Injection Volume:*	**1000.0**
Control Program	**Dionex CLO4 Test**	*Channel:*	**CD_1**
Quantif. Method	**CLO4-IC3000**	*Dilution Factor:*	**2.0000**
Run Time (min)	**19.00**	*Analyst*	**CLV**
Recording Time	**06/01/08 04:04**		

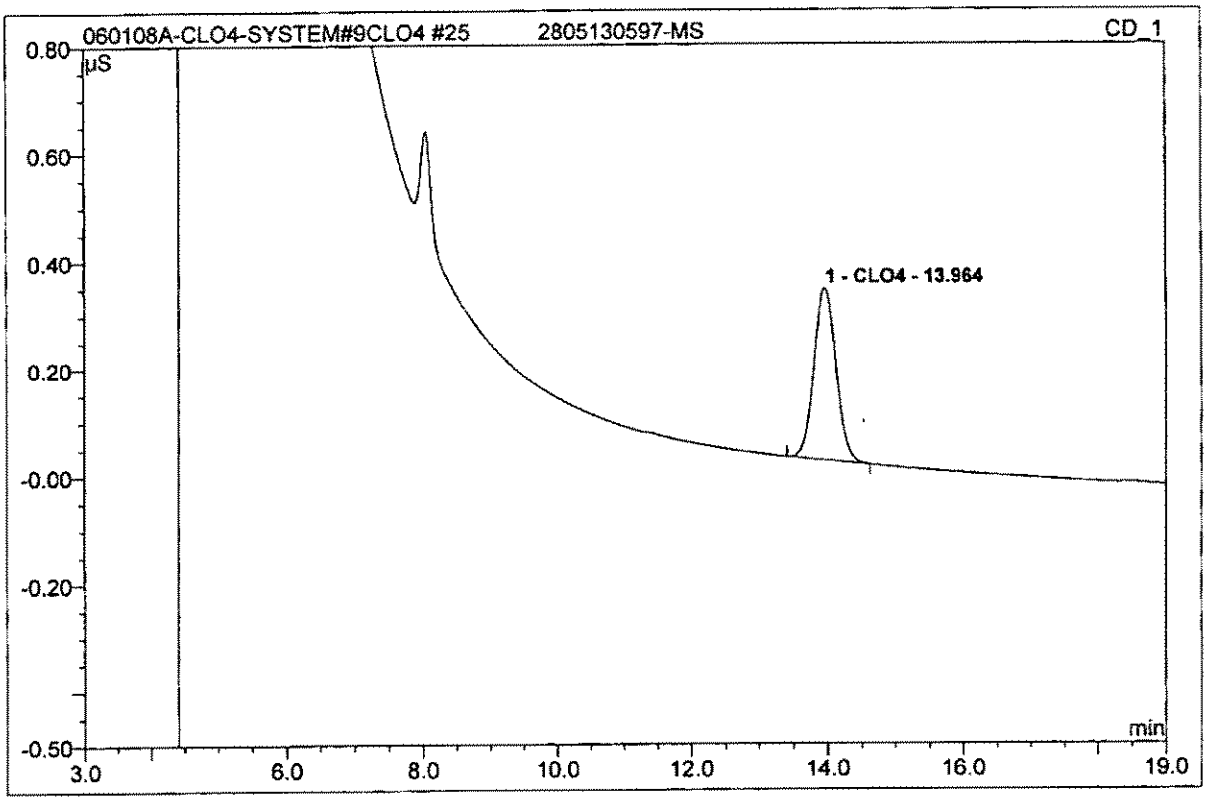


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
Total:			0.000	0.000	0.00	0.000	

25 2805130597-MS

25

Sample Type	**unknown**	*Injection Volume:*	**1000.0**
Control Program	**Dionex CLO4 Test**	*Channel:*	**CD_1**
Quantif. Method	**CLO4-IC3000**	*Dilution Factor:*	**2.0000**
Run Time (min)	**19.00**	*Analyst*	**CLV**
Recording Time	**06/01/08 04:25**		

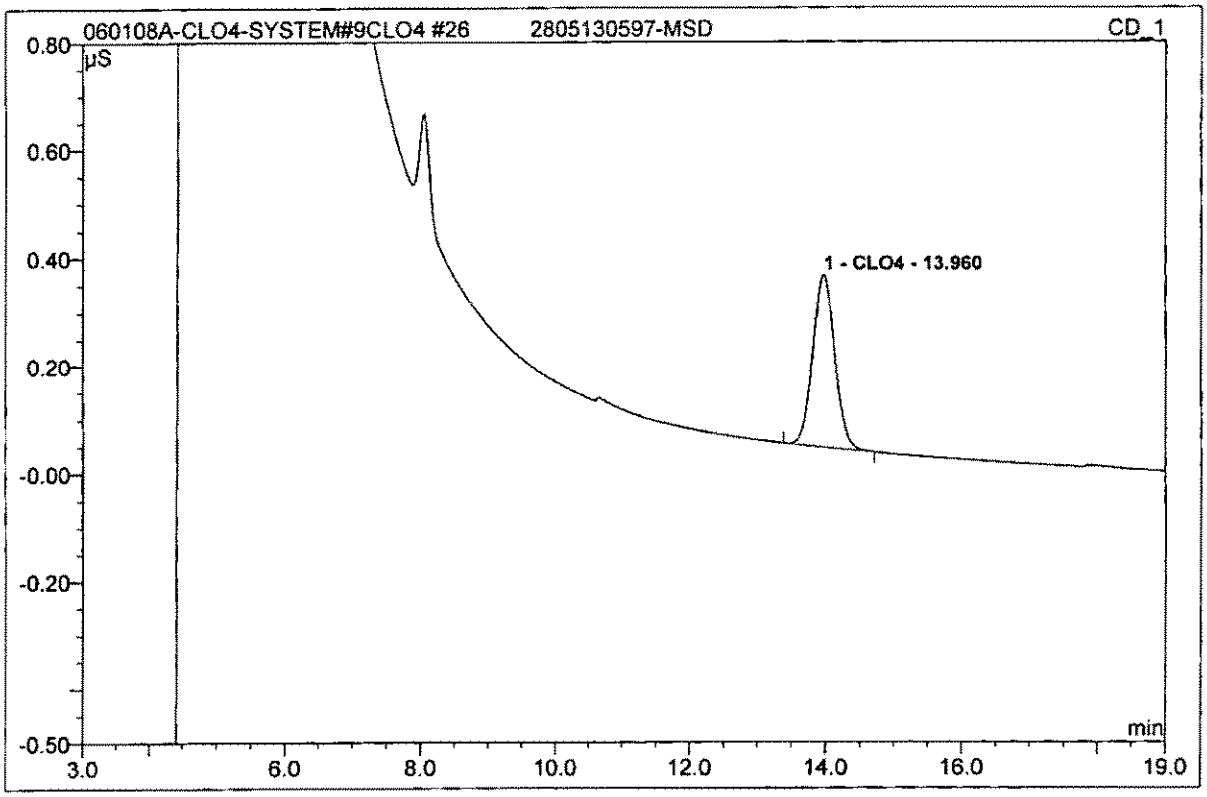


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	13.96	CLO4	0.321	0.119	100.00	46.892	BMB
Total:			0.321	0.119	100.00	46.892	

26 2805130597-MSD

25

Sample Type	**unknown**	*Injection Volume:*	**1000.0**
Control Program	**Dionex CLO4 Test**	*Channel:*	**CD_1**
Quantif. Method	**CLO4-IC3000**	*Dilution Factor:*	**2.0000**
Run Time (min)	**19.00**	*Analyst*	**CLV**
Recording Time	**06/01/08 04:47**		

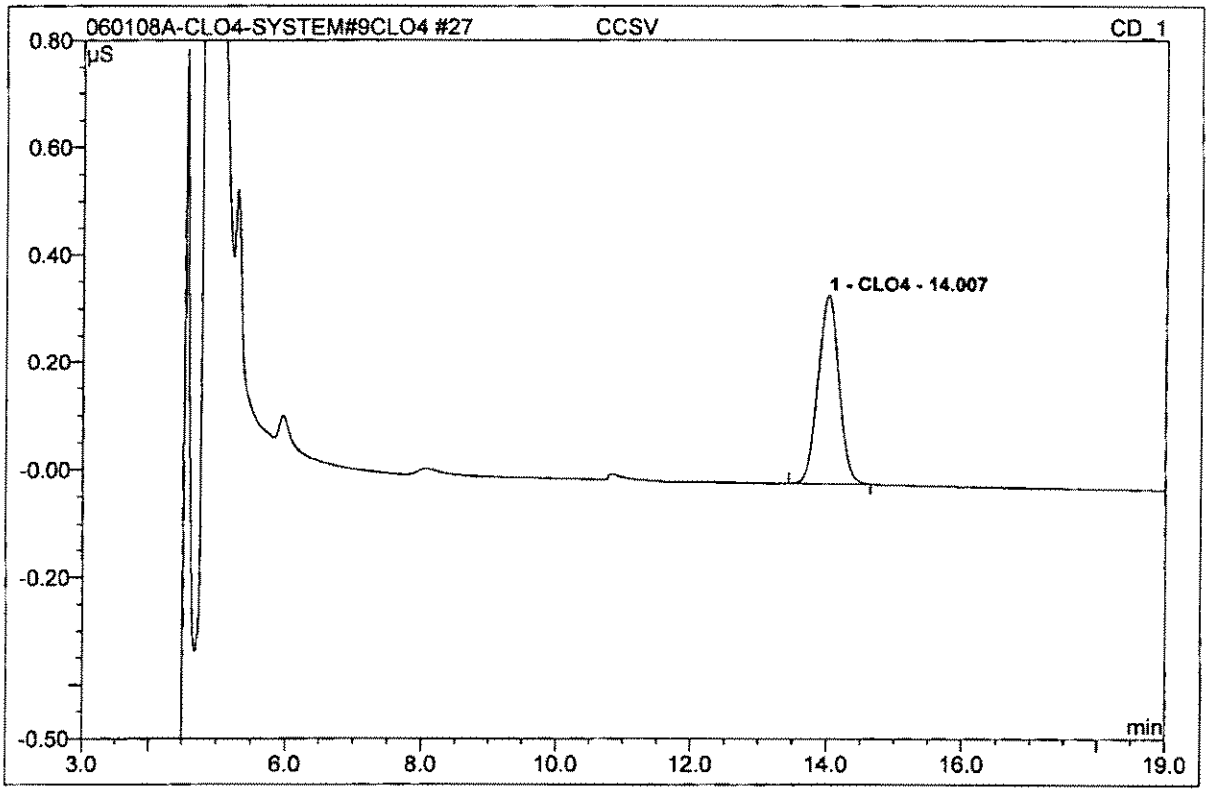


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	13.96	CLO4	0.320	0.119	100.00	46.853	BMB
Total:			0.320	0.119	100.00	46.853	

27 CCSV

25

Sample Type	**unknown**	*Injection Volume:*	**1000.0**
Control Program	**Dionex CLO4 Test**	*Channel:*	**CD_1**
Quantif. Method	**CLO4-IC3000**	*Dilution Factor:*	**1.0000**
Run Time (min)	**19.00**	*Analyst*	**CLV**
Recording Time	**06/01/08 05:08**		

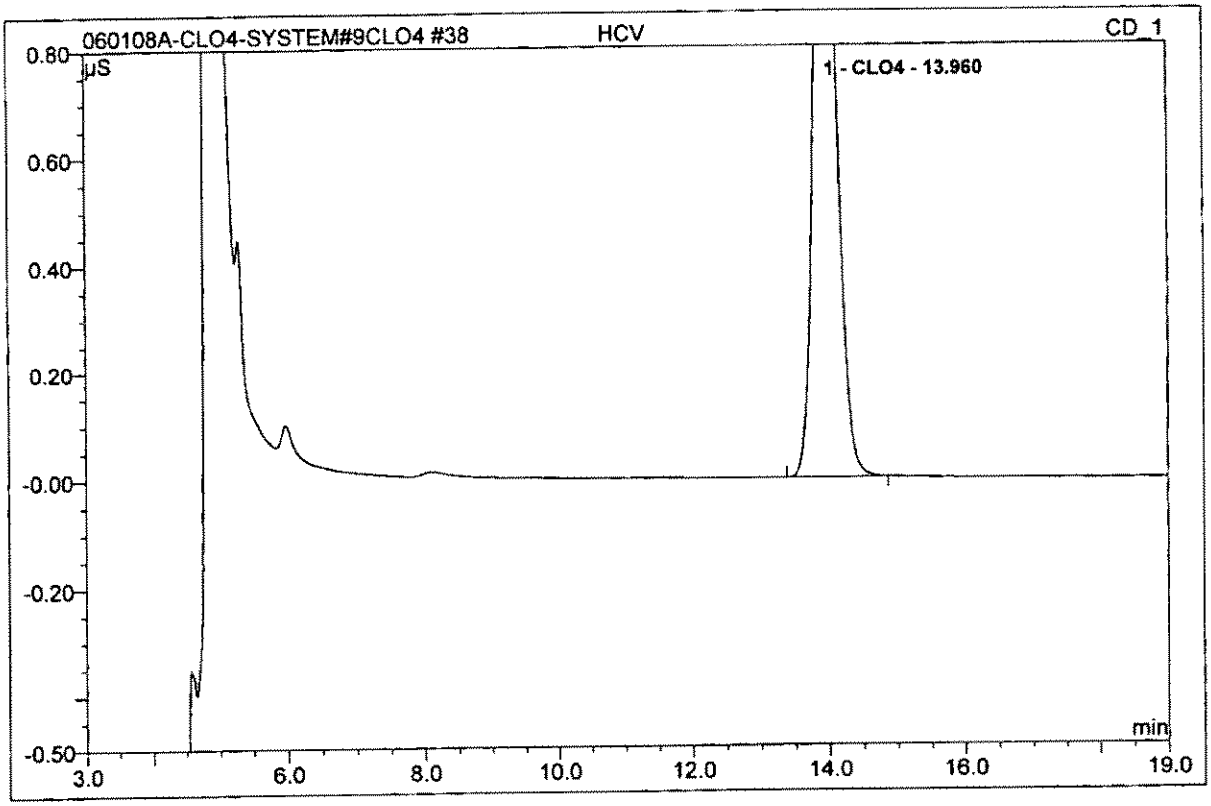


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	14.01	CLO4	0.350	0.125	100.00	24.487	BMB
Total:			0.350	0.125	100.00	24.487	

38 HCV

100

Sample Type	**unknown**	*Injection Volume:*	**1000.0**
Control Program	**Dionex CLO4 Test**	*Channel:*	**CD_1**
Quantif. Method	**CLO4-IC3000**	*Dilution Factor:*	**1.0000**
Run Time (min)	**19.00**	*Analyst*	**CLV**
Recording Time	**06/01/08 09:03**		



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount	Type
1	13.96	CLO4	1.546	0.541	100.00	98.542	BMB
Total:			1.546	0.541	100.00	98.542	

Standard Preparation Worksheet & Certificate of Analysis

Reagent Preparation Documentation

Page:_____

Reagent: CLO4 IPC 25 ppb
Date Received/Prepped: 52908 / 06/1/08 / / / /
Date Expired: 112908 / 09/1/08 / / / /
Manufacturer:
Storage Condition: ROOM TEMP

MW #: CLV080529
By: Ch
Matrix: A
Amount: 100 ml
Lot #:

Component	Comment	Standard	Concentration
1.5 ml 10,000 ppm	CO3	MLE 080312-7	10,000 ppm
1.5 ml 10,000 "	SO4	MLE 080312-5	10,000 "
1.5 ml 10,000 "	Cl	MLE 080312-6	10,000 "
2.5 ml 1,000 ppb	CLO4 Init Cal	MLE 080312-4	1,000 ppb

100 ml soln.

Comment:

Reagent: DBP Init. Cal. Std 10/5/10 ppm
Date Received/Prepped: 053108 / / / / /
Date Expired: 113108 / / / / /
Manufacturer:
Storage Condition: ROOM TEMP.

MW #: CLV080531-1
By: Ch
Matrix: A
Amount: 100 ml
Lot #:

Component	Comment	Standard	Concentration
50 ml 100,000 ppm	EDA	TLH 071029-1	100,000 ppm
0.5 ml 1,000 ppm	Br EXP 06/01/09	R201865	1,000 ppm
1.0 ml 1,000 ppm	ClO_2 EXP 06/01/09	R201864	1,000 ppm
1.0 ml 1,000 ppm	ClO_3 EXP 06/01/09	R201863	1,000 ppm

100 ml soln.

Comment:

Reagent: DBP SI/MDL/MRL 10/5/10 ppb
Date Received/Prepped: 053108 / / / / /
Date Expired: 113108 / / / / /
Manufacturer:
Storage Condition: ROOM TEMP

MW #: CLV080531-2
By: Ch
Matrix: A
Amount: 100 ml
Lot #:

Component	Comment	Standard	Concentration
50 ml 100,000 ppm	EDA	TLH 071029-1	100,000 ppm
0.1 ml 10/5/10 ppb	Init Cal	CLV080531-1	10/5/10 ppb

100 ml soln.

Comment:

Reagent Preparation Documentation

Page:_____

Reagent: DBP LCS/LCSD 200/100/200 ppb
Date Received/Prepped: 041508/050308/051108/ / /
Date Expired: 101508/110308/111108/ / /
Manufacturer:
Storage Condition:

MW #: CLV080415
By: clv
Matrix: A
Amount: 100 ml
Lot #:

Component	Comment	Standard	Concentration
50 ml 100,000 ppm	DBP → 100 ml soln.	CMS080220-12	100,000 ppm
2.0 ml 10/5/10 ppm	2nd Source	CLV080719-9	10/5/10 ppm

Comment:

Reagent: ClO4 LCS 25 ppb
Date Received/Prepped: 041908/051108/ / / /
Date Expired: 101908/111108/ / / /
Manufacturer:
Storage Condition: ROOM TEMP

MW #: CLV080419-1
By: CLV
Matrix: A
Amount: 150 ml
Lot #:

Component	Comment	Standard	Concentration
25 ml 1000 ppb	ClO4 Init. Cal → 100 ml soln.	MLT080312-9	1000 ppb
	R201499 EXP 07/28/09		

Comment:

Reagent: ClO4 LCSD 25 ppb
Date Received/Prepped: 041908/051108/ / / /
Date Expired: 101908/111108/ / / /
Manufacturer:
Storage Condition: Room Temp

MW #: CLV080419-2
By: CLV
Matrix: A
Amount: 100 ml
Lot #:

Component	Comment	Standard	Concentration
25 ml 1000 ppb	ClO4 Init. Cal. → 100 ml Soln.	MLT 080312-4	1000 ppb
	R201499 EXP 07/28/09		

Comment:

Reagent Preparation Documentation

Page:

Reagent: CL04 HCV 100 ppb
Date Received/Prepped: 041108/042508/051108/ / /
Date Expired: 101108/102508/111108/ / /
Manufacturer:
Storage Condition: ROOM TEMP

MW #: CLV080411-1
By: CLV
Matrix: A
Amount: 100 ml
Lot #:

Component	Comment	Standard	Concentration
100 ml 1000 ppb	CL04 Init. Cal → 100 ml Solis.	MLE 080312-4	1000 ppb
	R201449 EXP 07/28/09		

Comment:

Reagent: CL04 CCV 25 ppb
Date Received/Prepped: 041108/042508/051108/ / /
Date Expired: 101108/102508/111108/ / /
Manufacturer:
Storage Condition: ROOM TEMP

MW #: CLV080411-2
By: CLV
Matrix: A
Amount: 100 ml
Lot #:

Component	Comment	Standard	Concentration
2.5 ml 1000 ppb	CL04 Init. Cal → 100 ml Solis	MLE 080312-4	1000 ppb
	R201449 EXP 07/28/09		

Comment:

Reagent: CL04 3030 3110 IPC EC:3060 25 ppb
Date Received/Prepped: 041308/052008/051108/ / /
Date Expired: 101308/110208/111108/ / /
Manufacturer:
Storage Condition: ROOM TEMP

MW #: CLV080413
By: CLV
Matrix: A
Amount: 100 ml
Lot #:

Component	Comment	Standard	Concentration
3.3 ml 10,000 ppm	CO3	MLE 080312-7	10,000 ppm
3.5 ml 10,000 ppm	SO4	MLE 080312-5	10,000 ppm
3.5 ml 10,000 ppm	Cl	MLE 080312-6	10,000 ppm
2.5 ml 1,000 ppb	CL04 Init Cal	MLE 080312-4	1,000 ppb
	R201449 EXP 07/28/09		

100 ml Solis

Comment:

Reagent: 25 ppb CLO4 - CCV
Date Received/Prepped: 03-12-08/ 6-11 08/ / / /
Date Expired: 05-12-08/ 9-11 08/ / / /
Manufacturer:
Storage Condition: R-T

MW #: MUE080312-15
By: MUE
Matrix: AQ
Amount: 100ML
Lot #:

Component	Comment	Standard	Concentration
	2.5 ML 1000 ppb CLO4 - cal	MUE080312-4	
	to 100 mL w/ DIH_2O		

Comment:

Reagent: 50 ppb CLO4
Date Received/Prepped: 03-12-08/ 6-11-08/ / / /
Date Expired: 05-12-08/ 9-11-08/ / / /
Manufacturer:
Storage Condition: R-T

MW #: MUE080312-16
By: MUE
Matrix: AQ
Amount: 100ML
Lot #:

Component	Comment	Standard	Concentration
	5.0 ML 1000 ppb CLO4 - cal	MUE080312-4	
	to 100 mL w/ DIH_2O		

Comment:

Reagent: 100 ppb CLO4 - MCV
Date Received/Prepped: 03-12-08/ 6-11-08/ / / /
Date Expired: 05-12-08/ 9-11-08/ / / /
Manufacturer:
Storage Condition: R-T

MW #: MUE080312-17
By: MUE
Matrix: AQ
Amount: 100ML
Lot #:

Component	Comment	Standard	Concentration
	10.0 ML 1000 ppb CLO4 - cal	MUE080312-4	
	to 100 mL w/ DIH_2O		

Comment:

Reagent Preparation Documentation

Page:_____

Reagent: MRL - 2 PPB ClO4 - cal
Date Received/Prepped: 03-12-08/ 6:11 CST / / / /
Date Expired: 06-12-08/ 9:11 CST / / / /
Manufacturer:
Storage Condition: R.T.

MW #: MWE080312-12
By: MWE
Matrix: AQ
Amount: 100 ML
Lot #:

Component	Comment	Standard	Concentration
	200 µL 1,000 ppb ClO4 - cal	MWE080312-4	
	to 100 mL w/ DIH_2O		

Comment:

Reagent: MRL - 4 PPB ClO4 - cal
Date Received/Prepped: 03-12-08/ 6:11 CST / / / /
Date Expired: 06-12-08/ 9:11 CST / / / /
Manufacturer:
Storage Condition: R.T.

MW #: MWE080312-13
By: MWE
Matrix: AQ
Amount: 100 ML
Lot #:

Component	Comment	Standard	Concentration
	400 µL 1,000 ppb ClO4 - cal	MWE080312-4	
	to 100 mL w/ DIH_2O		

Comment:

Reagent: 10 ppb ClO4 - cal
Date Received/Prepped: 03-12-08/ 6:11 CST / / / /
Date Expired: 06-12-08/ 9:11 CST / / / /
Manufacturer:
Storage Condition: R.T.

MW #: MWE080312-14
By: MWE
Matrix: AQ
Amount: 100 mL
Lot #:

Component	Comment	Standard	Concentration
	1.0 ml 1,000 ppb ClO4 - cal	MWE080312-4	
	to 100 mL w/ D I H_2O		

Comment:

Reagent Preparation Documentation

Page: _____

Reagent: 10,000 PPM CL SOLN.
Date Received/Prepped: 03-12-08/ 0611 CS/ / / /
Date Expired: 06-12-08/ 0911 CS/ / / /
Manufacturer:
Storage Condition: R.T.

MW #: MWE080312-6
By: MWE
Matrix: AQ
Amount: 100 ML
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
Date Received/Prepped: 03-12-08/ 0611 CS/ / / /
Date Expired: 06-12-08/ 0911 CS/ / / /
Manufacturer:
Storage Condition: R.T.

MW #: MWE080312-7
By: MWE
Matrix: AQ
Amount: 100 mL
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]
Date Received/Prepped: 03-12-08/ 1148 CS/ / / /
Date Expired: 06-12-08/ 1148 CS/ / / /
Manufacturer:
Storage Condition: R.T.

MW #: MWE080312-8
By: MWE
Matrix: AQ
Amount: 100 ML
Lot #:

Component	Comment	Standard	Concentration
	2.0 ML 1000 PPB CLO4 - LCS	MWE080312-3	
	to 100 mL w/ DI H_2O		

Comment:

Reagent: 1000 PPB CLO4 - LCS
Date Received/Prepped: 03-12-08 / 06 / / /
Date Expired: 06-12-08 / 09 / / /
Manufacturer:
Storage Condition: R.T.

MW #: MLE080312-3
By: MLE
Matrix: AQ
Amount: 100 ML
Lot #:

Component	Comment	Standard	Concentration
	10 ML 10 PPM CLO4 - LCS	MLE080313-1	
	TO VOL W/ DI H2O		

Comment:

Reagent: 1000 PPB CLO4 - CAL
Date Received/Prepped: 03-12-08 / 06 / / /
Date Expired: 06-12-08 / 09 / / /
Manufacturer:
Storage Condition: R.T.

MW #: MLE080312-4
By: MLE
Matrix: AQ
Amount: 100 ML
Lot #:

Component	Comment	Standard	Concentration
	10 ML 10 PPM CLO4 - CAL	MLE080313-2	
	TO VOL. W/ DIH2O		

Comment:

Reagent: 10,000 PPM SO4 SOLN
Date Received/Prepped: 03-12-08 / 06/20 / / /
Date Expired: 06-12-08 / 09 / / /
Manufacturer:
Storage Condition: R.T.

MW #: MLE080312-5
By: MLE
Matrix: AQ
Amount: 100 ML
Lot #:

Component	Comment	Standard	Concentration
	1.48 g SODIUM SULFATE (R201792	EXP 3/13)	
	TO 100 ML W/ DIH2O		

Comment:

Reagent Preparation Documentation

Page:_____

LCS 3000

Reagent: IPC 5 PPB w/ 150 PPM SALT
Date Received/Prepped: 2-27-08 / 03-07-08 / 04-07-08 / / /
Date Expired: 5-27-08 / 06-07-08 / 07-07-08 / / /
Manufacturer:
Storage Condition:

MW #: MCE080227-2
By: MCE
Matrix: AQ
Amount: 100 ML
Lot #:

Component	Comment	Standard	Concentration
	0.5 ML 1000 PPB CLO4		
	1.5 ML EACH [10,000 PPM CO3 Cl SO4]	SOLN	
	to vol 100 ML w/ DI H2O		

Comment:
EC 1434

Reagent: 10 PPM CLO4 - LCS
Date Received/Prepped: 3-12-08 / 6-11-08 / / / /
Date Expired: 6-12-08 / 9-11-08 / / / /
Manufacturer:
Storage Condition: R.T.

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

MW #: MCE080312-2
By: MCE
Matrix: AQ
Amount: 100 ML
Lot #:

Component	Comment	Standard	Concentration
	1 ML 1000 PPM CLO4	R201449 (EXP. 7/09)	
	TO VOL 100 ML w/ DI H2O		

Comment:

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CERTIFIED WEIGHT REPORT:

Part Number: 57001
Lot Number: 072806
Description: Perchlorate

R201449

Expiration Date: 072809

Nominal Concentration (µg/mL): 1000

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

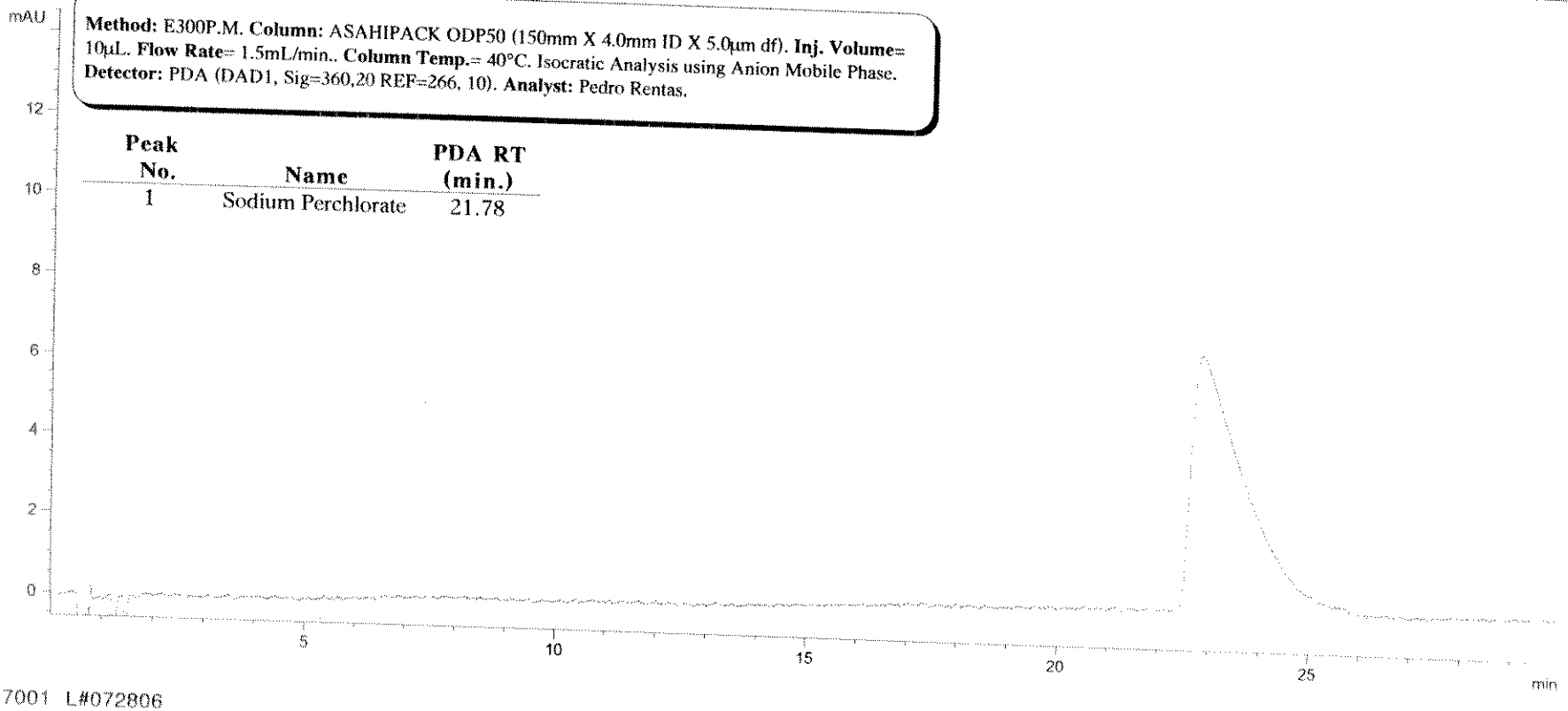
Weight(s) shown below were combined and diluted to (mL): 1000.55

5E-05 Balance Uncertainty
0.084 Flask Uncertainty

Formulated By: Lawrence Barry 072806

Reviewed By: Pedro L. Rentas 072806

Compound	RM#	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

112

P#57001 L#072806

Printed on 9/5/06, 9:49 AM

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: 09
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: 09
Amount: 500 ml
Lot #: 083106

Component	Comment	Standard	Concentration
	Abs Std # 54505		

Comment:

Reagent: Perchlorate 1000ppm 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: 09
Amount: 100 ml
Lot #: 072806

Component	Comment	Standard	Concentration
	Abs Std # 57001		

Comment:

JUL 10 2008 R201789 recd 1-11-08

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.

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