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Level IV Data Package

MWH Group 239631

Method: EPA 9056: CLO39056

2805060278

2805060290

2805060303

2805060311

2805060313

2805060315

2805060318

DBP QC Checklist

Analysis Date: 5/28/08 Analyst: CVJ

QC'd by LA Date 28 May 08

Instrument: C12

Calibration including QCS(Secondary Source)

Correlation Coefficient of calibration curve for linear curve is 0.995 or better. (0.99 for quadratic)
 CLO2 CLO3 BR

Initial QC Check Samples (MCV, CCB, MBLANK, MRL) to be analyzed with every batch (up to 20 samples) or part thereof

- MCV is analyzed before samples:
 CLO2/CLO3: 90-110% (180-220ppb) BR: 90-110% (90-110ppb)
- CCB is analyzed before samples and after MCV and HCV
- MLBANK is analyzed before samples. CLO2/CLO3 BR, if present, is < or = half of the MRL.
- CLO2: MRL at 10ppb is within 75%-125% (7.5-12.5ppb)
- CLO3: MRL at 10ppb is within 75%-125% (7.5-12.5ppb)
- BR: MRL at 5.0ppb is within 75%-125% (3.75-6.25ppb)

LCS/LCSD: Accepted criteria are between 90-110% recovery

- CLO2: 180-220ppb for 200ppb
- CLO3: 180-220ppb for 200ppb
- BR: 90-110ppb for 100ppb
- One pair analyzed per batch (up to 20 samples) or part thereof

VB: LM 5/28/08

MS/MSD: Acceptance criteria are between 80%-120% recovery.

- CLO2: 80-120ppb for 100ppb spike
- CLO3: 80-120ppb for 100ppb spike
- BR: 40.0-60.0ppb for 50ppb spike
- RPD between MS/MSD is within 15%
- One pair, and one MS is analyzed per batch (up to 20 samples) or part thereof

Continuing Calibration Verification (MCV and HCV) are required

- MCV recovery is between 90-110%
 CLO2 (180-220ppb) CLO3 (180-220ppb) BR (90-110ppb)
- HCV recovery is between 90-110%
 CLO2 (720-880ppb) CLO3 (720-880ppb) BR (360-440ppb)

Samples

- All samples for CLO3 and BR are analyzed within 28 days of collection.
- All samples for CLO2 are analyzed within 14 days of collection.

QIR

QIR needed for failed QC

QIR needed for samples analyzed outside of hold time

No.	Sample Name	Comment	Time	Dil.Fac.	Amount ppb CLO3 CD_1	
1,	autocal1,		04/29/08 12:13,	1.0,	n.a.	
2,	autocal2,	S1-10/5/10	04/29/08 12:38,	1.0,	9.9844	
3,	autocal3,	S2-20/10/20	04/29/08 13:04,	1.0,	18.9759	
4,	autocal4,	S3-100/50/100	04/29/08 13:29,	1.0,	96.8114	
5,	autocal5,	S4-200/100/200	04/29/08 13:55,	1.0,	201.7633	
6,	autocal6,	S5-400/200/400	04/29/08 14:20,	1.0,	406.7933	
7,	autocal7,	S6-800/400/800	04/29/08 14:45,	1.0,	796.5869	
8,	MCV,	200/100/200	05/08/08 20:00,	1.0,	211.3855	106 ⁿ
9,	CCB,		05/08/08 20:25,	1.0,	n.a.	
10,	MRLCHK,	S1-10/5/10	05/08/08 20:51,	1.0,	✓ 7.8405	78.4 ⁿ
11,	MBLK,		05/08/08 21:16,	1.0,	n.a.	
12,	LCS1,	200/100/200	05/08/08 21:42,	1.0,	✓ 203.829	102 ⁿ
13,	LCS2,	200/100/200	05/08/08 22:07,	1.0,	✓ 210.1529	105 ⁿ
14,	MRLCHK DNR,	CONFIRMATION	05/08/08 22:32,	1.0,	7.9022	DNR
15,	2805060243,	CLO3	05/08/08 22:58,	1.0,	✓ n.a.	
16,	2805060243-MS,	100/50/100	05/08/08 23:23,	1.0,	✓ 90.5699	90.6 ⁿ
17,	2805060243-MSD,	100/50/100	05/08/08 23:49,	1.0,	✓ 95.4609	95.5 ⁿ
18,	2805060759_1/2,	CLO3	05/09/08 00:14,	1.0,	✓ 399.8231	799.6 ⁿ CW
19,	2805060794,	CLO2/CLO3	05/09/08 00:39,	1.0,	✓ 444.2572	
20,	2805060232_1/5,	CLO3	05/09/08 01:05,	5.0,	n.a.	
21,	2805060234_1/5000,	CLO3	05/09/08 01:30,	5000.0,	✓ 388049.9	
22,	2805060278_1/5000,	CLO39056	05/09/08 01:56,	5000.0,	490780.6	
23,	2805060290_1/5000,	CLO39056	05/09/08 02:21,	5000.0,	432800.1	
24,	2805060303_1/5000,	CLO39056	05/09/08 02:46,	5000.0,	386684.3	
25,	2805060311_1/5000 D	CLO39056	05/09/08 03:12,	5000.0,	77149.48	DNR
26,	2805060313_1/5000,	CLO39056	05/09/08 03:37,	5000.0,	190782.4	
27,	MCV,	200/100/200	05/09/08 04:02,	1.0,	202.749	101 ⁿ
28,	CCB,		05/09/08 04:28,	1.0,	n.a.	
29,	2805060315_1/5000,	CLO39056	05/09/08 04:53,	5000.0,	190759.7	
30,	2805060318_1/5000 D	CLO39056	05/09/08 05:19,	5000.0,	n.a.	DNR
31,	2805080778_1/5,	BR	05/09/08 05:44,	5.0,	n.a.	
32,	2804300045,	BR3001	05/09/08 06:09,	1.0,	162.7389	
33,	2804300046,	BR3001	05/09/08 06:35,	1.0,	137.2368	
34,	2804300047,	BR3001	05/09/08 07:00,	1.0,	153.2959	
35,	2805081004,	CLO2/CLO3	05/09/08 07:26,	1.0,	✓ n.a.	
36,	2805081004-MS,	100/50/100	05/09/08 07:51,	1.0,	95.3726	95.4 ⁿ
37,	2805081004-MSD,	100/50/100	05/09/08 08:16,	1.0,	94.3178	94.3 ⁿ
38,	2805081003,	CLO2/CLO3	05/09/08 08:42,	1.0,	✓ n.a.	
39,	HCV,	800/400/800	05/09/08 09:07,	1.0,	832.3388	104 ⁿ
40,	CCB,		05/09/08 09:33,	1.0,	n.a.	
41,	2805060311_1/500,	CLO39056/RR	05/09/08 09:58,	500.0,	82671.12	
42,	2805060318_1/50,	CLO39056/RR	05/09/08 10:23,	50.0,	2178.39	
43,	HCV,	800/400/800	05/09/08 10:49,	1.0,	840.6708	105 ⁿ
44,	CCB,		05/09/08 11:14,	1.0,	n.a.	

Sequence: 050808-DBP-IC12
Operator: civ

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Printed: 5/9/2008 3:44:27 PM

Title:
Datasource: Dionex_USPAS2SDIO2
Location: IC\IC12_DBP\2008\MAY
Timebase: IC12
#Samples: 44

Created: 5/8/2008 5:44:13 PM by civ
Last Update: 5/9/2008 3:42:18 PM by civ



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1	autocal1	DBP-Method	Finished	4/29/2008 12:13:30 PM	civ
2	autocal2	DBP-Method	Finished	4/29/2008 12:38:54 PM	civ
3	autocal3	DBP-Method	Finished	4/29/2008 1:04:17 PM	civ
4	autocal4	DBP-Method	Finished	4/29/2008 1:29:44 PM	civ
5	autocal5	DBP-Method	Finished	4/29/2008 1:55:07 PM	civ
6	autocal6	DBP-Method	Finished	4/29/2008 2:20:32 PM	civ
7	autocal7	DBP-Method	Finished	4/29/2008 2:45:56 PM	civ
8	MCV	DBP-Method	Finished	5/8/2008 8:00:27 PM	civ
9	CCB	DBP-Method	Finished	5/8/2008 8:25:52 PM	civ
10	MRLCHK	DBP-Method	Finished	5/8/2008 8:51:15 PM	civ
11	MBLK	DBP-Method	Finished	5/8/2008 9:16:39 PM	civ
12	LCS1	DBP-Method	Finished	5/8/2008 9:42:03 PM	civ
13	LCS2	DBP-Method	Finished	5/8/2008 10:07:27 PM	civ
14	MRLCHK DNR	DBP-Method	Finished	5/8/2008 10:32:51 PM	civ
15	2805060243	DBP-Method	Finished	5/8/2008 10:58:15 PM	civ
16	2805060243-MS	DBP-Method	Finished	5/8/2008 11:23:38 PM	civ
17	2805060243-MSD	DBP-Method	Finished	5/8/2008 11:49:02 PM	civ
18	2805060759_1/2	DBP-Method	Finished	5/9/2008 12:14:26 AM	civ
19	2805060794	DBP-Method	Finished	5/9/2008 12:39:50 AM	civ
20	2805060232_1/5	DBP-Method	Finished	5/9/2008 1:05:13 AM	civ
21	2805060234_1/5000	DBP-Method	Finished	5/9/2008 1:30:37 AM	civ
22	2805060278_1/5000	DBP-Method	Finished	5/9/2008 1:56:01 AM	civ
23	2805060290_1/5000	DBP-Method	Finished	5/9/2008 2:21:24 AM	civ
24	2805060303_1/5000	DBP-Method	Finished	5/9/2008 2:46:48 AM	civ
25	2805060311_1/5000 DNR	DBP-Method	Finished	5/9/2008 3:12:12 AM	civ
26	2805060313_1/5000	DBP-Method	Finished	5/9/2008 3:37:35 AM	civ
27	MCV	DBP-Method	Finished	5/9/2008 4:02:59 AM	civ
28	CCB	DBP-Method	Finished	5/9/2008 4:28:23 AM	civ
29	2805060315_1/5000	DBP-Method	Finished	5/9/2008 4:53:47 AM	civ
30	2805060318_1/5000 DNR	DBP-Method	Finished	5/9/2008 5:19:11 AM	civ
31	2805080778_1/5	DBP-Method	Finished	5/9/2008 5:44:34 AM	civ
32	2804300045	DBP-Method	Finished	5/9/2008 6:09:58 AM	civ
33	2804300046	DBP-Method	Finished	5/9/2008 6:35:22 AM	civ
34	2804300047	DBP-Method	Finished	5/9/2008 7:00:46 AM	civ
35	2805081004	DBP-Method	Finished	5/9/2008 7:26:09 AM	civ
36	2805081004-MS	DBP-Method	Finished	5/9/2008 7:51:33 AM	civ
37	2805081004-MSD	DBP-Method	Finished	5/9/2008 8:16:57 AM	civ
38	2805081003	DBP-Method	Finished	5/9/2008 8:42:21 AM	civ
39	HCV	DBP-Method	Finished	5/9/2008 9:07:45 AM	civ
40	CCB	DBP-Method	Finished	5/9/2008 9:33:09 AM	civ
41	2805060311_1/500	DBP-Method	Finished	5/9/2008 9:58:33 AM	civ
42	2805060318_1/50	DBP-Method	Finished	5/9/2008 10:23:57 AM	civ

Sequence: 050808-DBP-IC12
Operator: clv

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Timebase: IC12
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Last Update: 5/9/2008 3:42:18 PM by clv

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43	 HCV	DBP-Method	Finished	5/9/2008 10:49:21 AM	clv
44	 CCB	DBP-Method	Finished	5/9/2008 11:14:44 AM	clv

Sequence: 050808-DBP-IC12
Operator: civ

Title:

Datasource: Dionex_USPAS2SDIO2
Location: IC\IC12_DBP\2008\MAY
Timebase: IC12
#Samples: 44



Created: 5/8/2008 5:44:13 PM by civ
Last Update: 5/9/2008 3:42:18 PM by civ

No.	Name	Sample ID	Dil. Factor	Type	Comment	Program
1	autocal1		1.0000	Standard		IC12 test Program
2	autocal2	CLV080429-1	1.0000	Standard	S1-10/5/10	IC12 test Program
3	autocal3	CLV080429-2	1.0000	Standard	S2-20/10/20	IC12 test Program
4	autocal4	CLV080429-3	1.0000	Standard	S3-100/50/100	IC12 test Program
5	autocal5	CLV080429-4	1.0000	Standard	S4-200/100/200	IC12 test Program
6	autocal6	CLV080429-5	1.0000	Standard	S5-400/200/400	IC12 test Program
7	autocal7	CLV080429-6	1.0000	Standard	S6-800/400/800	IC12 test Program
8	MCV	200/100/200	1.0000	Unknown	200/100/200	IC12 test Program
9	CCB		1.0000	Unknown		IC12 test Program
10	MRLCHK	S1-10/5/10	1.0000	Unknown	S1-10/5/10	IC12 test Program
11	MBLK		1.0000	Unknown		IC12 test Program
12	LCS1	CLV080415	1.0000	Unknown	200/100/200	IC12 test Program
13	LCS2	200/100/200	1.0000	Unknown	200/100/200	IC12 test Program
14	MRLCHK DNR	S1-10/5/10	1.0000	Unknown	CONFIRMATION	IC12 test Program
15	2805060243	CMPL	1.0000	Unknown	CLO3	IC12 test Program
16	2805060243-MS	100/50/100	1.0000	Unknown	100/50/100	IC12 test Program
17	2805060243-MSD	100/50/100	1.0000	Unknown	100/50/100	IC12 test Program
18	2805060759_1/2	COCKLE-RAW	2.0000	Unknown	CLO3	IC12 test Program
19	2805060794	COCKLE-TREATED	1.0000	Unknown	CLO2/CLO3	IC12 test Program
20	2805060232_1/5	KM EFF	5.0000	Unknown	CLO3	IC12 test Program
21	2805060234_1/5000	KM INF	5000.0000	Unknown	CLO3	IC12 test Program
22	2805060278_1/5000	KM M48	5000.0000	Unknown	CLO39056	IC12 test Program
23	2805060290_1/5000	KM M23	5000.0000	Unknown	CLO39056	IC12 test Program
24	2805060303_1/5000	KM MD5	5000.0000	Unknown	CLO39056	IC12 test Program
25	2805060311_1/5000 DNR	KM PC124	5000.0000	Unknown	CLO39056	IC12 test Program
26	2805060313_1/5000	KM PC126	5000.0000	Unknown	CLO39056	IC12 test Program
27	MCV	200/100/200	1.0000	Unknown	200/100/200	IC12 test Program
28	CCB		1.0000	Unknown		IC12 test Program
29	2805060315_1/5000	KM PC128	5000.0000	Unknown	CLO39056	IC12 test Program
30	2805060318_1/5000 DNR	KM PC132	5000.0000	Unknown	CLO39056	IC12 test Program
31	2805080778_1/5	MEGA-W6	5.0000	Unknown	BR	IC12 test Program
32	2804300045		1.0000	Unknown	BR3001	IC12 test Program
33	2804300046		1.0000	Unknown	BR3001	IC12 test Program
34	2804300047		1.0000	Unknown	BR3001	IC12 test Program
35	2805081004	COCKLE-RAW	1.0000	Unknown	CLO2/CLO3	IC12 test Program
36	2805081004-MS	100/50/100	1.0000	Unknown	100/50/100	IC12 test Program
37	2805081004-MSD	100/50/100	1.0000	Unknown	100/50/100	IC12 test Program
38	2805081003	COCKLE-TREATED	1.0000	Unknown	CLO2/CLO3	IC12 test Program
39	HCV		1.0000	Unknown	800/400/800	IC12 test Program
40	CCB		1.0000	Unknown		IC12 test Program
41	2805060311_1/500	KM PC124	500.0000	Unknown	CLO39056/RR	IC12 test Program
42	2805060318_1/50	KM PC132	50.0000	Unknown	CLO39056/RR	IC12 test Program

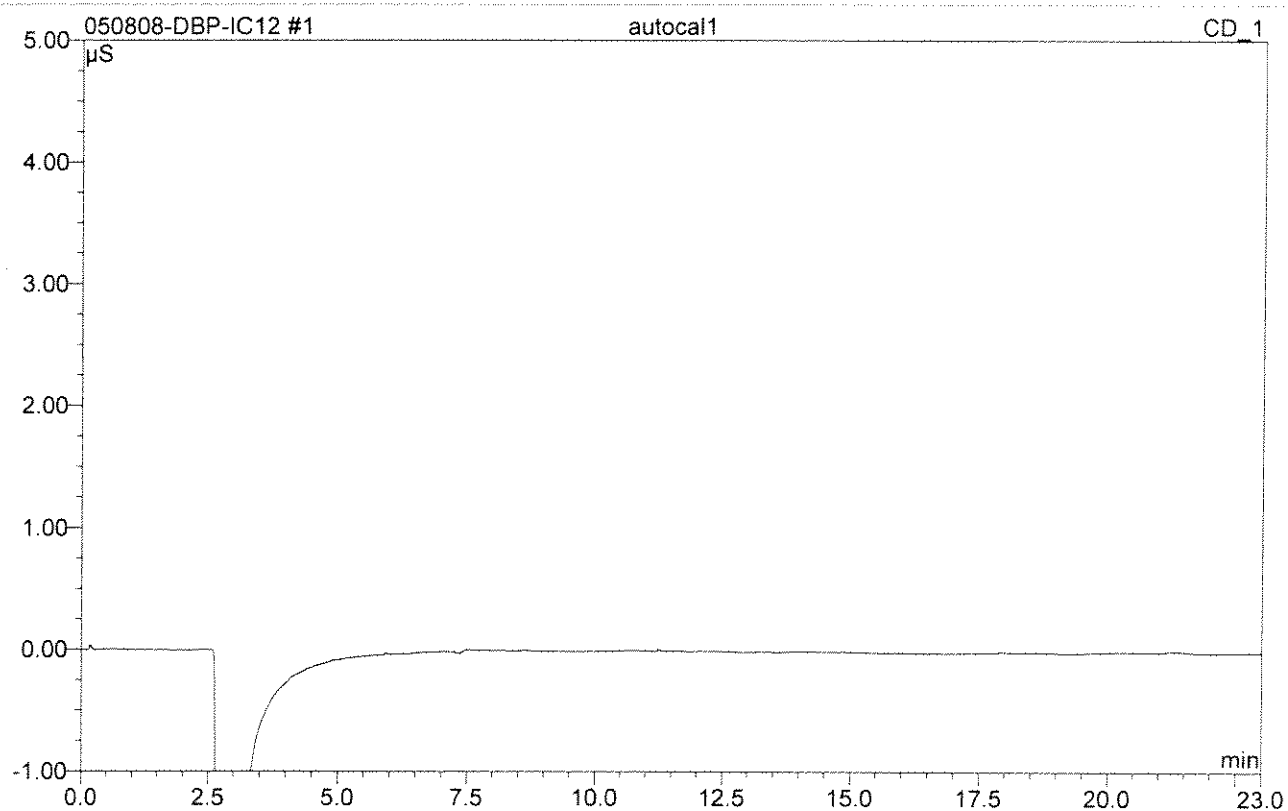
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Operator: civ

Title:
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Location: IC\IC12_DBP\2008\MAY
Timebase: IC12
#Samples: 44

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Last Update: 5/9/2008 3:42:18 PM by civ

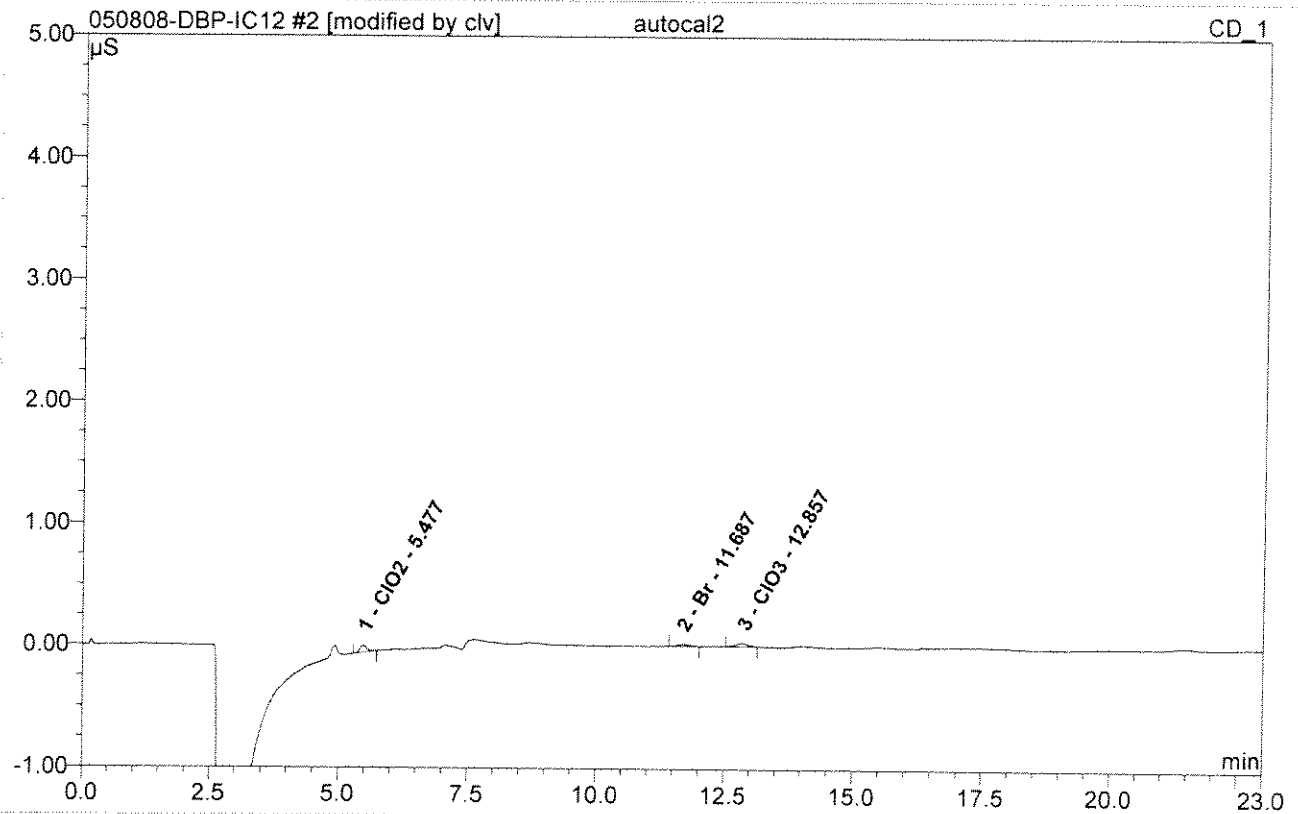
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43	 HCV		1.0000	Unknown	800/400/800	IC12 test Program
44	 CCB		1.0000	Unknown		IC12 test Program

1 autocal1			
Sample Name:	autocal1	Injection Volume:	1000.0
Vial Number:	334	Channel:	CD_1
Sample Type:	standard	Wavelength:	n.a.
Control Program:	IC12 test Program	Bandwidth:	n.a.
Quantif. Method:	DBP-Method	Dilution Factor:	1.0000
Recording Time:	4/29/2008 12:13	Sample Weight:	1.0000
Run Time (min):	23.00	Sample Amount:	1.0000



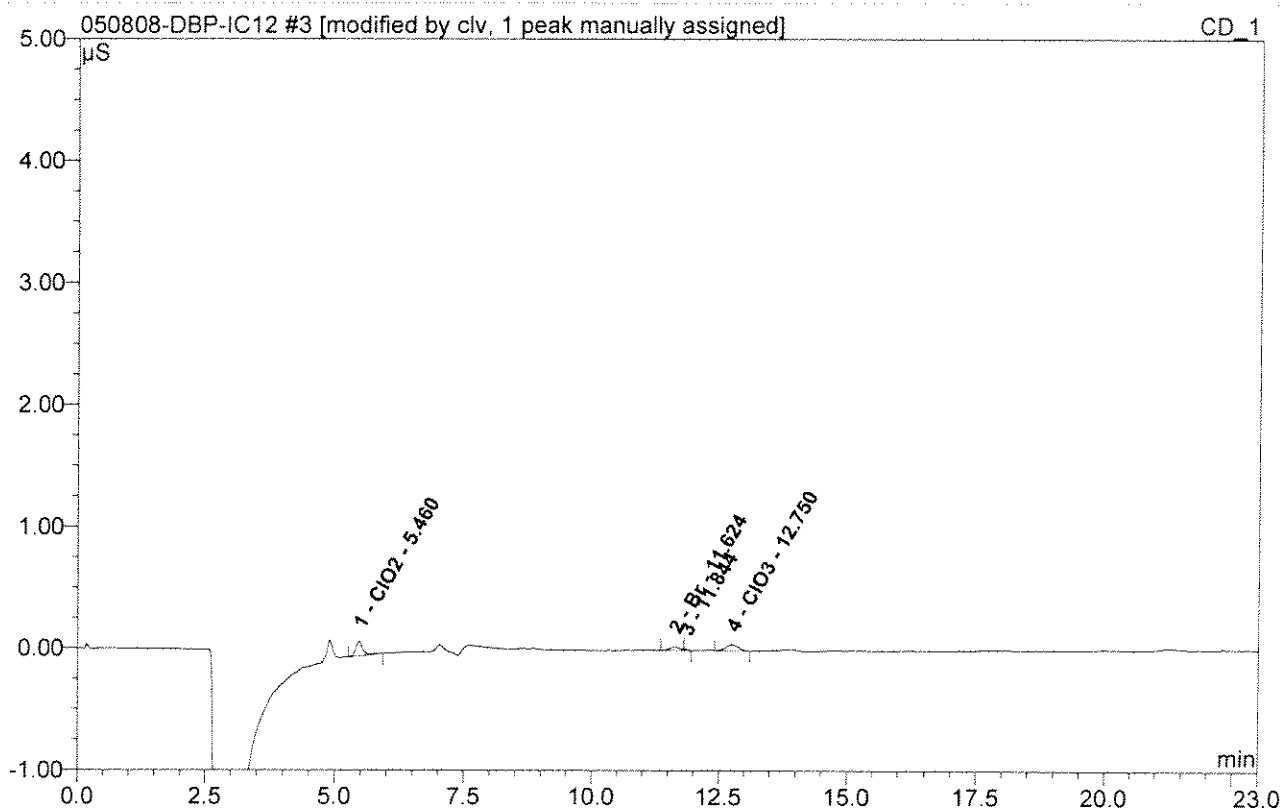
No.	Ret.Time min	Peak Name	Height μS	Area $\mu\text{S}\cdot\text{min}$	Rel.Area %	Amount ppb	Type
Total:			0.000	0.000	0.00	0.000	

2 autocal2			
S1-10/5/10			
Sample Name:	autocal2	Injection Volume:	1000.0
Vial Number:	335	Channel:	CD_1
Sample Type:	standard	Wavelength:	n.a.
Control Program:	IC12 test Program	Bandwidth:	n.a.
Quantif. Method:	DBP-Method	Dilution Factor:	1.0000
Recording Time:	4/29/2008 12:38	Sample Weight:	1.0000
Run Time (min):	23.00	Sample Amount:	1.0000



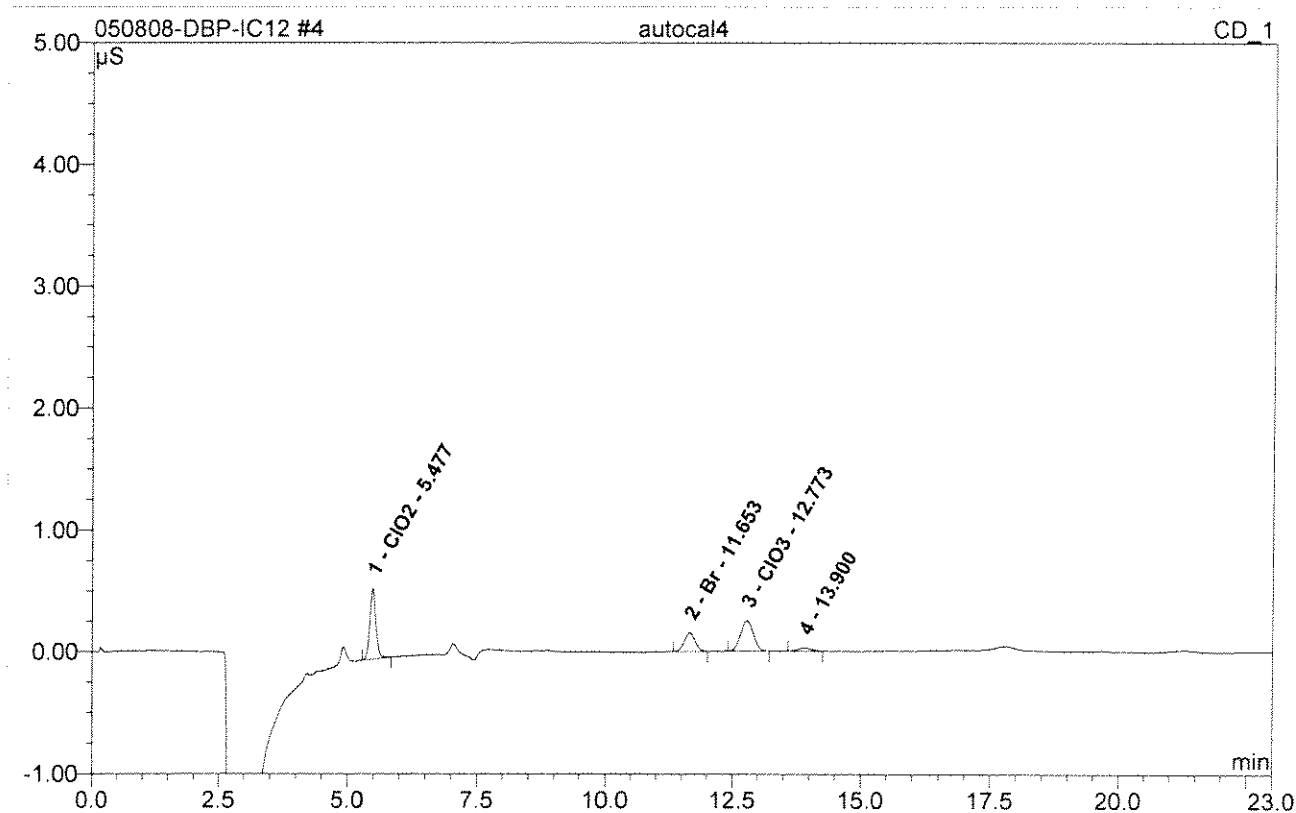
No.	Ret.Time min	Peak Name	Height μS	Area μS*min	Rel.Area %	Amount ppb	Type
1	5.48	ClO2	0.061	0.009	43.11	9.846	BMB
2	11.69	Br	0.017	0.004	21.27	5.460	BMB*
3	12.86	ClO3	0.026	0.007	35.62	9.984	BMB*
Total:			0.104	0.021	100.00	25.290	

3 autocal3			
S2-20/10/20			
Sample Name:	autocal3	Injection Volume:	1000.0
Vial Number:	336	Channel:	CD_1
Sample Type:	standard	Wavelength:	n.a.
Control Program:	IC12 test Program	Bandwidth:	n.a.
Quantif. Method:	DBP-Method	Dilution Factor:	1.0000
Recording Time:	4/29/2008 13:04	Sample Weight:	1.0000
Run Time (min):	23.00	Sample Amount:	1.0000



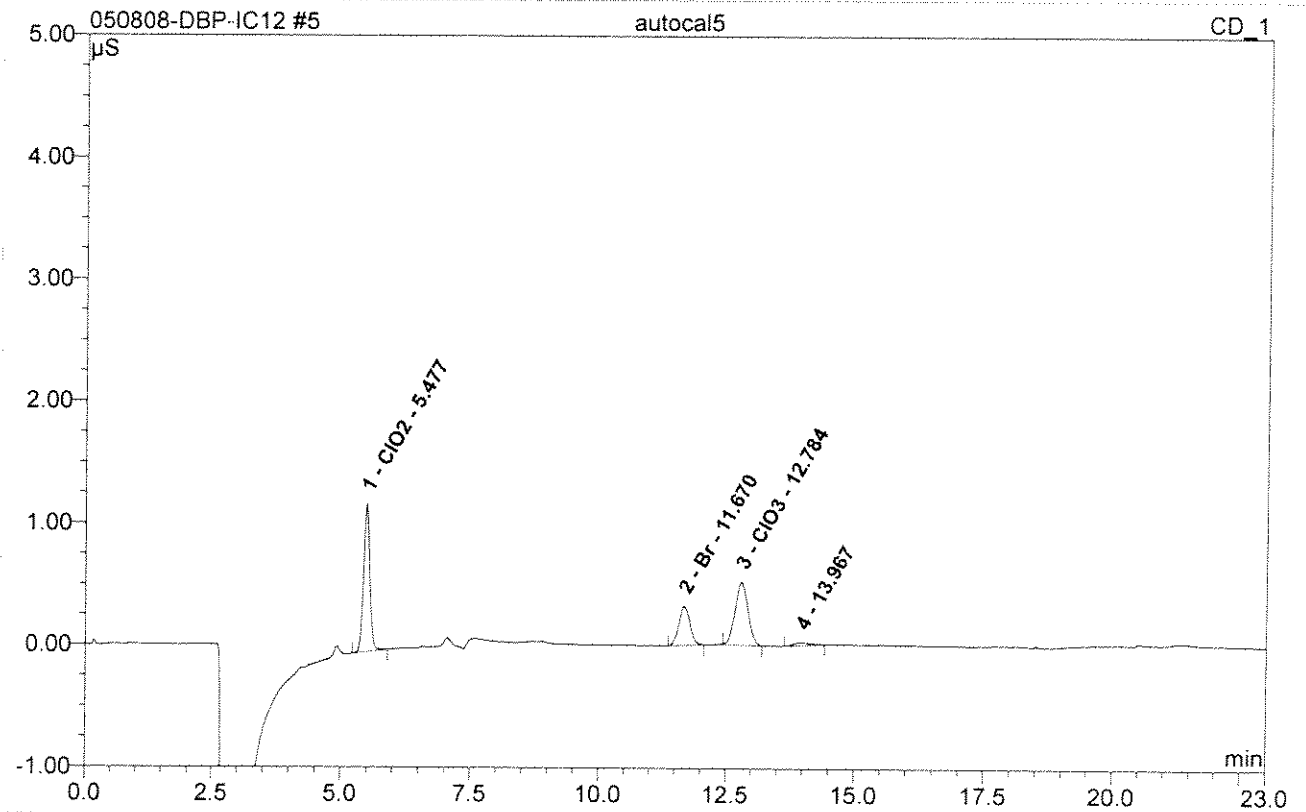
No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount ppb	Type
1	5.46	ClO2	0.119	0.019	45.70	20.235	BMB
2	11.62	Br	0.031	0.007	18.30	9.108	BMB**^
3	11.84	n.a.	0.011	0.000	1.09	n.a.	Rd*
4	12.75	ClO3	0.050	0.014	34.91	18.976	BMB
Total:			0.210	0.041	100.00	48.319	

4 autocal4			
S3-100/50/100			
Sample Name:	autocal4	Injection Volume:	1000.0
Vial Number:	337	Channel:	CD_1
Sample Type:	standard	Wavelength:	n.a.
Control Program:	IC12 test Program	Bandwidth:	n.a.
Quantif. Method:	DBP-Method	Dilution Factor:	1.0000
Recording Time:	4/29/2008 13:29	Sample Weight:	1.0000
Run Time (min):	23.00	Sample Amount:	1.0000



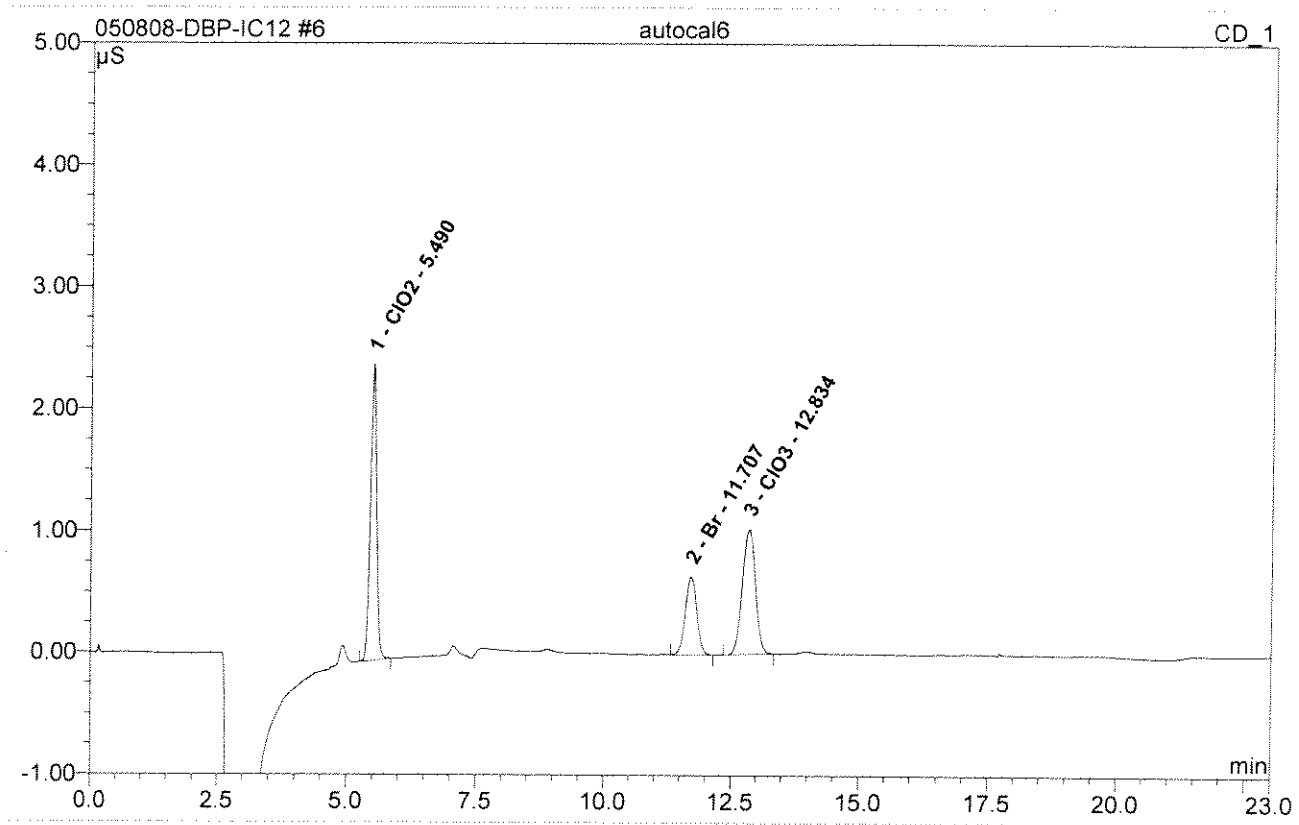
No.	Ret.Time min	Peak Name	Height μS	Area μS*min	Rel.Area %	Amount ppb	Type
1	5.48	ClO2	0.583	0.083	40.98	90.671	BMB
2	11.65	Br	0.156	0.040	19.53	48.567	BMB
3	12.77	ClO3	0.249	0.073	35.65	96.811	BMB
4	13.90	n.a.	0.026	0.008	3.84	n.a.	BMB
Total:			1.014	0.204	100.00	236.050	

5 autocal5			
S4-200/100/200			
Sample Name:	autocal5	Injection Volume:	1000.0
Vial Number:	338	Channel:	CD_1
Sample Type:	standard	Wavelength:	n.a.
Control Program:	IC12 test Program	Bandwidth:	n.a.
Quantif. Method:	DBP-Method	Dilution Factor:	1.0000
Recording Time:	4/29/2008 13:55	Sample Weight:	1.0000
Run Time (min):	23.00	Sample Amount:	1.0000



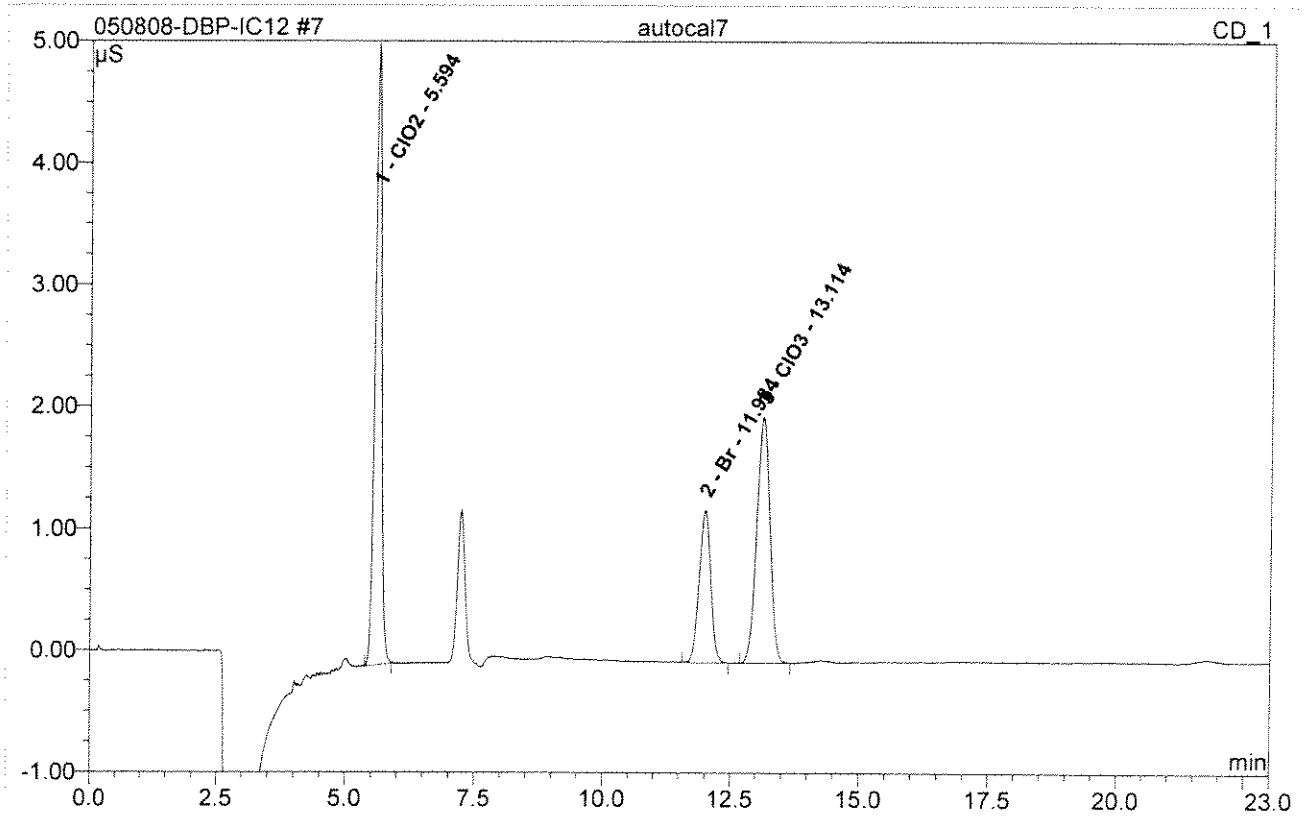
No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount ppb	Type
1	5.48	ClO2	1.211	0.173	41.76	188.101	BMB
2	11.67	Br	0.319	0.081	19.65	99.493	BMB
3	12.78	ClO3	0.516	0.151	36.50	201.763	BMB
4	13.97	n.a.	0.024	0.009	2.09	n.a.	BMB
Total:			2.071	0.414	100.00	489.357	

6 autocal6			
S5-400/200/400			
Sample Name:	autocal6	Injection Volume:	1000.0
Vial Number:	338	Channel:	CD_1
Sample Type:	standard	Wavelength:	n.a.
Control Program:	IC12 test Program	Bandwidth:	n.a.
Quantif. Method:	DBP-Method	Dilution Factor:	1.0000
Recording Time:	4/29/2008 14:20	Sample Weight:	1.0000
Run Time (min):	23.00	Sample Amount:	1.0000



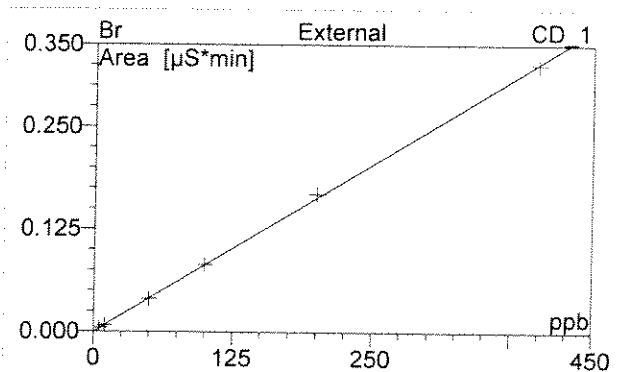
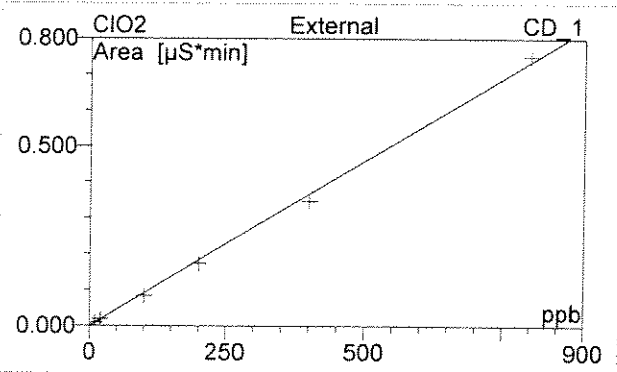
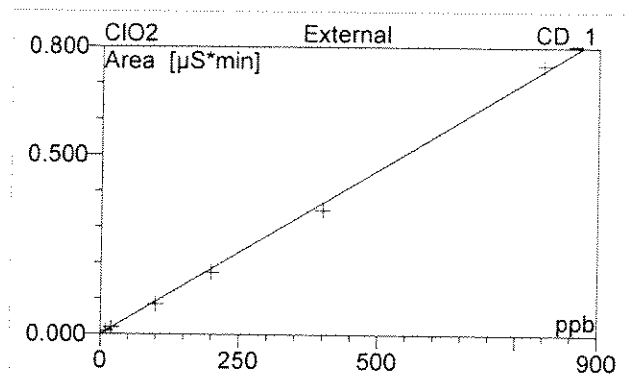
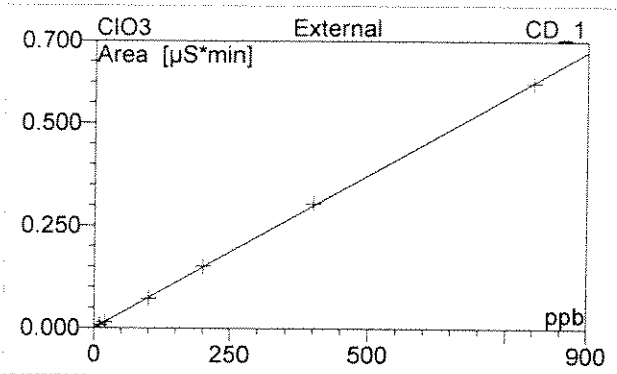
No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount ppb	Type
1	5.49	ClO2	2.430	0.347	42.32	376.735	BMB
2	11.71	Br	0.641	0.168	20.45	204.620	BMB
3	12.83	ClO3	1.030	0.305	37.23	406.793	BMB
Total:			4.101	0.819	100.00	988.148	

7 autocal7			
S6-800/400/800			
Sample Name:	autocal7	Injection Volume:	1000.0
Vial Number:	334	Channel:	CD_1
Sample Type:	standard	Wavelength:	n.a.
Control Program:	IC12 test Program	Bandwidth:	n.a.
Quantif. Method:	DBP-Method	Dilution Factor:	1.0000
Recording Time:	4/29/2008 14:45	Sample Weight:	1.0000
Run Time (min):	23.00	Sample Amount:	1.0000



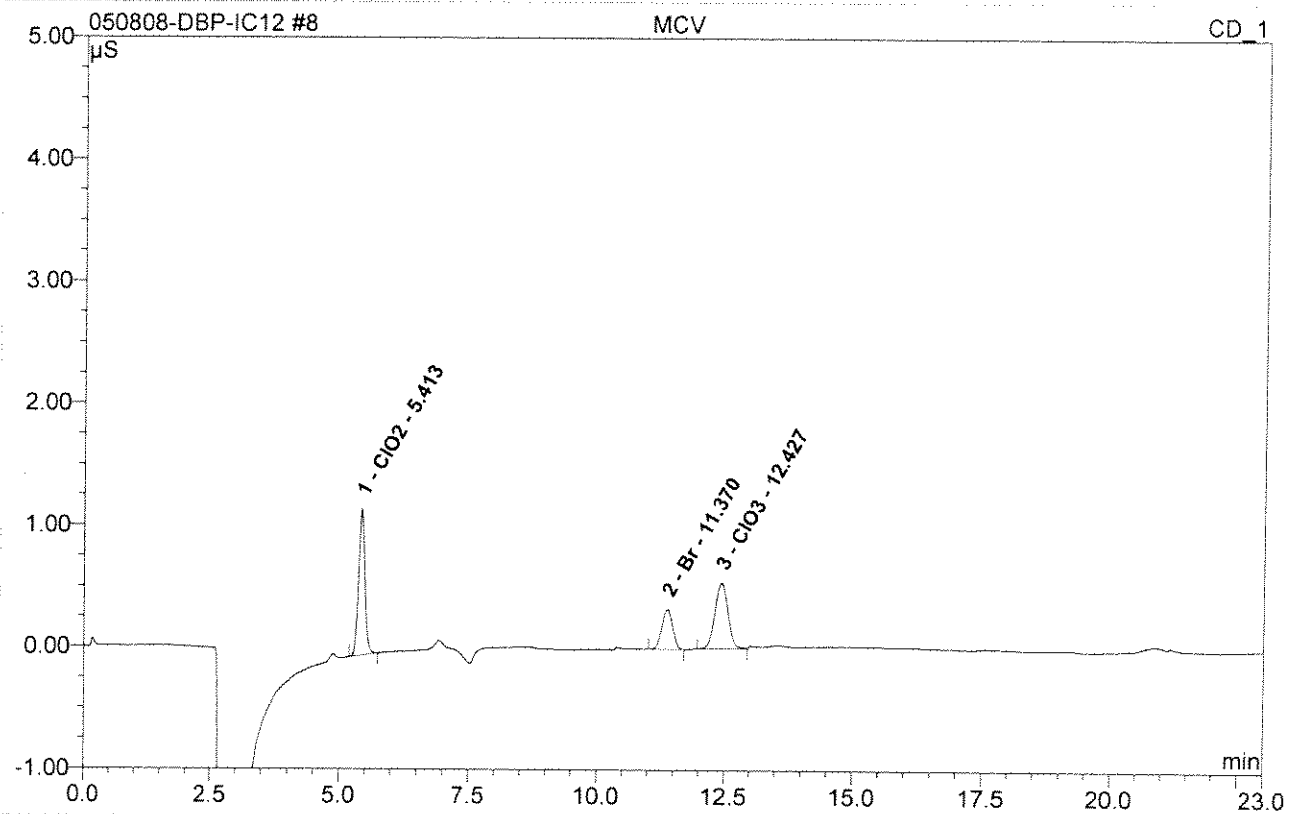
No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount ppb	Type
1	5.59	ClO2	5.102	0.751	44.85	815.770	BMB
2	11.98	Br	1.250	0.326	19.47	398.012	BMB
3	13.11	ClO3	2.018	0.597	35.68	796.587	BMB
Total:			8.371	1.674	100.00	2010.369	

7 autocal7	
S6-800/400/800	
Sample Name:	autocal7
Vial Number:	334
Sample Type:	standard
Control Program:	IC12 test Program
Quantif. Method:	DBP-Method
Recording Time:	4/29/2008 14:45
Run Time (min):	23.00
Injection Volume:	1000.0
Channel:	CD_1
Wavelength:	n.a.
Bandwidth:	n.a.
Dilution Factor:	1.0000
Sample Weight:	1.0000
Sample Amount:	1.0000



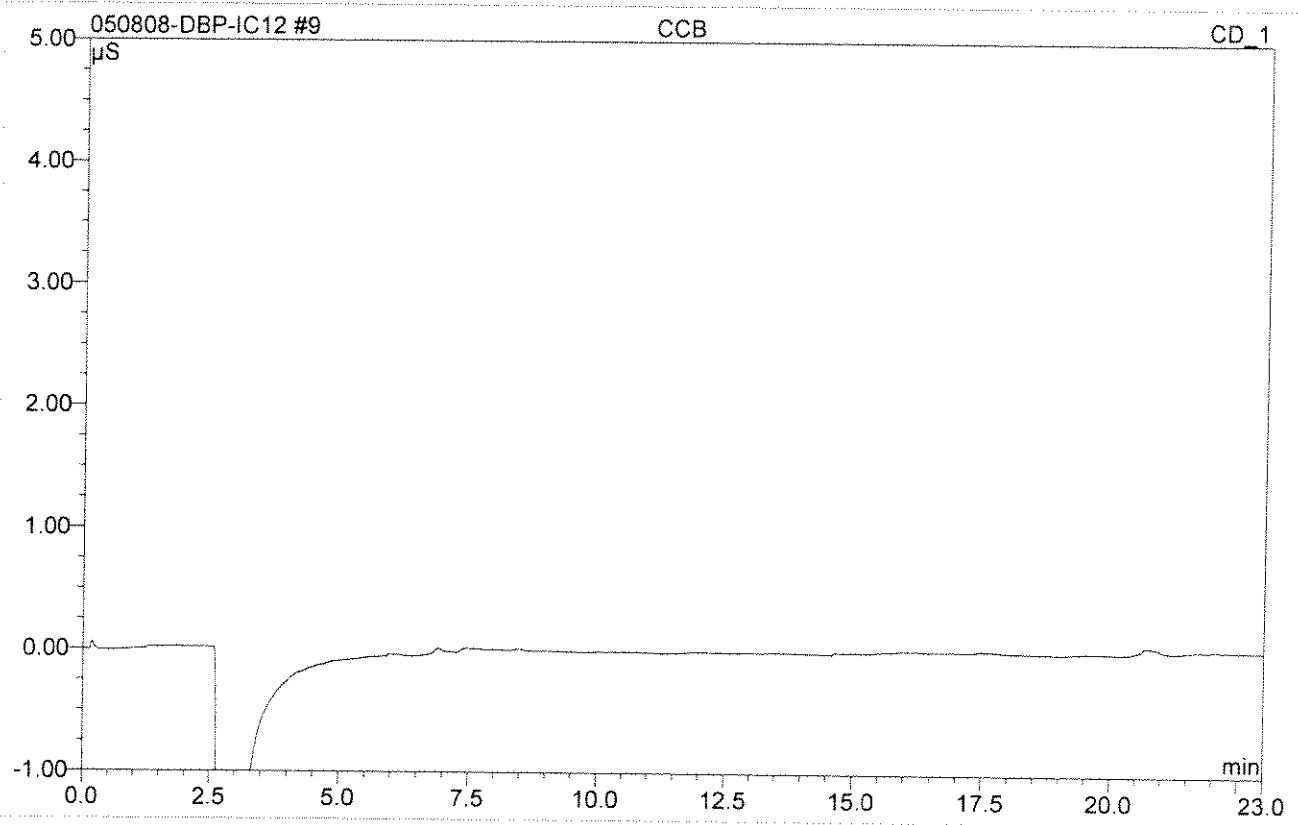
No.	Ret.Time min	Peak Name	Cal.Type	Points	Corr.Coeff. %	Offset	Slope	Curve
1	5.59	ClO2	Lin	6	99.9195	0.0000	0.0009	0.0000
2	11.98	Br	Lin	6	99.9876	0.0000	0.0008	0.0000
3	13.11	ClO3	Lin	6	99.9922	0.0000	0.0007	0.0000
Average:					99.9664	0.0000	0.0008	0.0000

8 MCV			
200/100/200			
Sample Name:	MCV	Injection Volume:	1000.0
Vial Number:	342	Channel:	CD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	IC12 test Program	Bandwidth:	n.a.
Quantif. Method:	DBP-Method	Dilution Factor:	1.0000
Recording Time:	5/8/2008 20:00	Sample Weight:	1.0000
Run Time (min):	23.00	Sample Amount:	1.0000



No.	Ret.Time min	Peak Name	Height μS	Area μS*min	Rel.Area %	Amount ppb	Type
1	5.41	ClO2	1.202	0.172	41.69	187.281	BMB
2	11.37	Br	0.327	0.083	19.97	100.833	BMB
3	12.43	ClO3	0.540	0.158	38.34	211.386	BMB
Total:			2.069	0.413	100.00	499.500	

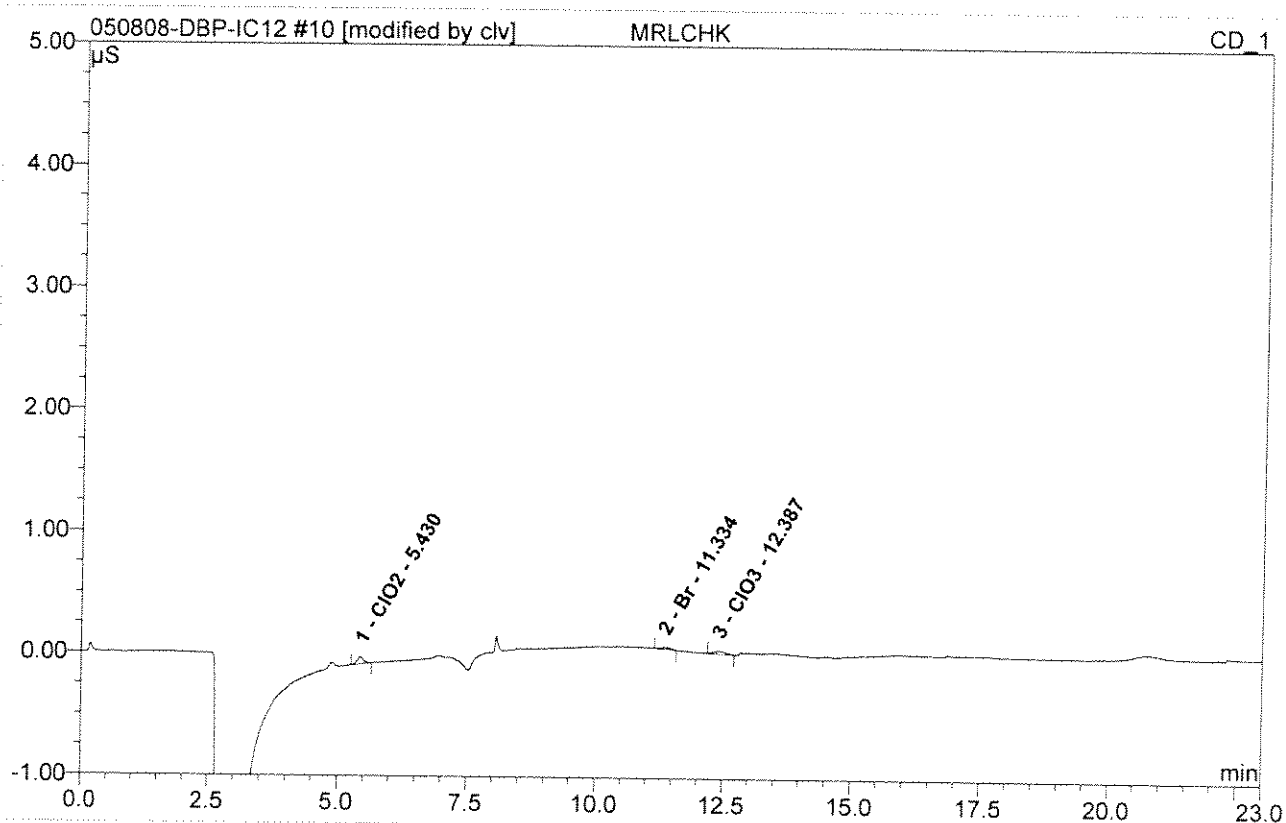
9 CCB			
Sample Name:	CCB	Injection Volume:	1000.0
Vial Number:	335	Channel:	CD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	IC12 test Program	Bandwidth:	n.a.
Quantif. Method:	DBP-Method	Dilution Factor:	1.0000
Recording Time:	5/8/2008 20:25	Sample Weight:	1.0000
Run Time (min):	23.00	Sample Amount:	1.0000



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

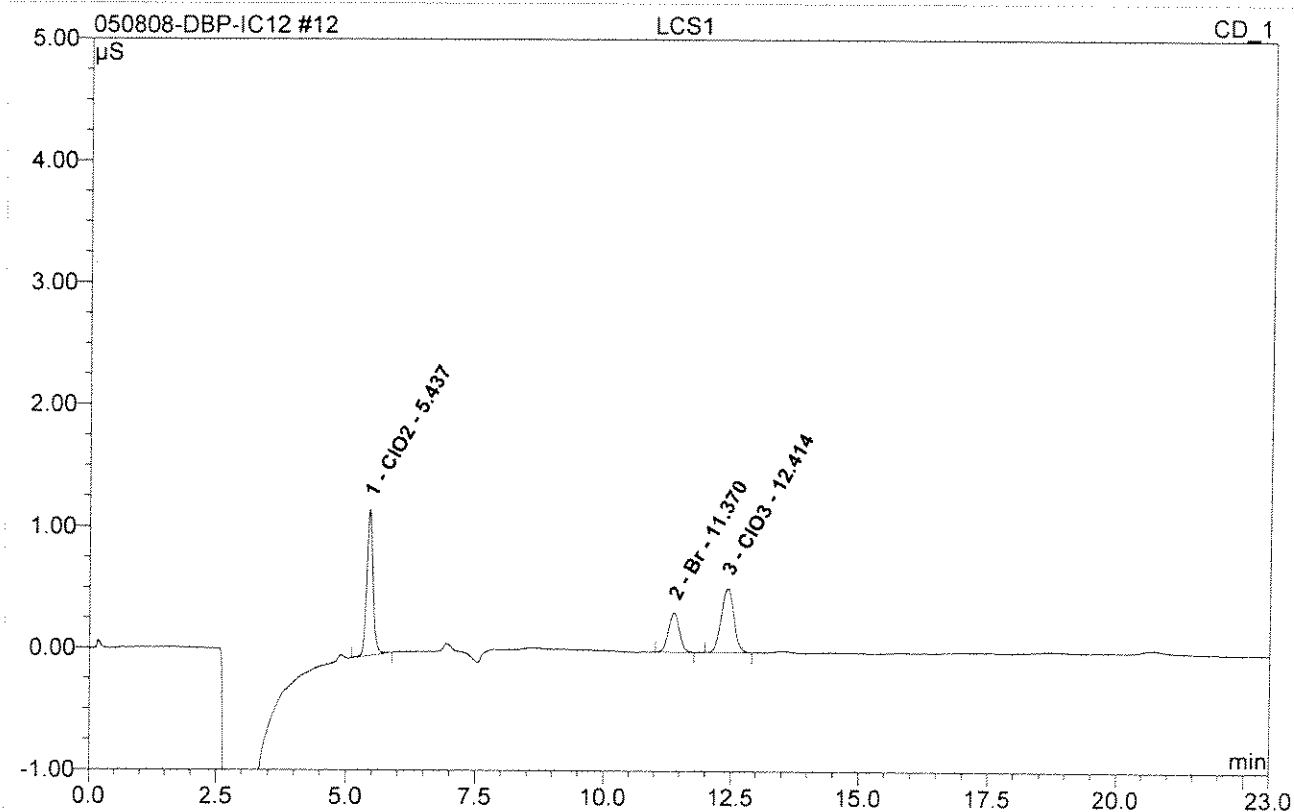
10 MRLCHK**S1-10/5/10**

Sample Name:	MRLCHK	Injection Volume:	1000.0
Vial Number:	336	Channel:	CD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	IC12 test Program	Bandwidth:	n.a.
Quantif. Method:	DBP-Method	Dilution Factor:	1.0000
Recording Time:	5/8/2008 20:51	Sample Weight:	1.0000
Run Time (min):	23.00	Sample Amount:	1.0000



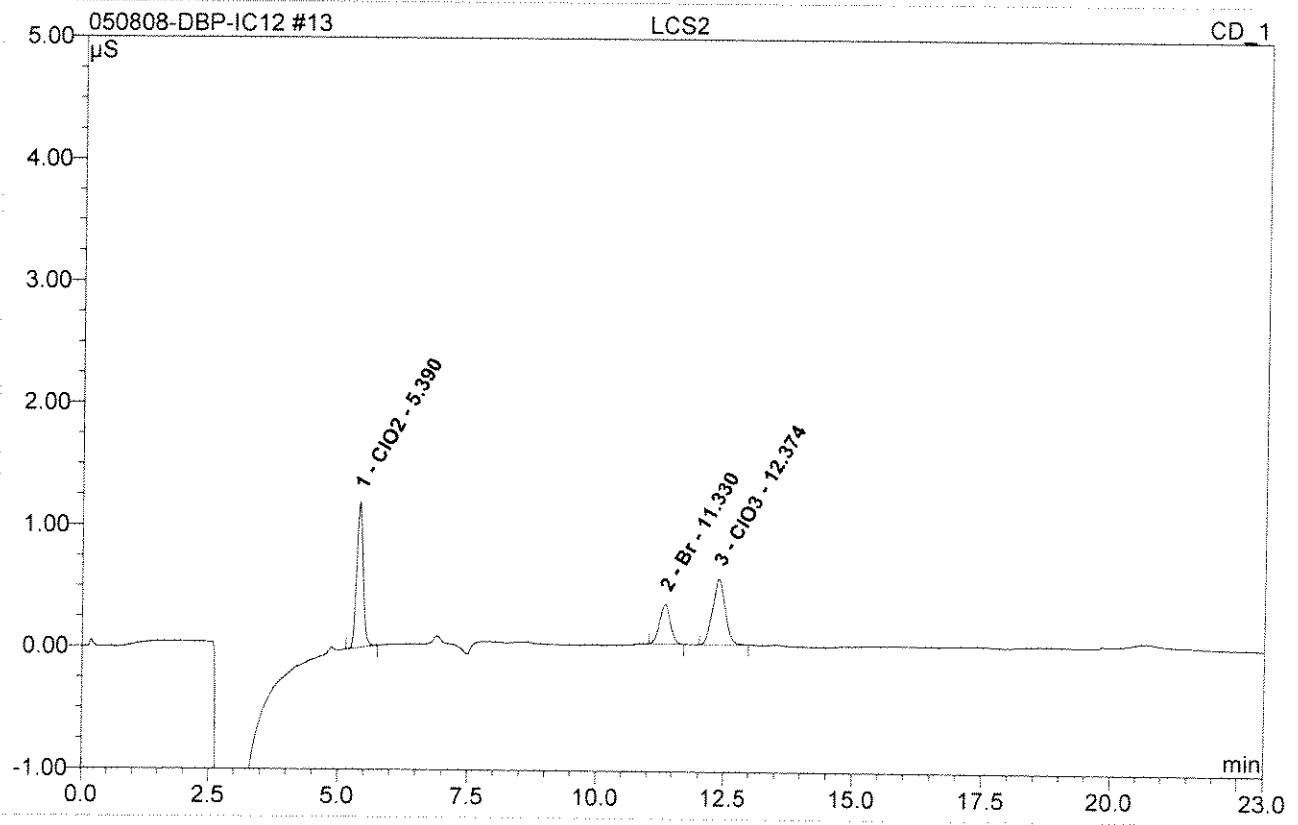
No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount ppb	Type
1	5.43	ClO2	0.059	0.009	47.41	9.285	BMB
2	11.33	Br	0.014	0.004	19.98	4.397	BMB*
3	12.39	ClO3	0.021	0.006	32.62	7.841	BMB*
Total:			0.094	0.018	100.00	21.523	

12 LCS1			
200/100/200			
Sample Name:	LCS1	Injection Volume:	1000.0
Vial Number:	336	Channel:	CD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	IC12 test Program	Bandwidth:	n.a.
Quantif. Method:	DBP-Method	Dilution Factor:	1.0000
Recording Time:	5/8/2008 21:42	Sample Weight:	1.0000
Run Time (min):	23.00	Sample Amount:	1.0000



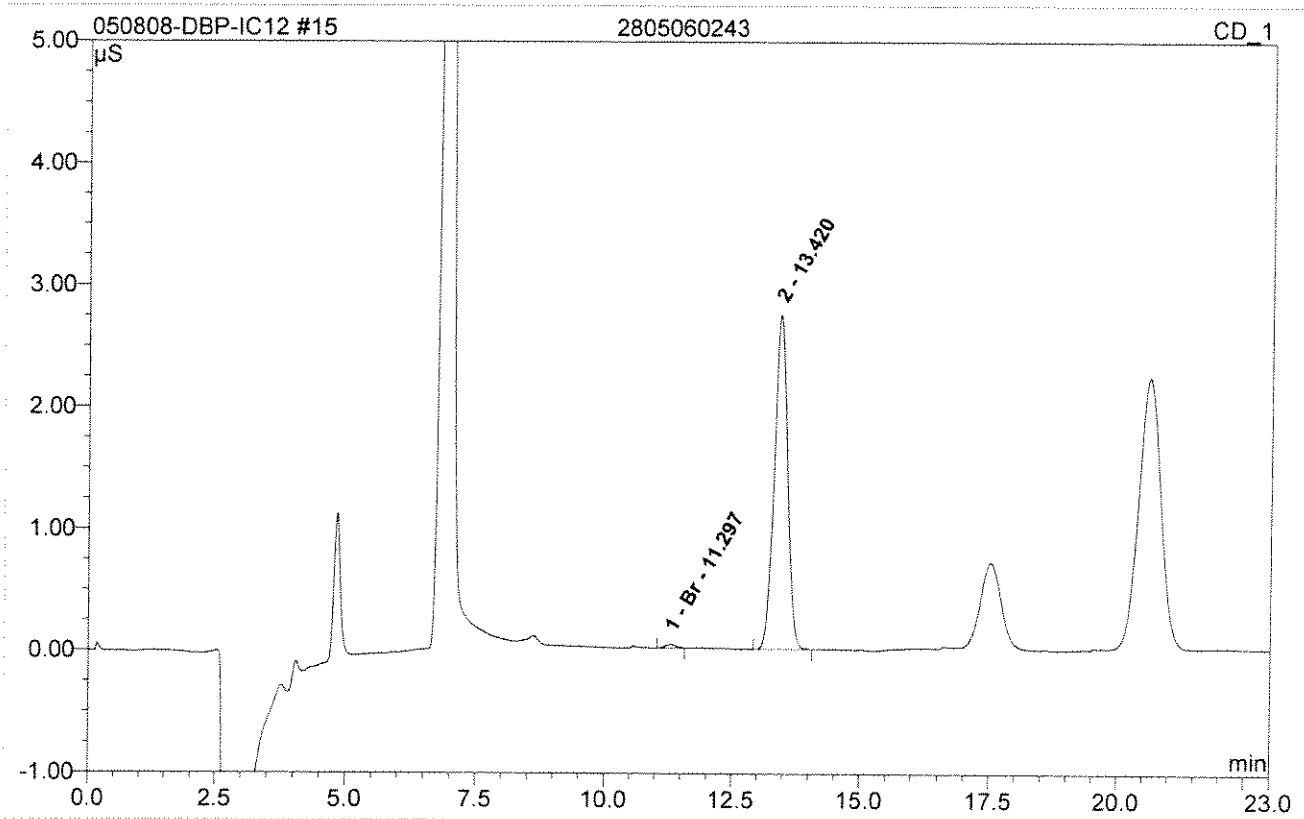
No.	Ret.Time min	Peak Name	Height μ S	Area μ S*min	Rel.Area %	Amount ppb	Type
1	5.44	ClO2	1.199	0.176	42.67	190.838	BMB
2	11.37	Br	0.326	0.083	20.19	101.486	BMB
3	12.41	ClO3	0.530	0.153	37.13	203.829	BMB
Total:			2.054	0.411	100.00	496.153	

13 LCS2			
200/100/200			
Sample Name:	LCS2	Injection Volume:	1000.0
Vial Number:	523	Channel:	CD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	IC12 test Program	Bandwidth:	n.a.
Quantif. Method:	DBP-Method	Dilution Factor:	1.0000
Recording Time:	5/8/2008 22:07	Sample Weight:	1.0000
Run Time (min):	23.00	Sample Amount:	1.0000



No.	Ret.Time min	Peak Name	Height μS	Area μS*min	Rel.Area %	Amount ppb	Type
1	5.39	ClO2	1.193	0.172	41.70	187.313	BMB
2	11.33	Br	0.327	0.083	20.19	101.939	BMB
3	12.37	ClO3	0.540	0.158	38.11	210.153	BMB
Total:			2.060	0.413	100.00	499.404	

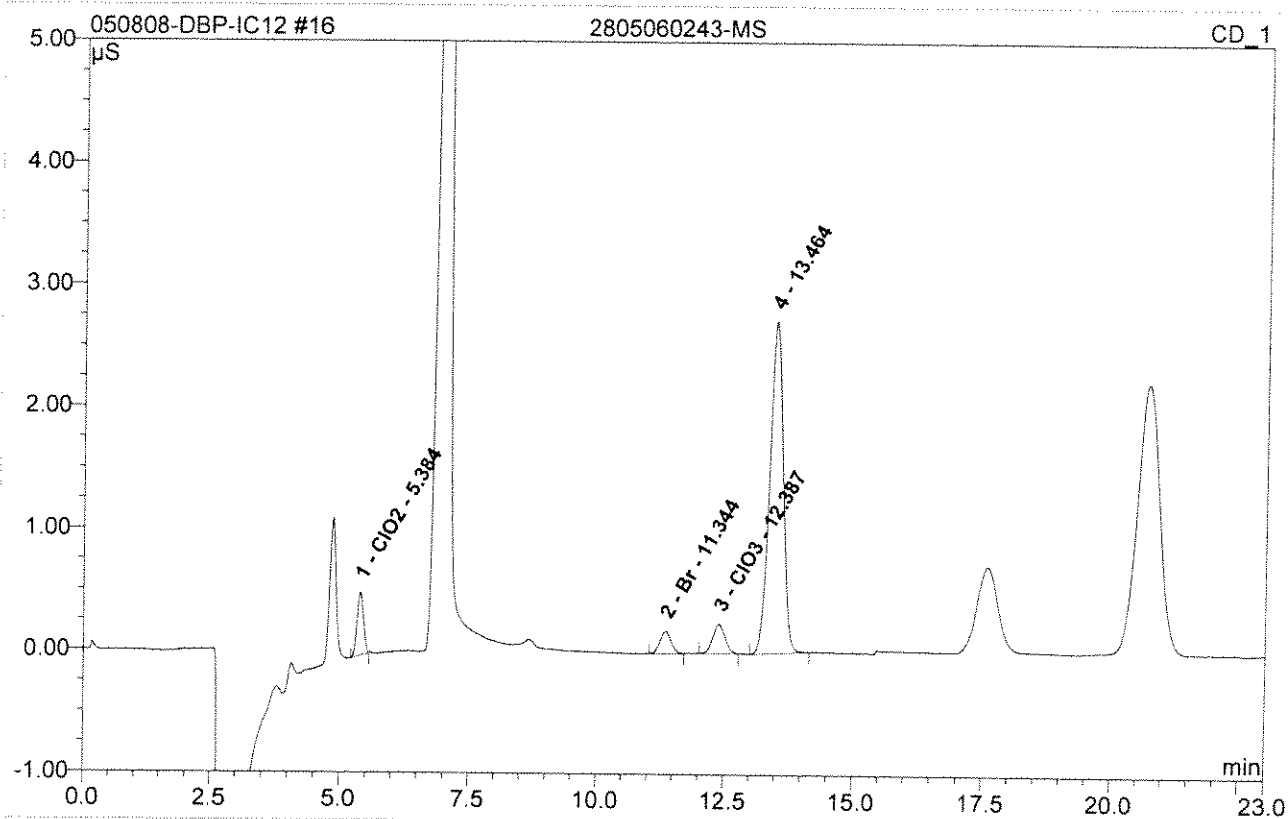
15 2805060243			
CLO3			
Sample Name:	2805060243	Injection Volume:	1000.0
Vial Number:	572	Channel:	CD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	IC12 test Program	Bandwidth:	n.a.
Quantif. Method:	DBP-Method	Dilution Factor:	1.0000
Recording Time:	5/8/2008 22:58	Sample Weight:	1.0000
Run Time (min):	23.00	Sample Amount:	1.0000



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount ppb	Type
1	11.30	Br	0.032	0.008	0.93	9.634	BMB
2	13.42	n.a.	2.747	0.840	99.07	n.a.	BMB
Total:			2.779	0.848	100.00	9.634	

16 2805060243-MS**100/50/100**

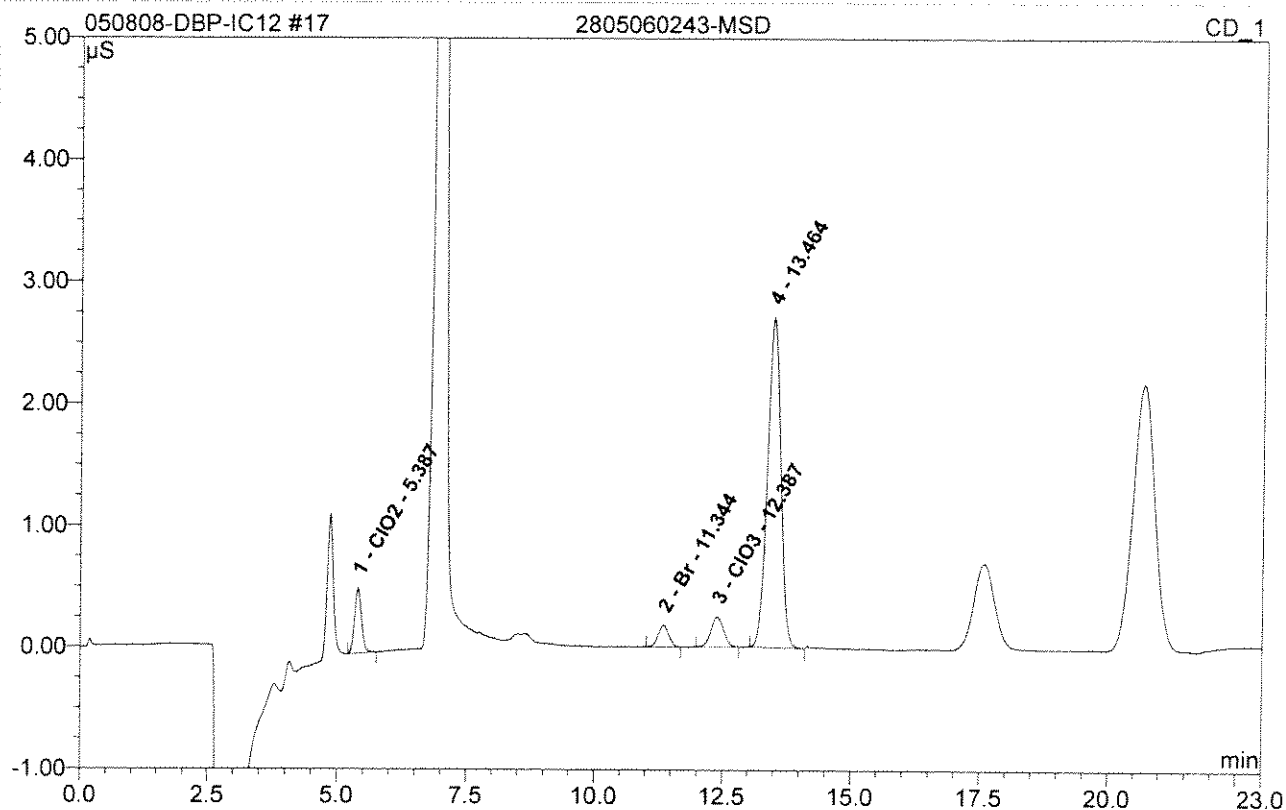
Sample Name:	2805060243-MS	Injection Volume:	1000.0
Vial Number:	573	Channel:	CD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	IC12 test Program	Bandwidth:	n.a.
Quantif. Method:	DBP-Method	Dilution Factor:	1.0000
Recording Time:	5/8/2008 23:23	Sample Weight:	1.0000
Run Time (min):	23.00	Sample Amount:	1.0000



No.	Ret.Time min	Peak Name	Height μ S	Area μ S*min	Rel.Area %	Amount ppb	Type
1	5.38	ClO2	0.519	0.076	7.41	82.201	BMB
2	11.34	Br	0.183	0.046	4.55	56.694	BMB
3	12.39	ClO3	0.239	0.068	6.65	90.570	BMB
4	13.46	n.a.	2.724	0.831	81.39	n.a.	BMB
Total:			3.665	1.021	100.00	229.465	

17 2805060243-MSD**100/50/100**

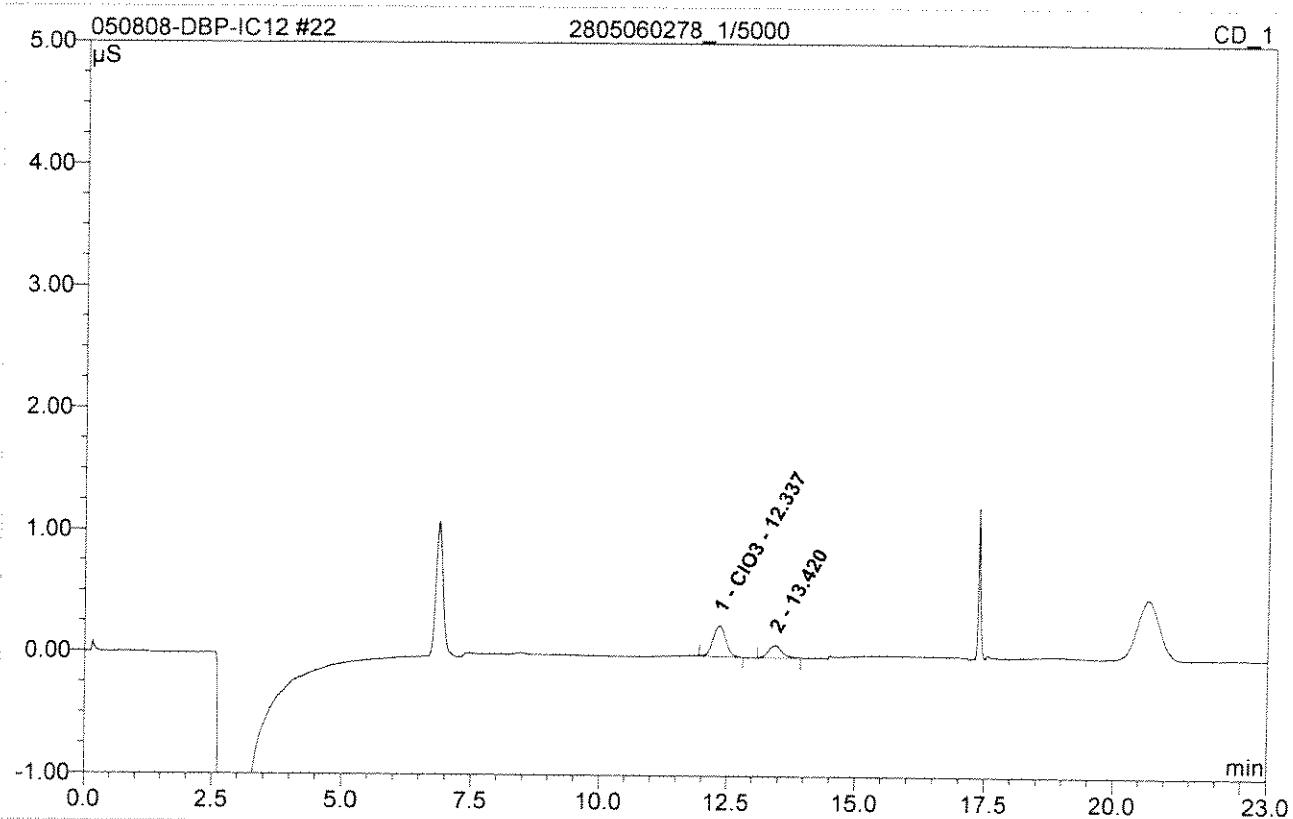
Sample Name:	2805060243-MSD	Injection Volume:	1000.0
Vial Number:	573	Channel:	CD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	IC12 test Program	Bandwidth:	n.a.
Quantif. Method:	DBP-Method	Dilution Factor:	1.0000
Recording Time:	5/8/2008 23:49	Sample Weight:	1.0000
Run Time (min):	23.00	Sample Amount:	1.0000



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount ppb	Type
1	5.39	ClO2	0.537	0.083	8.08	89.875	BMB
2	11.34	Br	0.179	0.045	4.38	54.775	BMB
3	12.39	ClO3	0.246	0.072	6.99	95.461	BMB
4	13.46	n.a.	2.712	0.825	80.56	n.a.	BMB
Total:			3.675	1.024	100.00	240.112	

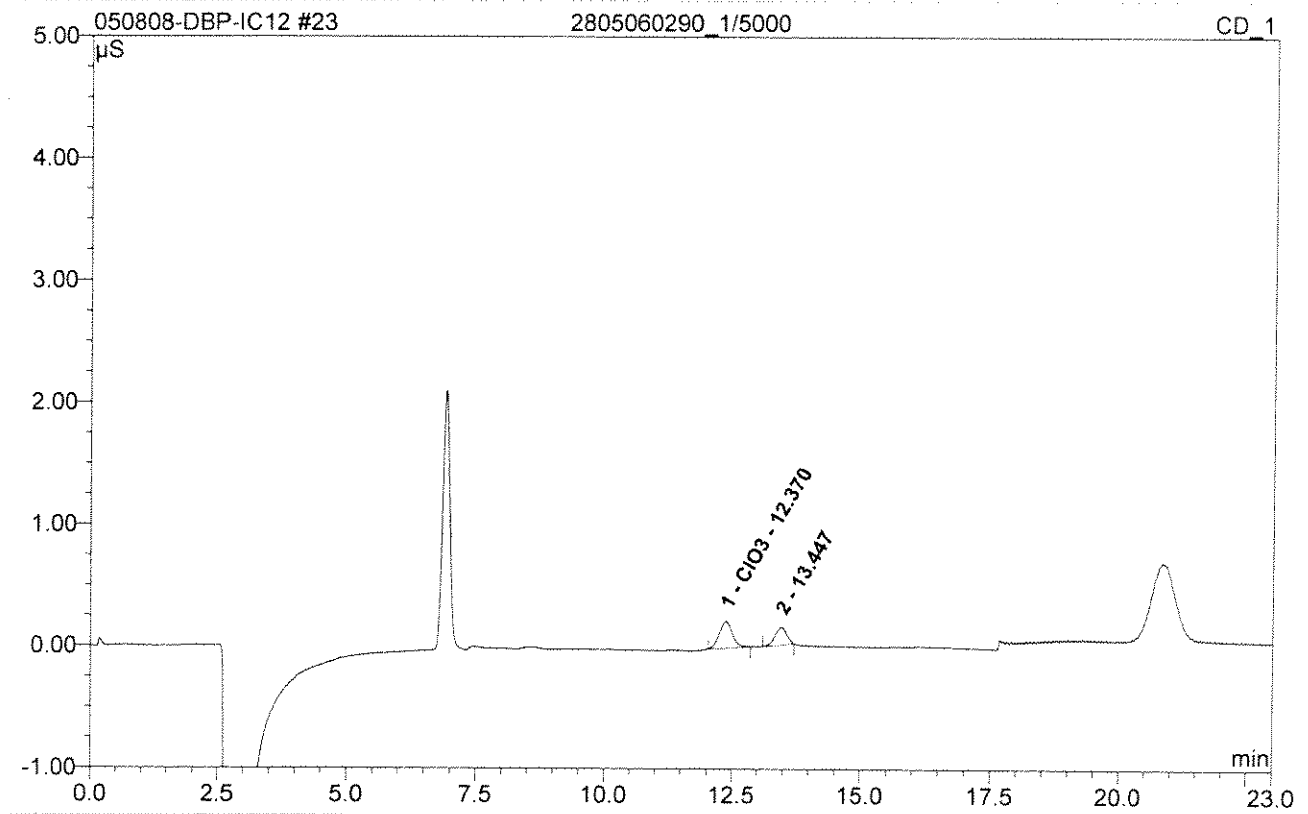
22 2805060278_1/5000**CLO39056**

Sample Name:	2805060278_1/5000	Injection Volume:	1000.0
Vial Number:	572	Channel:	CD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	IC12 test Program	Bandwidth:	n.a.
Quantif. Method:	DBP-Method	Dilution Factor:	5000.0000
Recording Time:	5/9/2008 1:56	Sample Weight:	1.0000
Run Time (min):	23.00	Sample Amount:	1.0000



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount ppb	Type
1	12.34	ClO3	0.253	0.074	69.94	490780.555	BMB
2	13.42	n.a.	0.101	0.032	30.06	n.a.	BMB
Total:			0.354	0.105	100.00	490780.555	

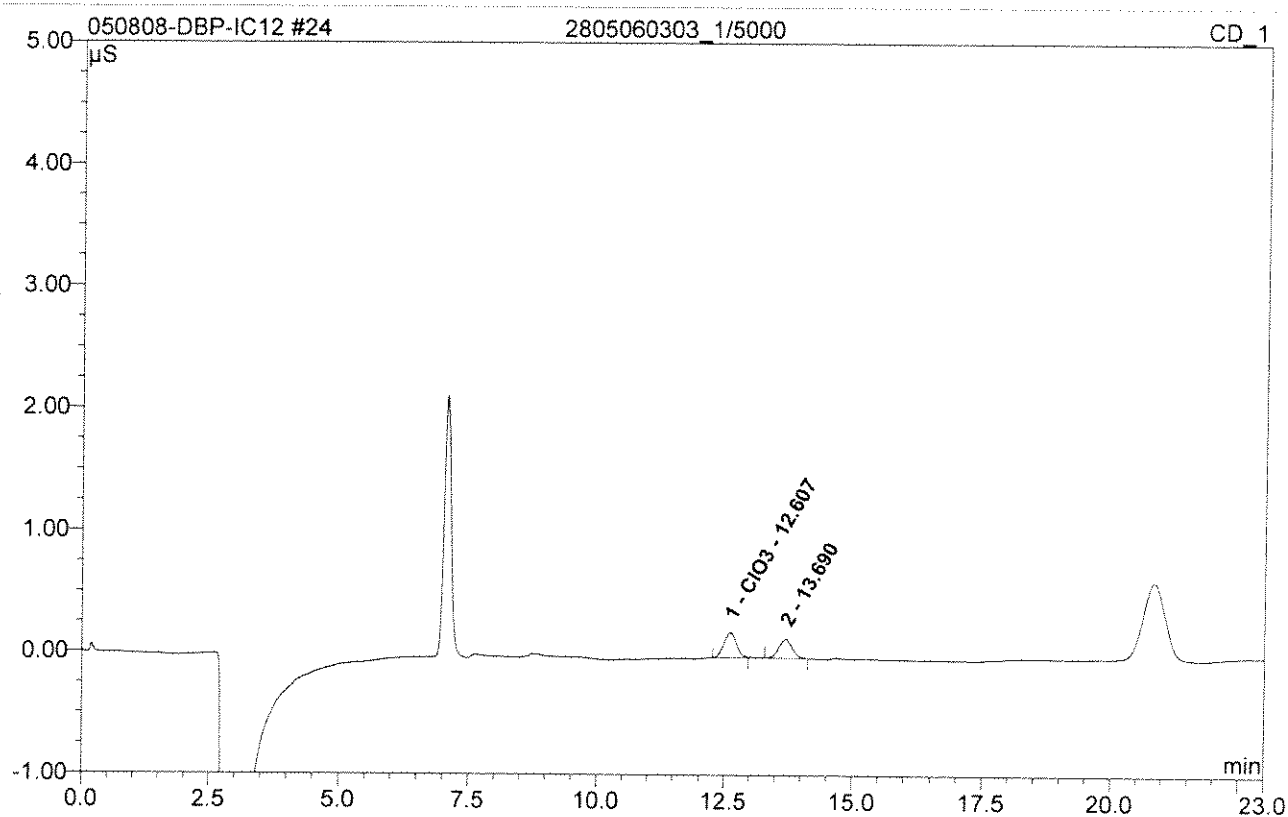
23 2805060290_1/5000			
CLO39056			
Sample Name:	2805060290_1/5000	Injection Volume:	1000.0
Vial Number:	572	Channel:	CD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	IC12 test Program	Bandwidth:	n.a.
Quantif. Method:	DBP-Method	Dilution Factor:	5000.0000
Recording Time:	5/9/2008 2:21	Sample Weight:	1.0000
Run Time (min):	23.00	Sample Amount:	1.0000



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount ppb	Type
1	12.37	ClO3	0.217	0.065	62.54	432800.052	BMB
2	13.45	n.a.	0.142	0.039	37.46	n.a.	BMB
Total:			0.360	0.104	100.00	432800.052	

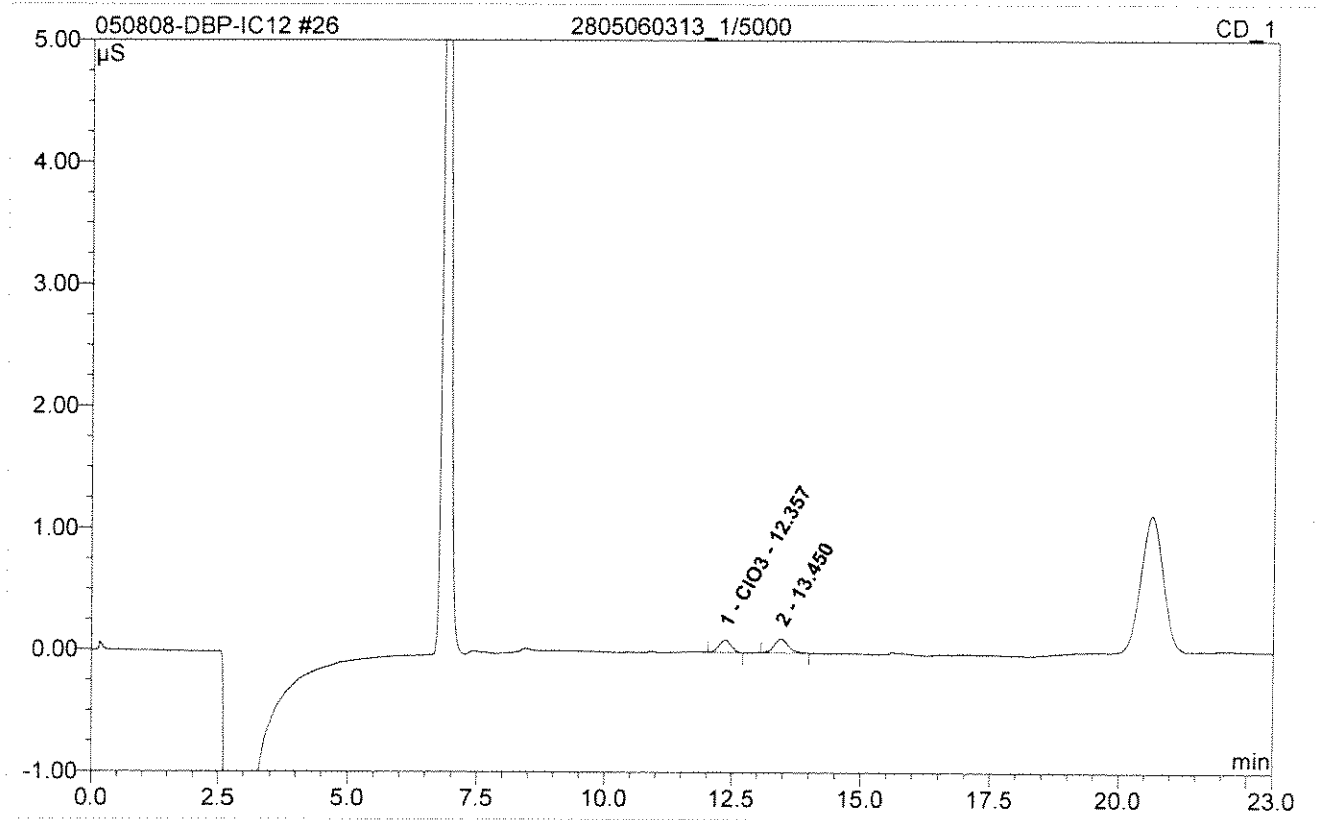
24 2805060303_1/5000**CLO39056**

Sample Name:	2805060303_1/5000	Injection Volume:	1000.0
Vial Number:	573	Channel:	CD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	IC12 test Program	Bandwidth:	n.a.
Quantif. Method:	DBP-Method	Dilution Factor:	5000.0000
Recording Time:	5/9/2008 2:46	Sample Weight:	1.0000
Run Time (min):	23.00	Sample Amount:	1.0000



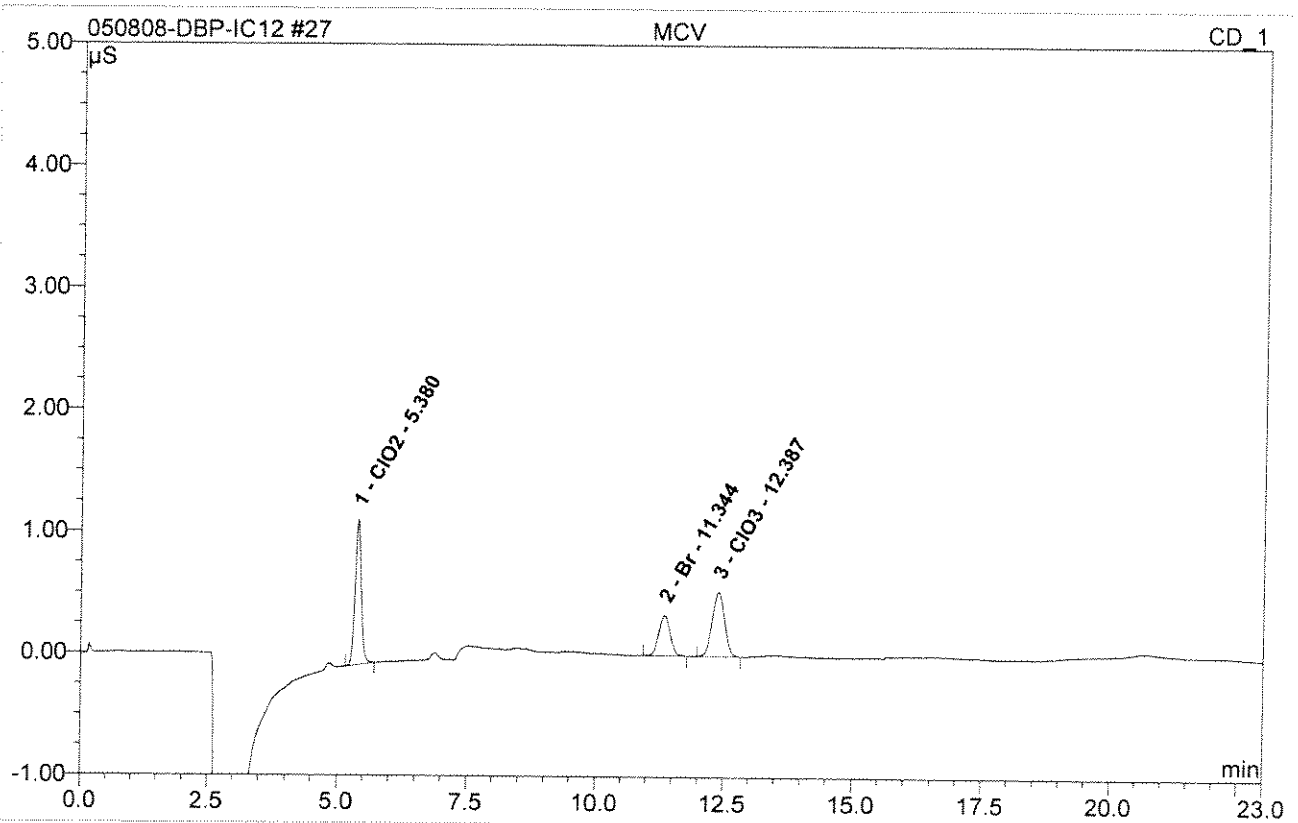
No.	Ret.Time min	Peak Name	Height μS	Area $\mu\text{S}\cdot\text{min}$	Rel.Area %	Amount ppb	Type
1	12.61	ClO3	0.205	0.058	54.53	386684.320	BMB
2	13.69	n.a.	0.157	0.048	45.47	n.a.	BMB
Total:			0.363	0.106	100.00	386684.320	

26 2805060313_1/5000			
CLO39056			
Sample Name:	2805060313_1/5000	Injection Volume:	1000.0
Vial Number:	573	Channel:	CD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	IC12 test Program	Bandwidth:	n.a.
Quantif. Method:	DBP-Method	Dilution Factor:	5000.0000
Recording Time:	5/9/2008 3:37	Sample Weight:	1.0000
Run Time (min):	23.00	Sample Amount:	1.0000



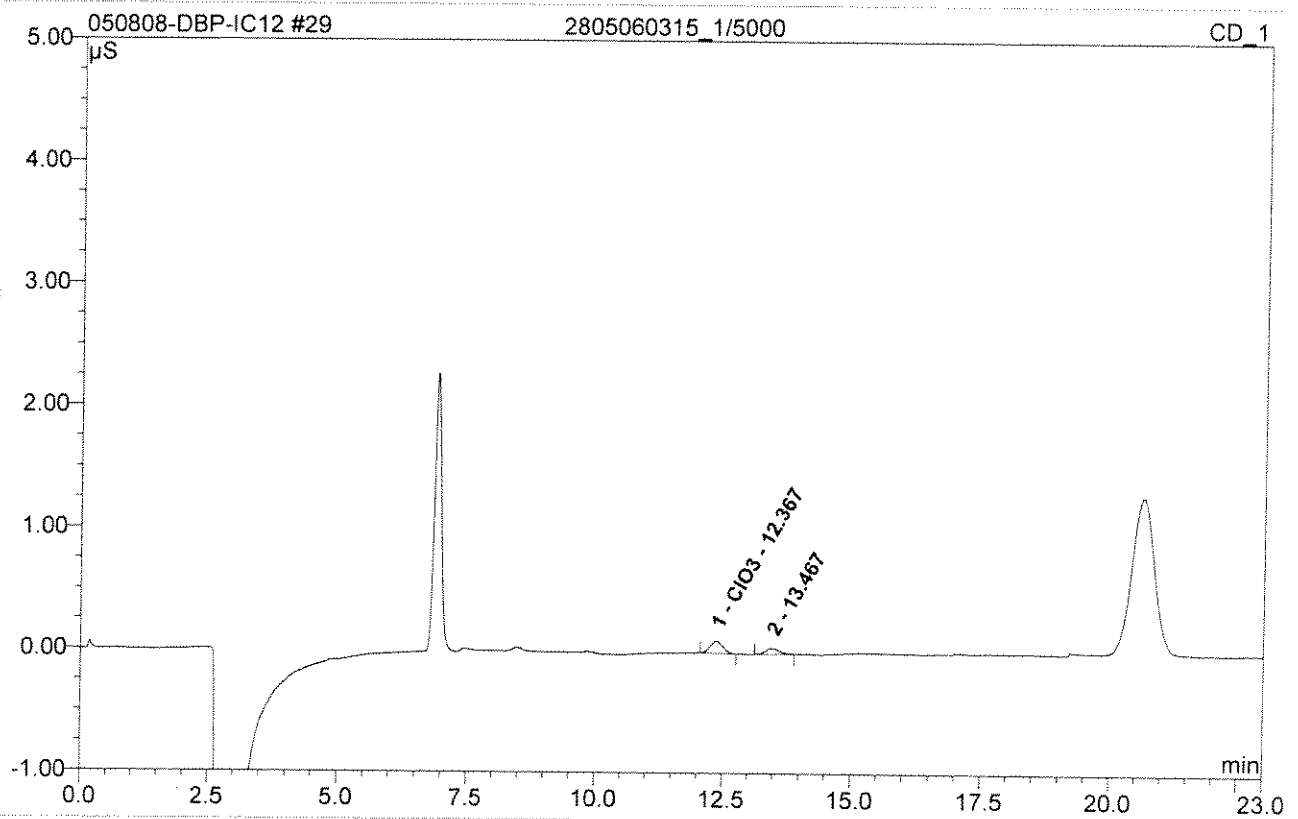
No.	Ret.Time min	Peak Name	Height μ S	Area μ S*min	Rel.Area %	Amount ppb	Type
1	12.36	ClO3	0.104	0.029	43.38	190782.399	BMB
2	13.45	n.a.	0.113	0.037	56.62	n.a.	BMB
Total:			0.216	0.066	100.00	190782.399	

27 MCV			
200/100/200			
Sample Name:	MCV	Injection Volume:	1000.0
Vial Number:	339	Channel:	CD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	IC12 test Program	Bandwidth:	n.a.
Quantif. Method:	DBP-Method	Dilution Factor:	1.0000
Recording Time:	5/9/2008 4:02	Sample Weight:	1.0000
Run Time (min):	23.00	Sample Amount:	1.0000



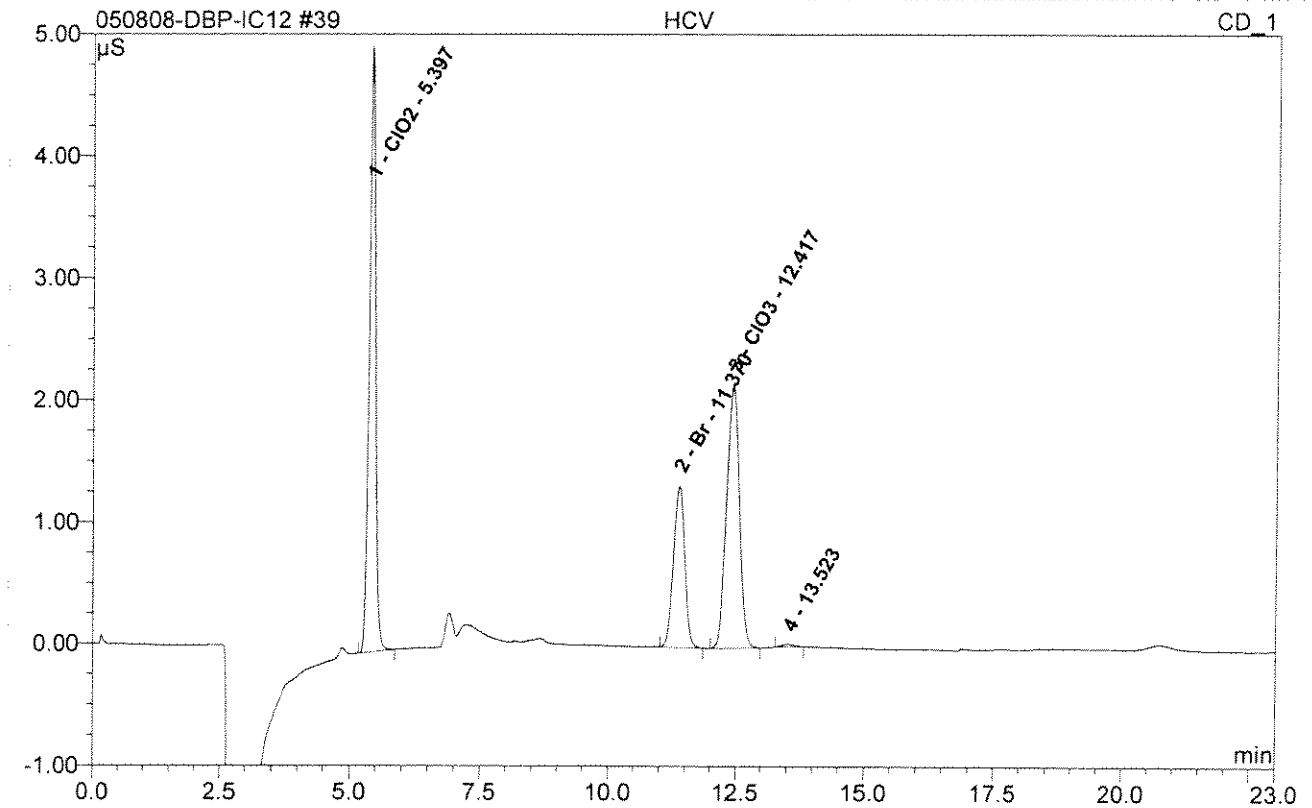
No.	Ret.Time min	Peak Name	Height μS	Area μS*min	Rel.Area %	Amount ppb	Type
1	5.38	ClO2	1.190	0.172	41.96	186.748	BMB
2	11.34	Br	0.332	0.086	20.92	104.641	BMB
3	12.39	ClO3	0.531	0.152	37.12	202.749	BMB
Total:			2.053	0.409	100.00	494.138	

29 2805060315_1/5000			
CLO39056			
Sample Name:	2805060315_1/5000	Injection Volume:	1000.0
Vial Number:	573	Channel:	CD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	IC12 test Program	Bandwidth:	n.a.
Quantif. Method:	DBP-Method	Dilution Factor:	5000.0000
Recording Time:	5/9/2008 4:53	Sample Weight:	1.0000
Run Time (min):	23.00	Sample Amount:	1.0000



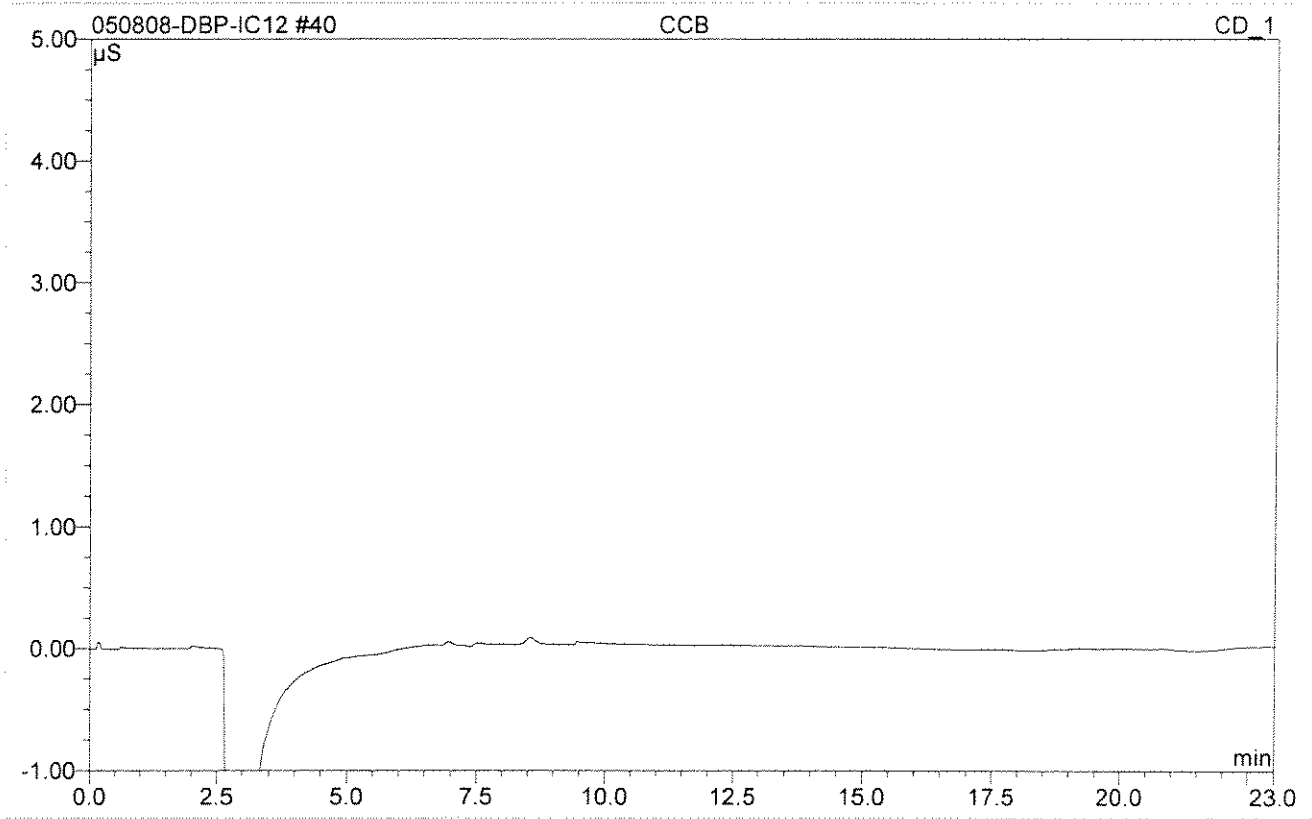
No.	Ret.Time min	Peak Name	Height μS	Area μS*min	Rel.Area %	Amount ppb	Type
1	12.37	ClO3	0.100	0.029	65.21	190759.720	BMB
2	13.47	n.a.	0.048	0.015	34.79	n.a.	BMB
Total:			0.148	0.044	100.00	190759.720	

39 HCV			
800/400/800			
Sample Name:	HCV	Injection Volume:	1000.0
Vial Number:	339	Channel:	CD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	IC12 test Program	Bandwidth:	n.a.
Quantif. Method:	DBP-Method	Dilution Factor:	1.0000
Recording Time:	5/9/2008 9:07	Sample Weight:	1.0000
Run Time (min):	23.00	Sample Amount:	1.0000



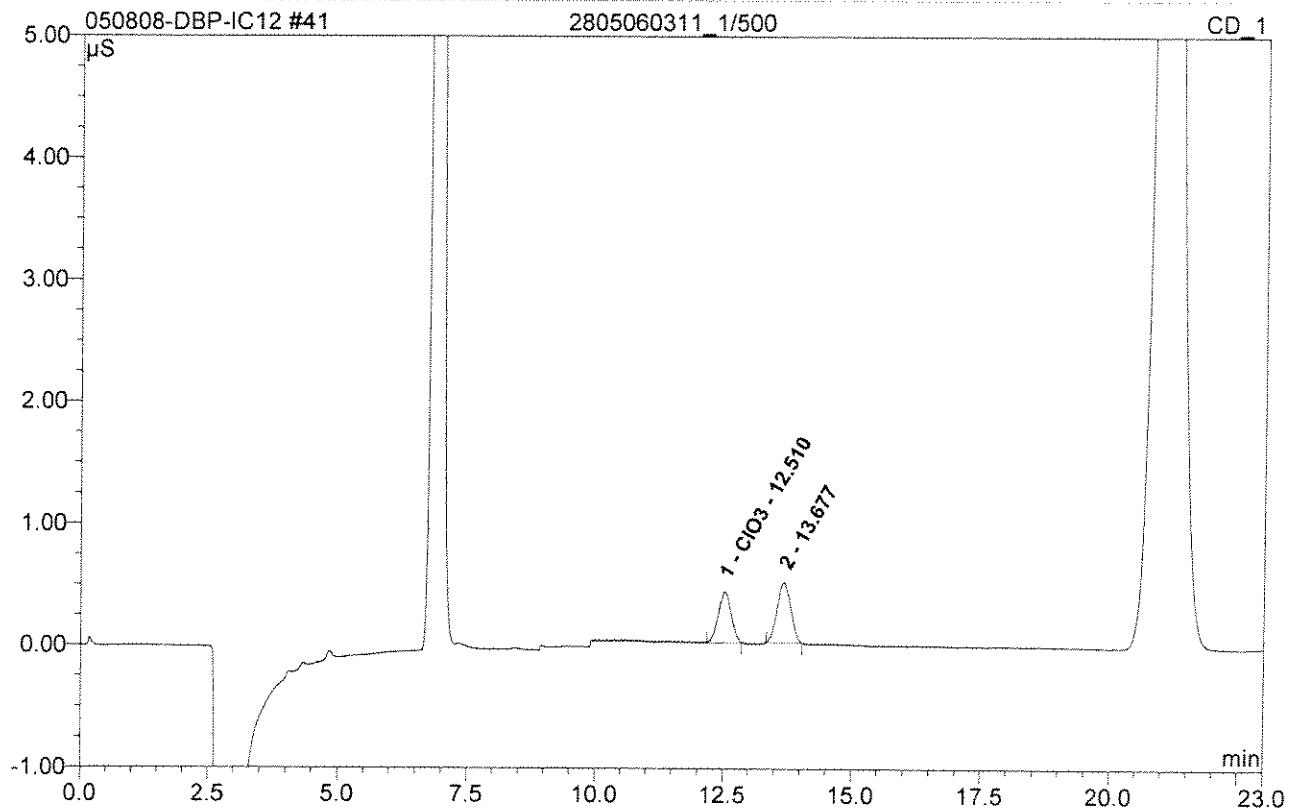
No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount ppb	Type
1	5.40	ClO2	4.962	0.716	42.43	778.249	BMB
2	11.37	Br	1.331	0.341	20.23	417.145	BMB
3	12.42	ClO3	2.164	0.624	36.97	832.339	BMB
4	13.52	n.a.	0.022	0.006	0.36	n.a.	BMB
Total:			8.479	1.688	100.00	2027.733	

40 CCB			
Sample Name:	CCB	Injection Volume:	1000.0
Vial Number:	335	Channel:	CD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	IC12 test Program	Bandwidth:	n.a.
Quantif. Method:	DBP-Method	Dilution Factor:	1.0000
Recording Time:	5/9/2008 9:33	Sample Weight:	1.0000
Run Time (min):	23.00	Sample Amount:	1.0000



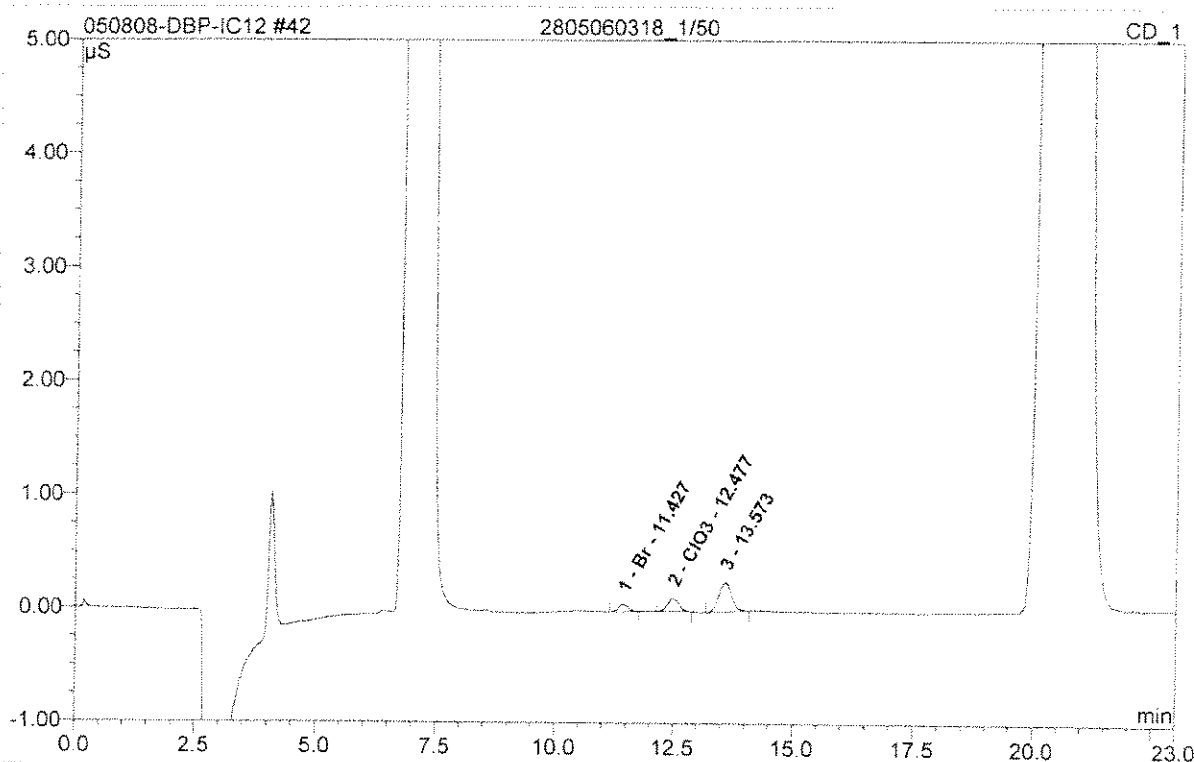
No.	Ret.Time min	Peak Name	Height μS	Area μS*min	Rel.Area %	Amount ppb	Type
Total:			0.000	0.000	0.00	0.000	

41 2805060311_1/500			
CLO39056/RR			
Sample Name:	2805060311_1/500	Injection Volume:	1000.0
Vial Number:	573	Channel:	CD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	IC12 test Program	Bandwidth:	n.a.
Quantif. Method:	DBP-Method	Dilution Factor:	500.0000
Recording Time:	5/9/2008 9:58	Sample Weight:	1.0000
Run Time (min):	23.00	Sample Amount:	1.0000



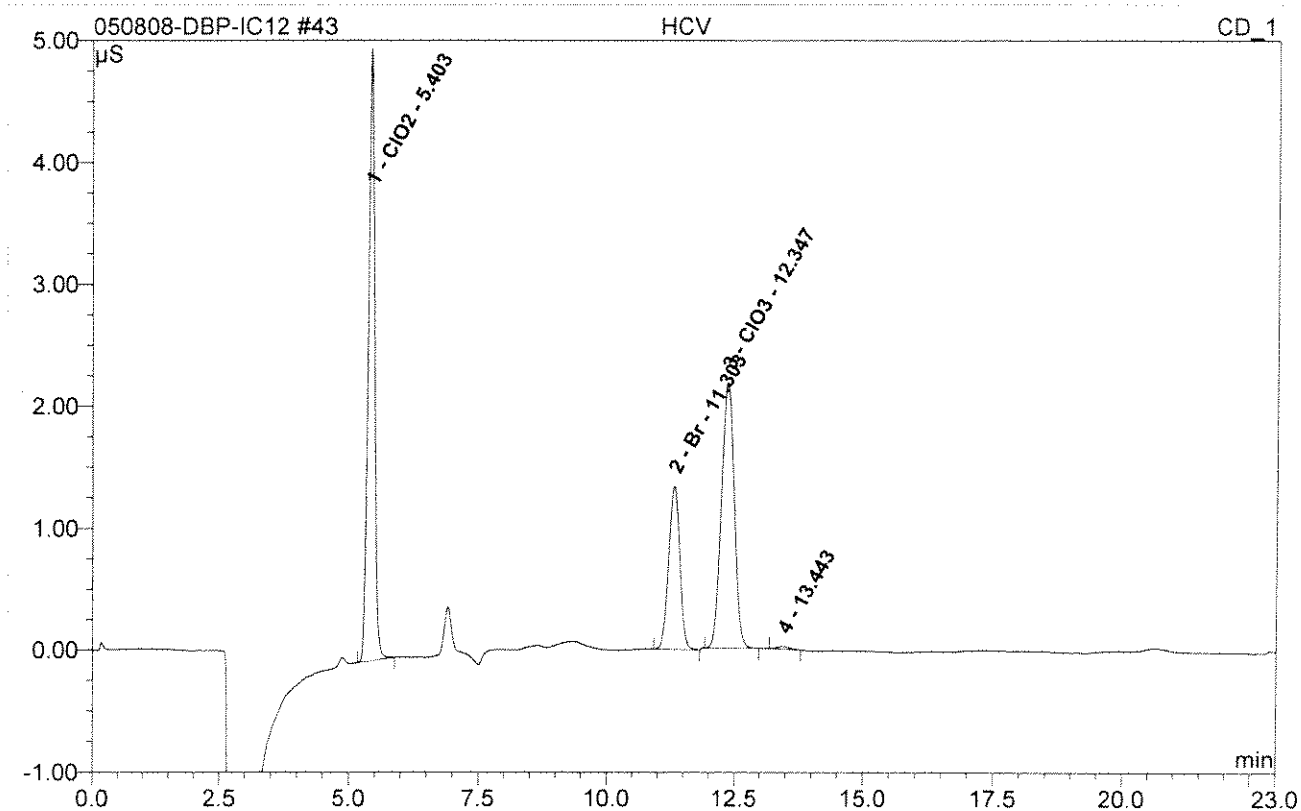
No.	Ret.Time min	Peak Name	Height μ S	Area μ S*min	Rel.Area %	Amount ppb	Type
1	12.51	ClO3	0.422	0.124	44.90	82671.120	BMB
2	13.68	n.a.	0.497	0.152	55.10	n.a.	BMB
Total:			0.919	0.276	100.00	82671.120	

42 2805060318_1/50			
CLO39056/RR			
Sample Name:	2805060318_1/50	Injection Volume:	1000.0
Vial Number:	574	Channel:	CD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	IC12 test Program	Bandwidth:	n.a.
Quantif. Method:	DBP-Method	Dilution Factor:	50.0000
Recording Time:	5/9/2008 10:23	Sample Weight:	1.0000
Run Time (min):	23.00	Sample Amount:	1.0000



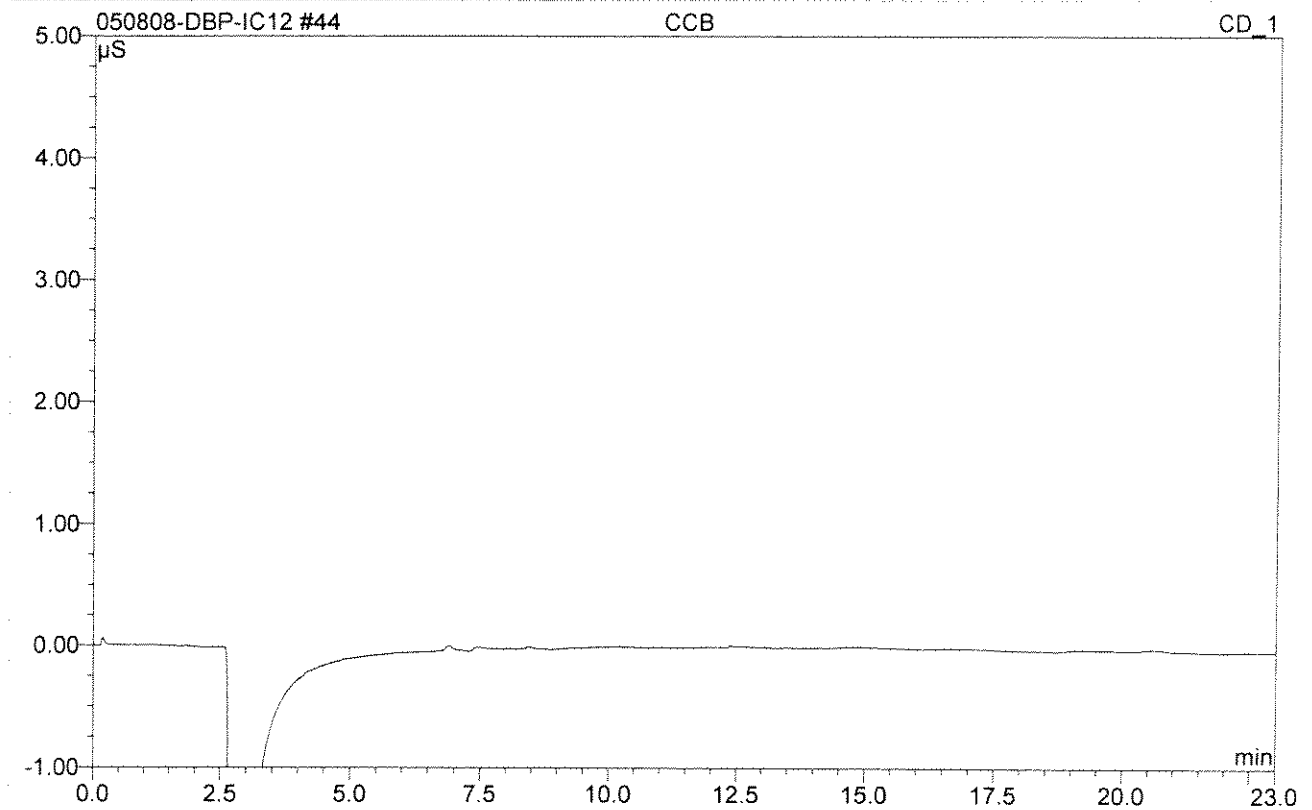
No.	Ret. Time min	Peak Name	Height μS	Area μS*min	Rel. Area %	Amount ppb	Type
1	11.43	Br	0.063	0.016	12.14	956.331	BMB
2	12.48	ClO3	0.114	0.033	25.32	2178.390	BMB
3	13.57	n.a.	0.259	0.081	62.54	n.a.	BMB
Total:			0.435	0.129	100.00	3134.721	

43 HCV			
800/400/800			
Sample Name:	HCV	Injection Volume:	1000.0
Vial Number:	339	Channel:	CD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	IC12 test Program	Bandwidth:	n.a.
Quantif. Method:	DBP-Method	Dilution Factor:	1.0000
Recording Time:	5/9/2008 10:49	Sample Weight:	1.0000
Run Time (min):	23.00	Sample Amount:	1.0000



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount ppb	Type
1	5.40	ClO2	5.016	0.712	42.17	773.898	BMB
2	11.30	Br	1.337	0.339	20.10	414.594	BMB
3	12.35	ClO3	2.179	0.630	37.33	840.671	BMB
4	13.44	n.a.	0.023	0.007	0.40	n.a.	BMB
Total:			8.554	1.688	100.00	2029.163	

44 CCB			
Sample Name:	CCB	Injection Volume:	1000.0
Vial Number:	335	Channel:	CD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	IC12 test Program	Bandwidth:	n.a.
Quantif. Method:	DBP-Method	Dilution Factor:	1.0000
Recording Time:	5/9/2008 11:14	Sample Weight:	1.0000
Run Time (min):	23.00	Sample Amount:	1.0000



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

**Standard
Preparation
Worksheet
&
Certificate of
Analysis**

Reagent Preparation Documentation

Reagent: DBP SI/MRL 10/5/10 ppb MW #: CW080429-1
Date Received/Prepped: 4/29/08 / / / / By: CLV
Date Expired: 10/29/08 / / / / Matrix: A
Manufacturer: _____ Amount: 100 ml
Storage Condition: ROOM TEMP Lot #: _____

Component	Comment	Standard	Concentration
50 ml 100,000 ppm	EDA > 100 ml Soln.	TLH-071029-1	100,000 ppm
0.1 ml 10/5/10 ppm	Int Cal	CLV070717-4	10/5/10 ppm

Comment: _____

Reagent: DBP S2 20/10/20 ppb MW #: CLV080429-2
Date Received/Prepped: 4/29/08 / / / / By: CLV
Date Expired: 10/29/08 / / / / Matrix: A
Manufacturer: _____ Amount: 100 ml
Storage Condition: ROOM TEMP Lot #: _____

Component	Comment	Standard	Concentration
50 ml 100,000 ppm	EDA > 100 ml Soln.	TLH 071029-1	100,000 ppm
0.2 ml 10/5/10 ppm	Int Cal	CLV070717-4	10/5/10 ppm

Comment: _____

Reagent: DBP S3 100/50/100 ppb MW #: CLV080429-3
Date Received/Prepped: 4/29/08 / / / / By: CLV
Date Expired: 10/29/08 / / / / Matrix: A
Manufacturer: _____ Amount: 100 ml
Storage Condition: ROOM TEMP Lot #: _____

Component	Comment	Standard	Concentration
50 ml 100,000 ppm	EDA > 100 ml Soln.	TLH 071029-1	100,000 ppm
1.0 ml 10/5/10 ppm	Int Cal	CLV070717-4	10/5/10 ppm

Comment: _____

Reagent Preparation Documentation

Page: _____

Reagent: DBP SA/MCV 200/100/200 ppb
Date Received/Prepped: 4/29/08 / 5/30/08 / 5/11/08 / 1 / 1
Date Expired: 10/29/08 / 11/03/08 / 11/10/08 / 1 / 1
Manufacturer: _____
Storage Condition: ROOM TEMP

MW #: CLV 080429-4
By: CLV
Matrix: A
Amount: 100 ml
Lot #: _____

Component	Comment	Standard	Concentration
50 ml 100,000 ppm	EDA > 100 ml Soln.	TUH 071029-1	100,000 ppm
2.0 ml 10/5/10 ppm	Int. Cal >	CLV 070717-4	10/5/10 ppm

Comment: _____

Reagent: DBP S5 400/200/400 ppb
Date Received/Prepped: 4/29/08 / 1 / 1 / 1 / 1
Date Expired: 10/29/08 / 1 / 1 / 1 / 1
Manufacturer: _____
Storage Condition: ROOM TEMP

MW #: CLV 080429-5
By: CLV
Matrix: A
Amount: 100 ml
Lot #: _____

Component	Comment	Standard	Concentration
50 ml 100,000 ppm	EDA > 100 ml Soln.	TUH 071029-1	100,000 ppm
4.0 ml 10/5/10 ppm	Int. Cal >	CLV 070717-4	10/5/10 ppm

Comment: _____

Reagent: DBP SG/HCV 800/400/800 ppb
Date Received/Prepped: 4/29/08 / 1 / 1 / 1 / 1
Date Expired: 10/29/08 / 1 / 1 / 1 / 1
Manufacturer: _____
Storage Condition: ROOM TEMP

MW #: CLV 080429-6
By: CLV
Matrix: A
Amount: 100 ml
Lot #: _____

Component	Comment	Standard	Concentration
50 ml 100,000 ppm	EDA > 100 ml Soln.	TUH 071029-1	100,000 ppm
8.0 ml 10/5/10 ppm	Int. Cal >	CLV 070717-4	10/5/10 ppm

Comment: _____

Reagent Preparation Documentation

Reagent: 500.1 Multi-element Calibration Std-3
 Date Received/Prepped: 12/25/07 | | | |
 Date Expired: 12/25/07 | | | |
 Manufacturer: _____
 Storage Condition: room temperature

MW #: 904H071025-1
 By: 92H
 Matrix: aq
 Amount: 100mL
 Lot #: _____

Component	Comment	Standard	Concentration
<u>BrO₃-1000ppm</u>	<u>50mL</u>	<u>1K7090910-5</u>	<u>5</u>
<u>ClO₂/ClO₂-10ppm</u>	<u>100mL</u>	<u>1K7090910-6</u>	<u>10ppm</u>
<u>Arion Cal Mix</u>	<u>100mL</u>	<u>1K7090910-7</u>	<u>Na-10 Na-10 Cl-100</u>
<u>EDA (100,000ppm)</u>	<u>50mL</u>	<u>AMP00029-12</u>	<u>50ppm</u>

ppb

Combine's dilute to 100mL w/ D₂O

Br-4.8M, 2000ppm-50

Comment: _____

Reagent: DBP Stock Eluent Soln.
 Date Received/Prepped: 12/25/07 | 12/19/07 | 1/25/08 | 2/19/08 | 3/21/08 | 4/30/08
 Date Expired: _____
 Manufacturer: _____
 Storage Condition: room temperature

MW #: 904H071025-2
 By: 92H
 Matrix: aq
 Amount: 1L
 Lot #: _____

Component	Comment	Standard	Concentration
<u>Na₂CO₃</u>	<u>52.8g to 1L NH₄O total vol.</u>	<u>R201472</u>	

Comment: Use 30mL & dilute to 2L w/ D₂O for working eluent soln.

Reagent: Ethylenediamine -100,000ppm (EDA)
 Date Received/Prepped: 12/29/07 | | | |
 Date Expired: _____
 Manufacturer: _____
 Storage Condition: room temperature

MW #: 904H071029-1
 By: 92H
 Matrix: aq
 Amount: 100mL
 Lot #: _____

Component	Comment	Standard	Concentration
<u>Ethylenediamine</u>	<u>11.2mL diluted to 100mL w/ D₂O</u>	<u>R201728</u>	<u>100,000ppm</u>
<u>Lot # E116585</u>			
<u>Exp Oct 2010</u>			

Comment: use 50ul per 100ml