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Level IV Data Package

MWH Group 223000

Method: EPA 300.1B

2711200572
2711200573

DBP QC Checklist

Analysis Date: 11/21/07 **Analyst:** cb **QC'd by** MME **Date** 112807

Instrument: IC12

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

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 CLO2are analyzed within 14 days of collection.

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 ppb Br CD_1	
1,	autocal1,		11/16/07 10:15,	1.0,	n.a.	
2,	autocal2,	S1-10/5/10	11/16/07 10:41,	1.0,	4.7139,	
3,	autocal3,	S2-20/10/20	11/16/07 11:06,	1.0,	10.5055,	
4,	autocal4,	S3-100/50/100	11/16/07 11:32,	1.0,	51.0699,	
5,	autocal5,	S4-200/100/200	11/16/07 11:57,	1.0,	100.6726,	
6,	autocal6,	S5-400/200/400	11/16/07 12:22,	1.0,	207.0660,	
7,	autocal7,	S6-800/400/800	11/16/07 12:48,	1.0,	396.1561,	
8,	MCV,	200/100/200	11/21/07 09:34,	1.0,	101.2149,	101% ✓
9,	CCB DNR,		11/21/07 10:00,	1.0,	6.0925,	DNR
10,	MRLCHK,	S1-10/5/10	11/21/07 10:25,	1.0,	5.5290,	111% ✓
11,	CCB,	RR	11/21/07 10:50,	1.0,	n.a.	
12,	MBLK,		11/21/07 11:16,	1.0,	n.a.	
13,	LCS1,	200/100/200	11/21/07 11:41,	1.0,	99.0503,	99.0% ✓
14,	LCS2,	200/100/200	11/21/07 12:07,	1.0,	99.6475,	99.6% ✓
15,	2711200383_1/10,	CLO3/RR	11/21/07 12:32,	10.0,	334.7520,	
16,	2711200526,	CLO3	11/21/07 12:57,	1.0,	240.2340,	
17,	2711200526-MS,	100/50/100	11/21/07 13:23,	1.0,	288.6188,	48.9/96.8% ✓
18,	2711200526-MSD,	100/50/100	11/21/07 13:48,	1.0,	286.3195,	46.1/92.2% ✓
19,	2711200572_1/5,	CLO3	11/21/07 14:14,	5.0,	1063.0275,	
20,	2711200573_1/5000,	CLO3	11/21/07 14:39,	5000.0,	n.a.	
21,	2711200346,	BR	11/21/07 15:04,	1.0,	96.3542,	
22,	2711200349,	BR	11/21/07 15:30,	1.0,	19.7056,	
23,	2711210323,	CLO2	11/21/07 15:55,	1.0,	n.a.	
24,	HCV,	800/400/800	11/21/07 16:21,	1.0,	393.2094,	98.3% ✓
25,	CCB,		11/21/07 16:46,	1.0,	n.a.	
26,	STOP,		11/21/07 17:11,	1.0,	n.a.	

No. ,	Sample Name ,	Comment	Time	Dil.Fac.	Amount ppb ClO2 CD_1	
1,	autocal1,		11/16/07 10:15,	1.0,	n.a.	
2,	autocal2,	S1-10/5/10	11/16/07 10:41,	1.0,	10.0021,	
3,	autocal3,	S2-20/10/20	11/16/07 11:06,	1.0,	18.9929,	
4,	autocal4,	S3-100/50/100	11/16/07 11:32,	1.0,	95.2311,	
5,	autocal5,	S4-200/100/200	11/16/07 11:57,	1.0,	197.8252,	
6,	autocal6,	S5-400/200/400	11/16/07 12:22,	1.0,	395.0202,	
7,	autocal7,	S6-800/400/800	11/16/07 12:48,	1.0,	803.6548,	
8,	MCV,	200/100/200	11/21/07 09:34,	1.0,	203.5278,	102 % ✓
9,	CCB DNR,		11/21/07 10:00,	1.0,	n.a.	
10,	MRLCHK,	S1-10/5/10	11/21/07 10:25,	1.0, ✓	11.1904,	112 % ✓
11,	CCB,	RR	11/21/07 10:50,	1.0,	n.a.	
12,	MBLK,		11/21/07 11:16,	1.0,	n.a.	
13,	LCS1,	200/100/200	11/21/07 11:41,	1.0, ✓	217.3797,	109 % ✓
14,	LCS2,	200/100/200	11/21/07 12:07,	1.0, ✓	211.4569,	106 % ✓
15,	2711200383_1/10,	CLO3/RR	11/21/07 12:32,	10.0,	n.a.	
16,	2711200526,	CLO3	11/21/07 12:57,	1.0,	n.a.	
17,	2711200526-MS,	100/50/100	11/21/07 13:23,	1.0, ✓	94.8104,	94.8 % ✓
18,	2711200526-MSD,	100/50/100	11/21/07 13:48,	1.0, ✓	95.8138,	95.8 % ✓
19,	2711200572_1/5,	CLO3	11/21/07 14:14,	5.0,	85.7640,	
20,	2711200573_1/5000,	CLO3	11/21/07 14:39,	5000.0,	n.a.	
21,	2711200346,	BR	11/21/07 15:04,	1.0,	n.a.	
22,	2711200349,	BR	11/21/07 15:30,	1.0,	n.a.	
23,	2711210323,	CLO2	11/21/07 15:55,	1.0,	n.a. ✓	
24,	HCV,	800/400/800	11/21/07 16:21,	1.0,	810.8221,	101 % ✓
25,	CCB,		11/21/07 16:46,	1.0,	n.a.	
26,	STOP,		11/21/07 17:11,	1.0,	n.a.	

No. ,	Sample Name ,	Comment	Time	Dil.Fac.	Amount ppb ClO3 CD_1	
1,	autocal1,		11/16/07 10:15,	1.0,	n.a.	
2,	autocal2,	S1-10/5/10	11/16/07 10:41,	1.0,	8.4762	
3,	autocal3,	S2-20/10/20	11/16/07 11:06,	1.0,	19.3702	
4,	autocal4,	S3-100/50/100	11/16/07 11:32,	1.0,	99.3175	
5,	autocal5,	S4-200/100/200	11/16/07 11:57,	1.0,	191.7184	
6,	autocal6,	S5-400/200/400	11/16/07 12:22,	1.0,	410.7193	
7,	autocal7,	S6-800/400/800	11/16/07 12:48,	1.0,	796.8308	
8,	MCV,	200/100/200	11/21/07 09:34,	1.0,	203.673	102%
9,	CCB DNR,		11/21/07 10:00,	1.0,	188.2842	DNR
10,	MRLCHK,	S1-10/5/10	11/21/07 10:25,	1.0, ✓	9.9644	99.6%
11,	CCB,	RR	11/21/07 10:50,	1.0,	n.a.	
12,	MBLK,		11/21/07 11:16,	1.0,	n.a.	
13,	LCS1,	200/100/200	11/21/07 11:41,	1.0, ✓	196.4205	98.2%
14,	LCS2,	200/100/200	11/21/07 12:07,	1.0, ✓	210.7149	105%
15,	2711200383_1/10,	CLO3/RR	11/21/07 12:32,	10.0, ✓	1927.481	
16,	2711200526,	CLO3	11/21/07 12:57,	1.0, ✓	25.8919	
17,	2711200526-MS,	100/50/100	11/21/07 13:23,	1.0, ✓	126.7732	101%
18,	2711200526-MSD,	100/50/100	11/21/07 13:48,	1.0, ✓	137.7509	112%
19,	2711200572_1/5,	CLO3	11/21/07 14:14,	5.0, ✓	n.a.	
20,	2711200573_1/5000,	CLO3	11/21/07 14:39,	5000.0, ✓	333897	
21,	2711200346,	BR	11/21/07 15:04,	1.0,	n.a.	
22,	2711200349,	BR	11/21/07 15:30,	1.0,	n.a.	
23,	2711210323,	CLO2	11/21/07 15:55,	1.0,	n.a.	
24,	HCV,	800/400/800	11/21/07 16:21,	1.0,	799.7944	100%
25,	CCB,		11/21/07 16:46,	1.0,	n.a.	
26,	STOP,		11/21/07 17:11,	1.0,	n.a.	

Sequence: 112107-DBP-IC12
Operator: clv
Printed: 11/23/2007 11:37:54 AM

Title:
Datasource: Dionex_USPAS2SDIO2
Location: IC\IC12_DBP\2007\NOV
Timebase: IC12
#Samples: 26
Created: 11/21/2007 9:00:38 AM by clv
Last Update: 11/21/2007 2:22:17 PM by clv

No.	Name	Sample ID	Dil. Factor	Type	Comment	Program
1	autocal1		1.0000	Standard		IC12 test Program
2	autocal2	CLV070717-5	1.0000	Standard	S1-10/5/10	IC12 test Program
3	autocal3	CLV070717-6	1.0000	Standard	S2-20/10/20	IC12 test Program
4	autocal4	CLV070717-7	1.0000	Standard	S3-100/50/100	IC12 test Program
5	autocal5	CLV070717-8	1.0000	Standard	S4-200/100/200	IC12 test Program
6	autocal6	CLV070717-9	1.0000	Standard	S5-400/200/400	IC12 test Program
7	autocal7	CLV070717-10	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 DNR		1.0000	Unknown		IC12 test Program
10	MRLCHK	S1-10/5/10	1.0000	Unknown	S1-10/5/10	IC12 test Program
11	CCB		1.0000	Unknown	RR	IC12 test Program
12	MBLK		1.0000	Unknown		IC12 test Program
13	LCS1	CLV070717-11	1.0000	Unknown	200/100/200	IC12 test Program
14	LCS2	200/100/200	1.0000	Unknown	200/100/200	IC12 test Program
15	2711200383_1/10	SONVWA LV WASH	10.0000	Unknown	CLO3/RR	IC12 test Program
16	2711200526	VICTORVAL INJ WELL	1.0000	Unknown	CLO3	IC12 test Program
17	2711200526-MS	100/50/100	1.0000	Unknown	100/50/100	IC12 test Program
18	2711200526-MSD	100/50/100	1.0000	Unknown	100/50/100	IC12 test Program
19	2711200572_1/5	KM EFF	5.0000	Unknown	CLO3	IC12 test Program
20	2711200573_1/5000	KM INF	5000.0000	Unknown	CLO3	IC12 test Program
21	2711200346	PEORIA GREENWAY 1	1.0000	Unknown	BR	IC12 test Program
22	2711200349	PEORIA GREENWAY 2	1.0000	Unknown	BR	IC12 test Program
23	2711210323	EARTHO PRODUCT	1.0000	Unknown	CLO2	IC12 test Program
24	HCV	800/400/800	1.0000	Unknown	800/400/800	IC12 test Program
25	CCB		1.0000	Unknown		IC12 test Program
26	STOP		1.0000	Unknown		DPB Stop Program

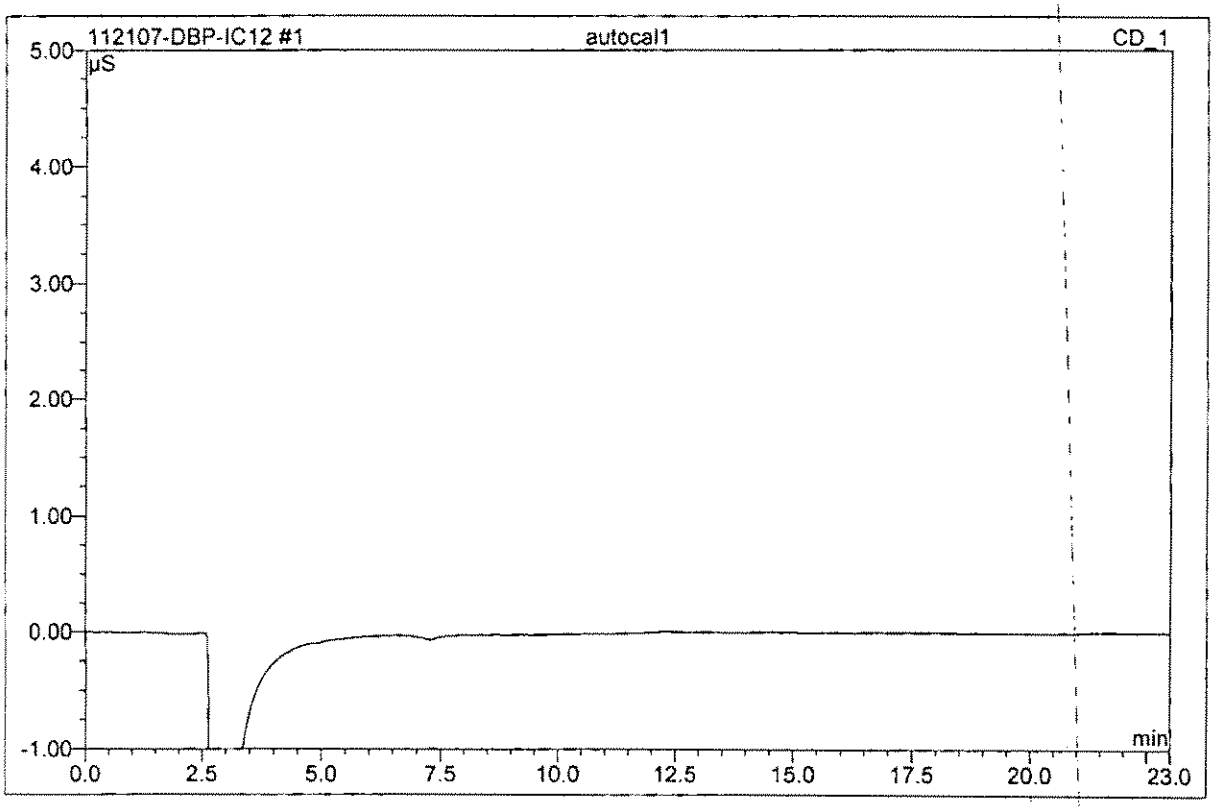
Sequence: 112107-DBP-IC12
Operator: clv
Printed: 11/23/2007 11:37:54 AM

Title:
Datasource: Dionex_USPAS2SDIO2
Location: IC\IC12_DBP\2007\NOV
Timebase: IC12
#Samples: 26
Created: 11/21/2007 9:00:38 AM by clv
Last Update: 11/21/2007 2:22:17 PM by clv

No.	Name	Method	Status	Inj. Date/Time	*Analyst
1	autocal1	DBP-Method	Finished	11/16/2007 10:15:51 AM	clv
2	autocal2	DBP-Method	Finished	11/16/2007 10:41:14 AM	clv
3	autocal3	DBP-Method	Finished	11/16/2007 11:06:38 AM	clv
4	autocal4	DBP-Method	Finished	11/16/2007 11:32:02 AM	clv
5	autocal5	DBP-Method	Finished	11/16/2007 11:57:26 AM	clv
6	autocal6	DBP-Method	Finished	11/16/2007 12:22:49 PM	clv
7	autocal7	DBP-Method	Finished	11/16/2007 12:48:13 PM	clv
8	MCV	DBP-Method	Finished	11/21/2007 9:34:43 AM	clv
9	CCB DNR	DBP-Method	Finished	11/21/2007 10:00:07 AM	clv
10	MRLCHK	DBP-Method	Finished	11/21/2007 10:25:31 AM	clv
11	CCB	DBP-Method	Finished	11/21/2007 10:50:55 AM	clv
12	MBLK	DBP-Method	Finished	11/21/2007 11:16:19 AM	clv
13	LCS1	DBP-Method	Finished	11/21/2007 11:41:44 AM	clv
14	LCS2	DBP-Method	Finished	11/21/2007 12:07:08 PM	clv
15	2711200383_1/10	DBP-Method	Finished	11/21/2007 12:32:32 PM	clv
16	2711200526	DBP-Method	Finished	11/21/2007 12:57:54 PM	clv
17	2711200526-MS	DBP-Method	Finished	11/21/2007 1:23:18 PM	clv
18	2711200526-MSD	DBP-Method	Finished	11/21/2007 1:48:41 PM	clv
19	2711200572_1/5	DBP-Method	Finished	11/21/2007 2:14:05 PM	clv
20	2711200573_1/5000	DBP-Method	Finished	11/21/2007 2:39:29 PM	clv
21	2711200346	DBP-Method	Finished	11/21/2007 3:04:53 PM	clv
22	2711200349	DBP-Method	Finished	11/21/2007 3:30:17 PM	clv
23	2711210323	DBP-Method	Finished	11/21/2007 3:55:41 PM	clv
24	HCV	DBP-Method	Finished	11/21/2007 4:21:05 PM	clv
25	CCB	DBP-Method	Finished	11/21/2007 4:46:29 PM	clv
26	STOP	DBP-Method	Interrupted	11/21/2007 5:11:53 PM	clv

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:	**11/16/2007 10:15**	*Sample Weight:*	**1.0000**
Run Time (min):	**23.00**	*Sample Amount:*	**1.0000**

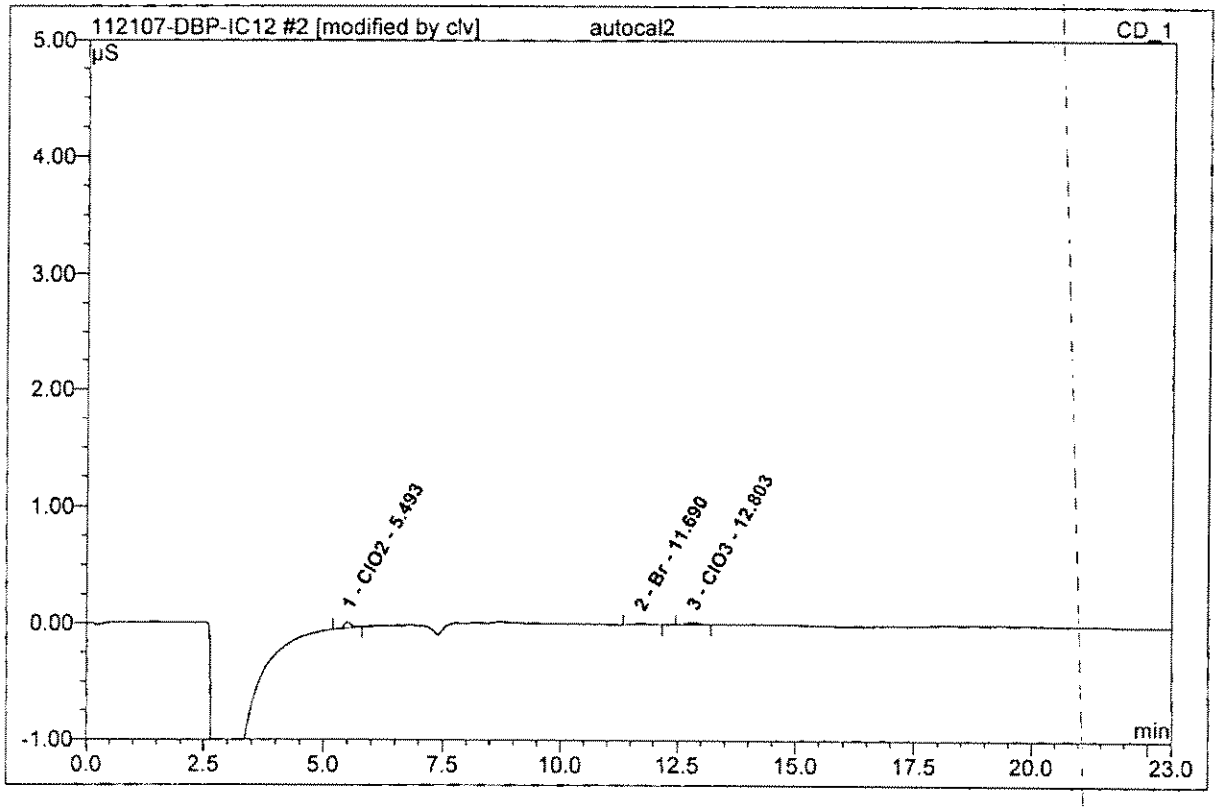


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount ppb	Type
Total:			0.000	0.000	0.00	0.000	

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:	**11/16/2007 10:41**	*Sample Weight:*	**1.0000**
Run Time (min):	**23.00**	*Sample Amount:*	**1.0000**

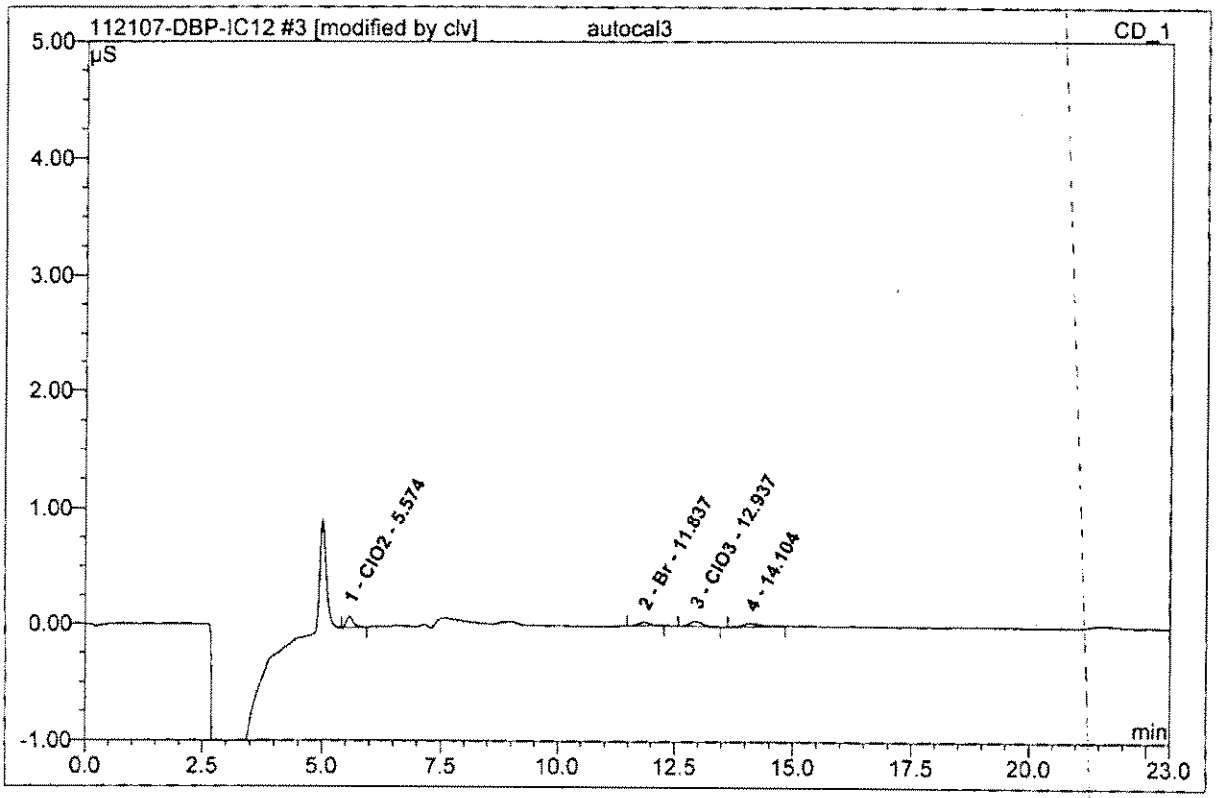


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount ppb	Type
1	5.49	ClO2	0.050	0.009	45.28	10.002	BMB
2	11.69	Br	0.013	0.004	20.92	4.714	BMB*
3	12.80	ClO3	0.020	0.006	33.79	8.476	BMB
Total:			0.082	0.019	100.00	23.192	

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:	**11/16/2007 11:06**	*Sample Weight:*	**1.0000**
Run Time (min):	**23.00**	*Sample Amount:*	**1.0000**

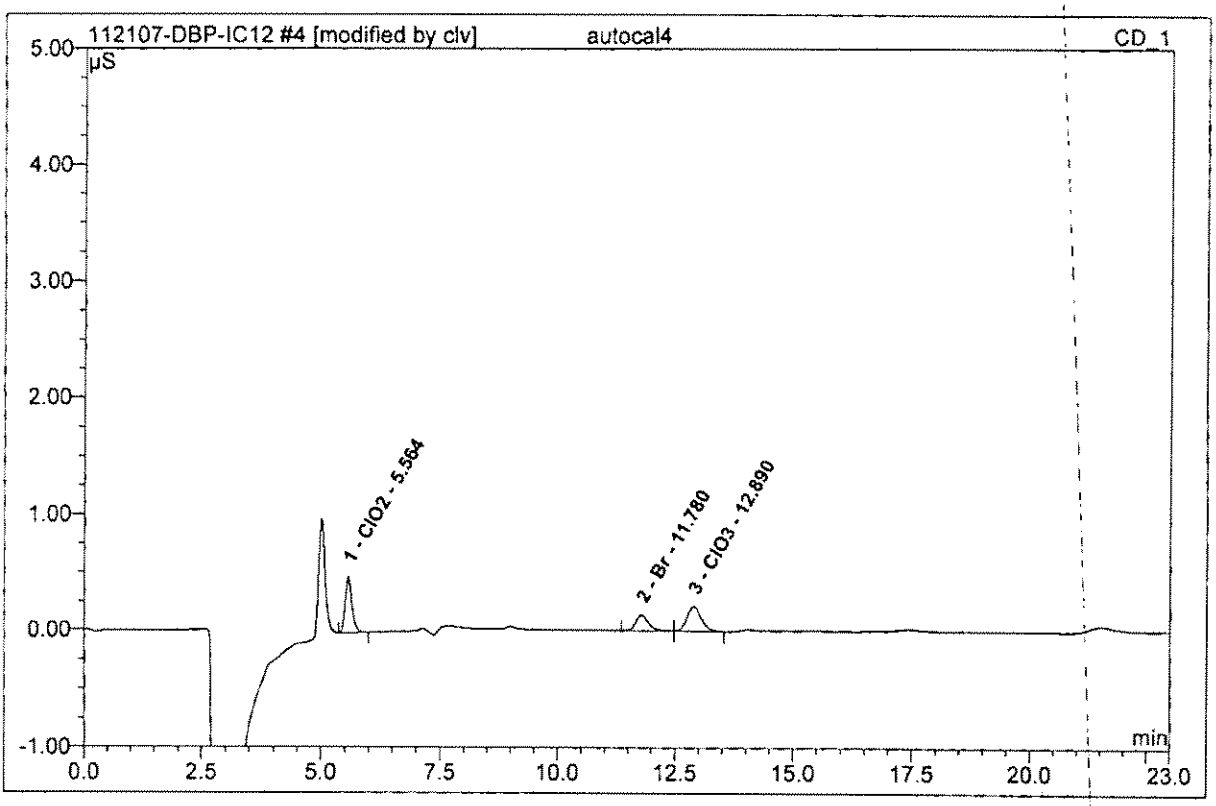


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount ppb	Type
1	5.57	ClO2	0.097	0.016	31.56	18.993	BMB
2	11.84	Br	0.028	0.009	17.12	10.506	BMB*
3	12.94	ClO3	0.044	0.015	28.35	19.370	BMB*
4	14.10	n.a.	0.026	0.012	22.97	n.a.	BMB
Total:			0.195	0.051	100.00	48.869	

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:	**11/16/2007 11:32**	*Sample Weight:*	**1.0000**
Run Time (min):	**23.00**	*Sample Amount:*	**1.0000**

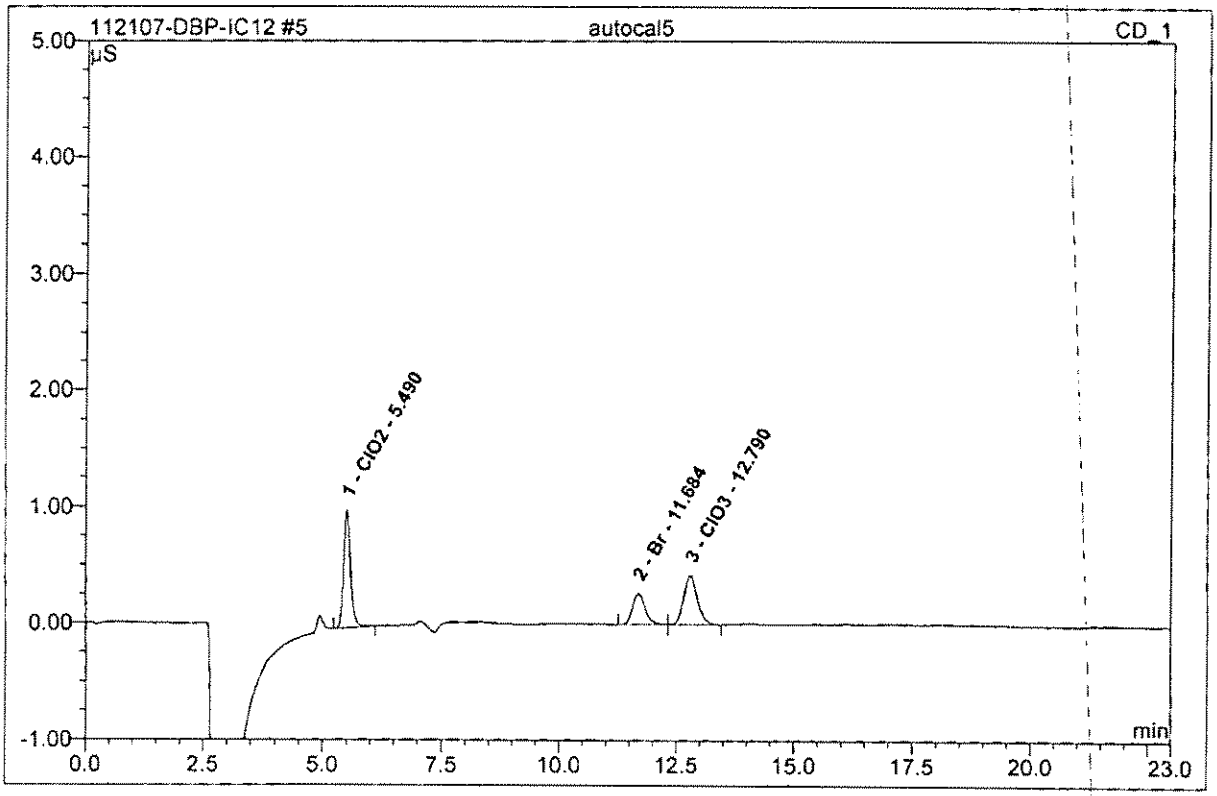


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount ppb	Type
1	5.56	ClO2	0.493	0.081	40.91	95.231	BMB
2	11.78	Br	0.135	0.043	21.51	51.070	BMb*
3	12.89	ClO3	0.214	0.075	37.58	99.318	bMB*
Total:			0.842	0.199	100.00	245.618	

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:	**11/16/2007 11:57**	*Sample Weight:*	**1.0000**
Run Time (min):	**23.00**	*Sample Amount:*	**1.0000**

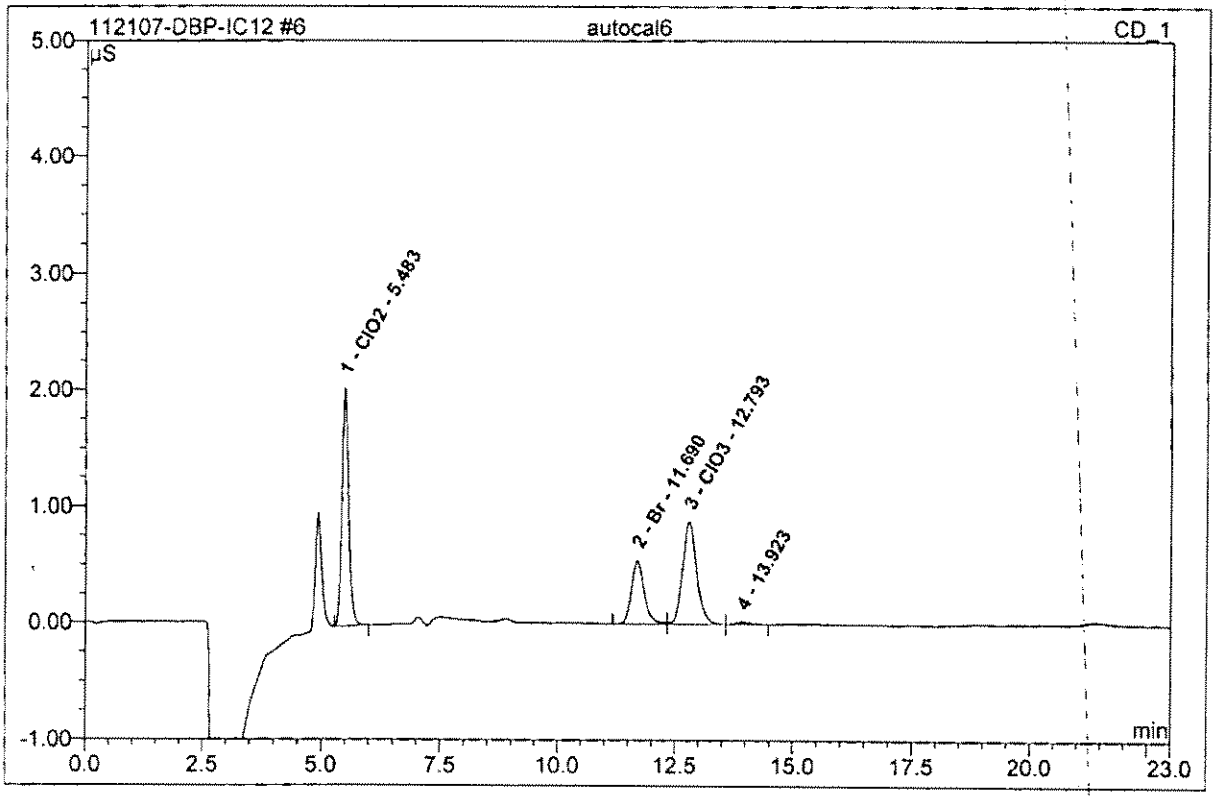


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount ppb	Type
1	5.49	ClO2	1.011	0.169	42.51	197.825	BMB
2	11.68	Br	0.269	0.084	21.21	100.673	BM
3	12.79	ClO3	0.422	0.144	36.28	191.718	MB
Total:			1.703	0.398	100.00	490.216	

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:	**11/16/2007 12:22**	*Sample Weight:*	**1.0000**
Run Time (min):	**23.00**	*Sample Amount:*	**1.0000**

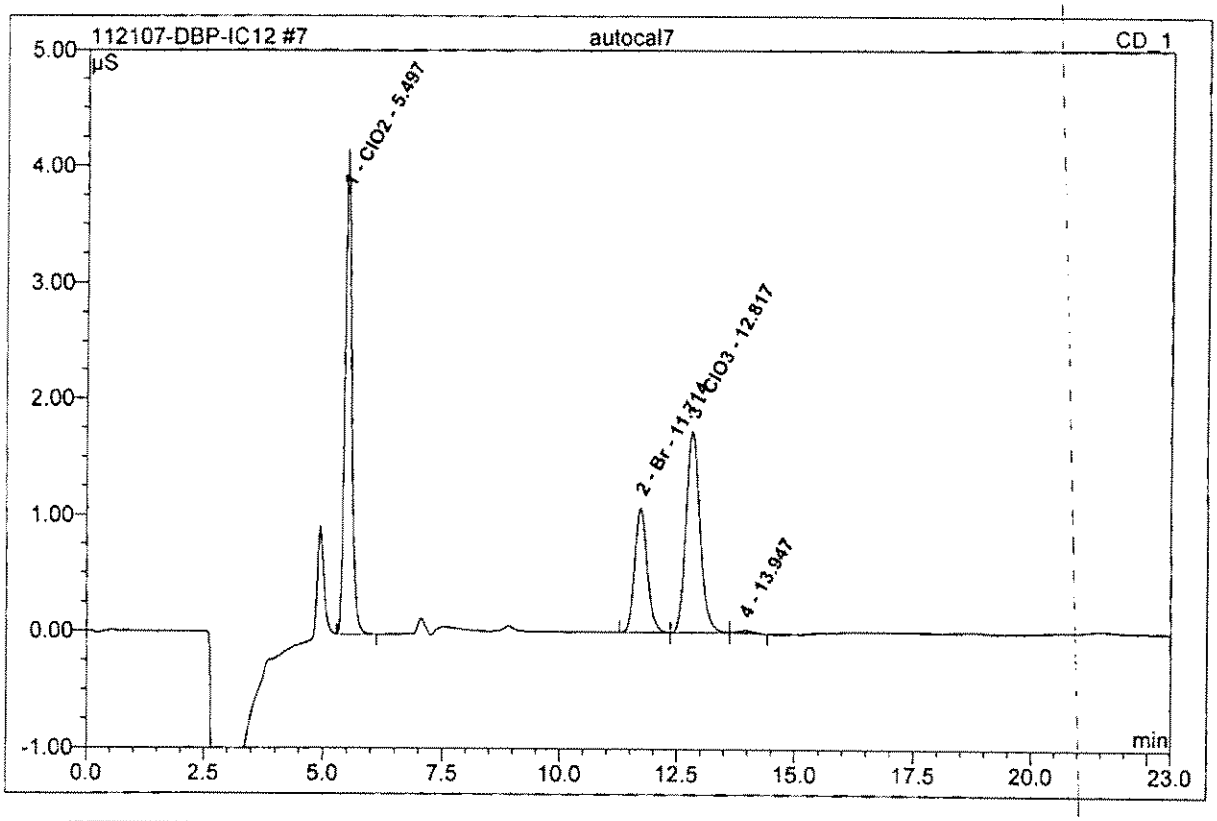


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount ppb	Type
1	5.48	ClO2	2.049	0.338	40.77	395.020	BMB
2	11.69	Br	0.544	0.174	20.95	207.066	BM
3	12.79	ClO3	0.880	0.309	37.33	410.719	M
4	13.92	n.a.	0.020	0.008	0.95	n.a.	MB
Total:			3.493	0.829	100.00	1012.806	

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:	**11/16/2007 12:48**	*Sample Weight:*	**1.0000**
Run Time (min):	**23.00**	*Sample Amount:*	**1.0000**

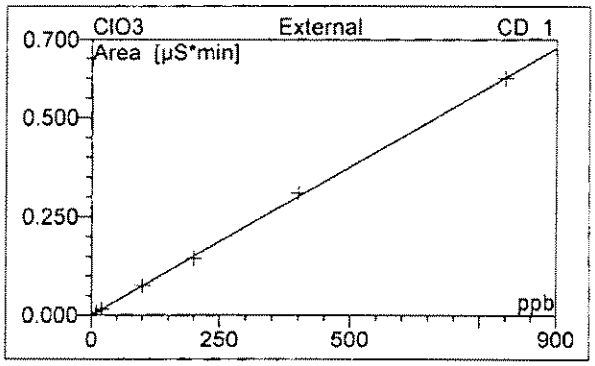


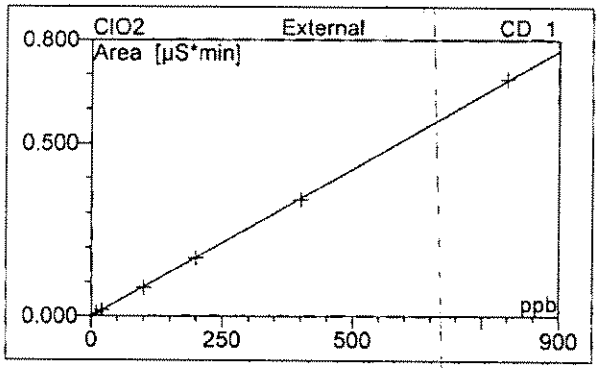
No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount ppb	Type
1	5.50	ClO2	4.167	0.687	42.22	803.655	BMB
2	11.71	Br	1.068	0.332	20.40	396.156	BMB
3	12.82	ClO3	1.734	0.600	36.86	796.831	BMb
4	13.95	n.a.	0.024	0.008	0.51	n.a.	bMB
Total:			6.992	1.628	100.00	1996.642	

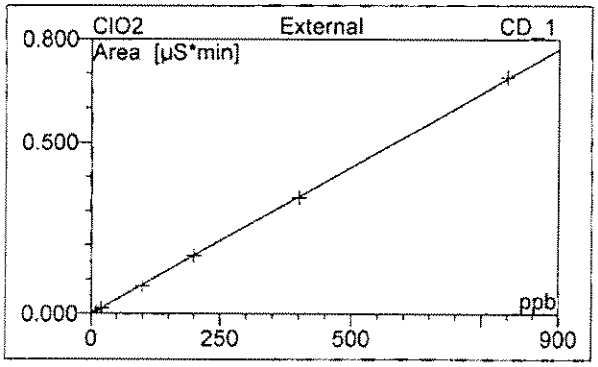
7 autocal7

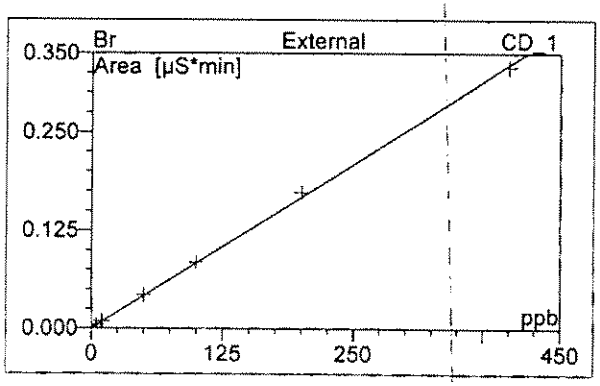
S6-800/400/800

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:	**11/16/2007 12:48**	*Sample Weight:*	**1.0000**
Run Time (min):	**23.00**	*Sample Amount:*	**1.0000**







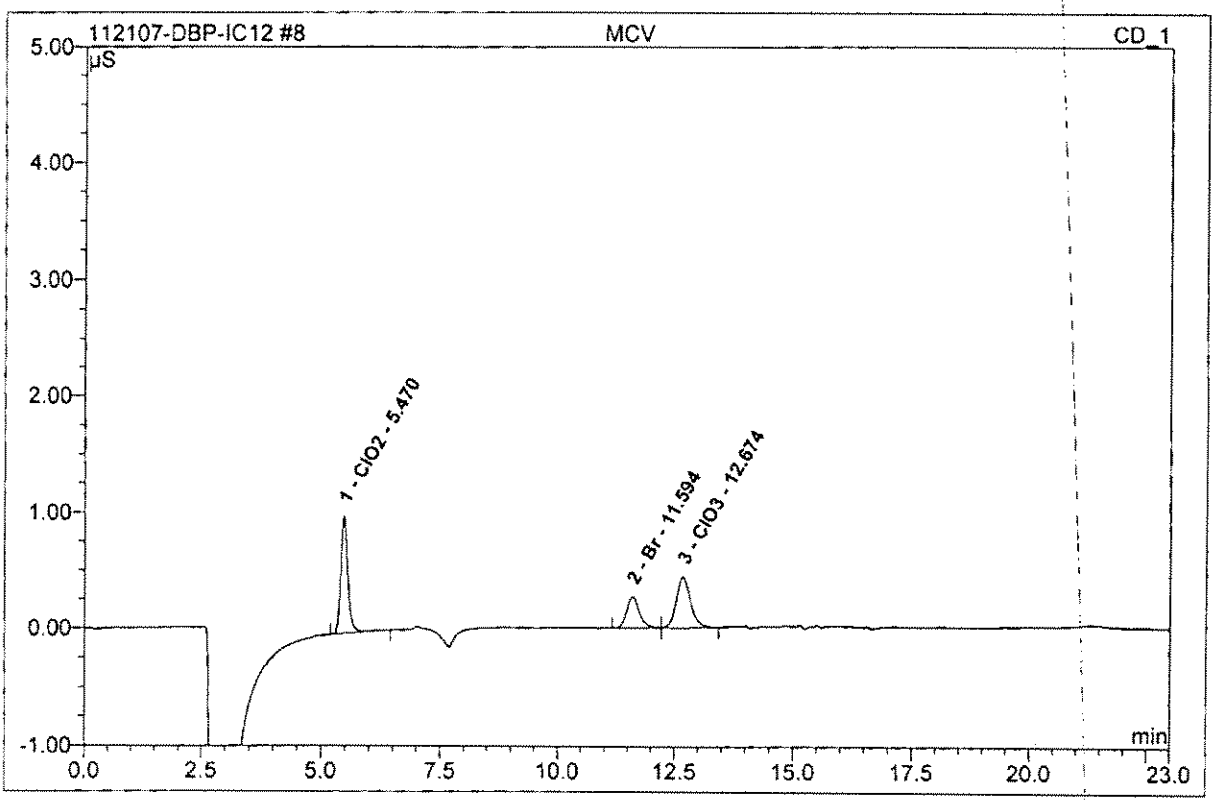


No.	Ret.Time min	Peak Name	Cal.Type	Points	Corr.Coeff. %	Offset	Slope	Curve
1	5.50	ClO2	Lin	6	99.9957	0.0000	0.0009	0.0000
2	11.71	Br	Lin	6	99.9744	0.0000	0.0008	0.0000
3	12.82	ClO3	Lin	6	99.9791	0.0000	0.0008	0.0000
4	13.95	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Average:					99.9831	0.0000	0.0008	0.0000

8 MCV

200/100/200

Sample Name:	**MCV**	*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:	**11/21/2007 9:34**	*Sample Weight:*	**1.0000**
Run Time (min):	**23.00**	*Sample Amount:*	**1.0000**

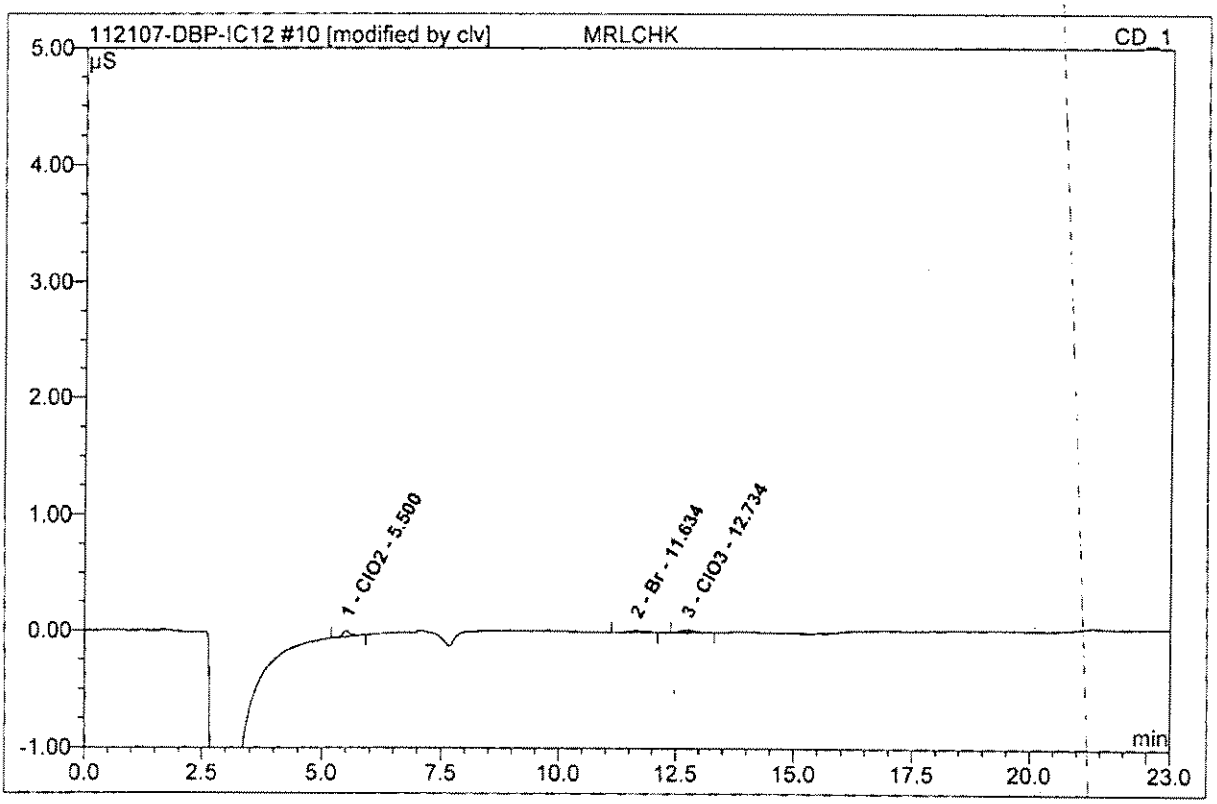


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount ppb	Type
1	5.47	ClO2	1.016	0.174	42.22	203.528	BMB
2	11.59	Br	0.270	0.085	20.58	101.215	BM
3	12.67	ClO3	0.438	0.153	37.20	203.673	MB
Total:			1.723	0.412	100.00	508.416	

10 MRLCHK

S1-10/5/10

Sample Name:	**MRLCHK**	*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:	**11/21/2007 10:25**	*Sample Weight:*	**1.0000**
Run Time (min):	**23.00**	*Sample Amount:*	**1.0000**

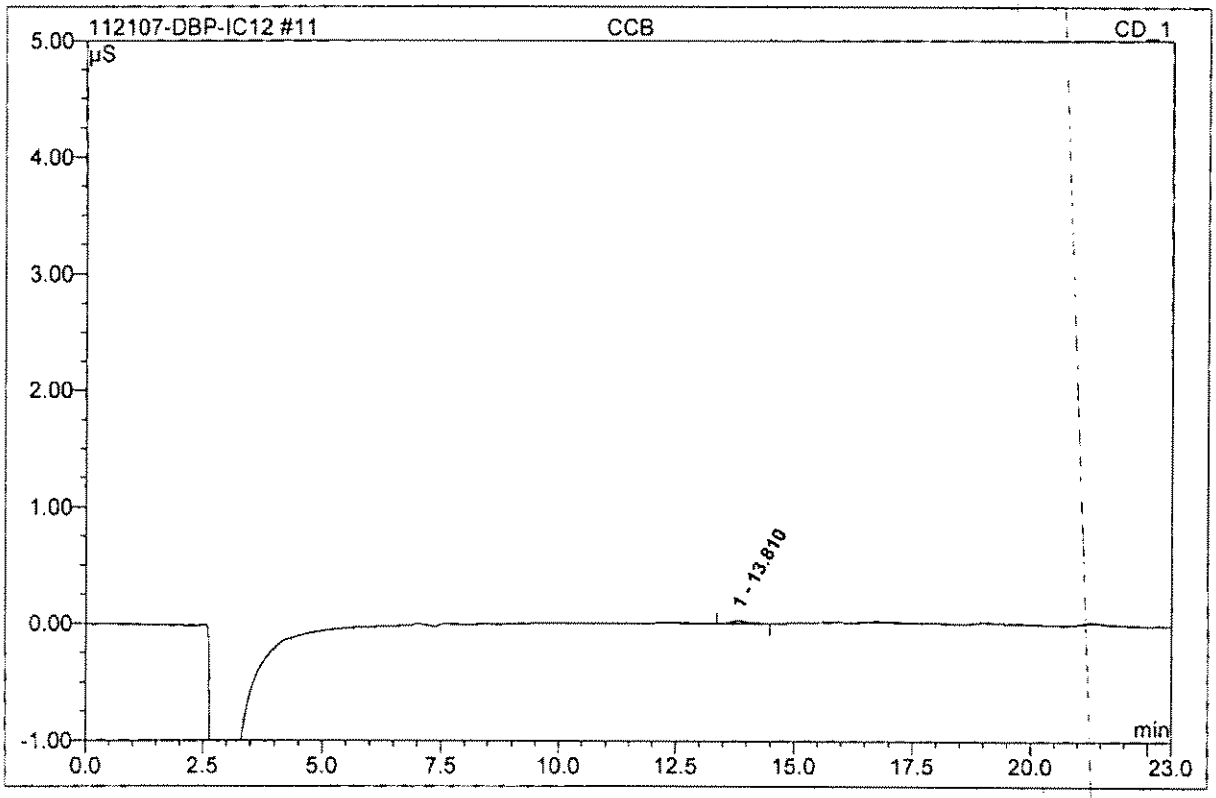


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount ppb	Type
1	5.50	ClO2	0.052	0.010	44.08	11.190	BMB
2	11.63	Br	0.014	0.005	21.35	5.529	BMB*
3	12.73	ClO3	0.022	0.008	34.57	9.964	BMB*
Total:			0.087	0.022	100.00	26.684	

11 CCB

RR

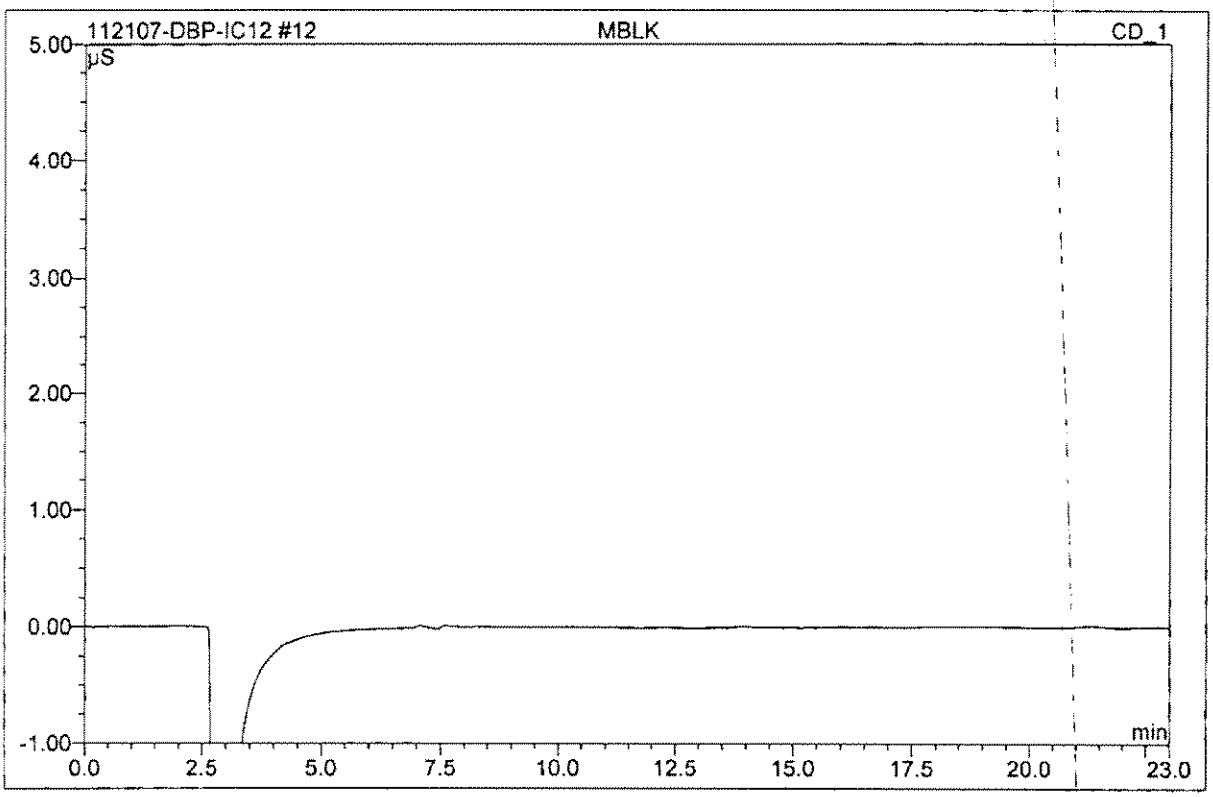
Sample Name:	**CCB**	*Injection Volume:*	**1000.0**
Vial Number:	**335**	*Channel:*	**CD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**IC12 test Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**DBP-Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**11/21/2007 10:50**	*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	13.81	n.a.	0.023	0.010	100.00	n.a.	BMB
Total:			0.023	0.010	100.00	0.000	

12 MBLK

Sample Name:	**MBLK**	*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:	**11/21/2007 11:16**	*Sample Weight:*	**1.0000**
Run Time (min):	**23.00**	*Sample Amount:*	**1.0000**

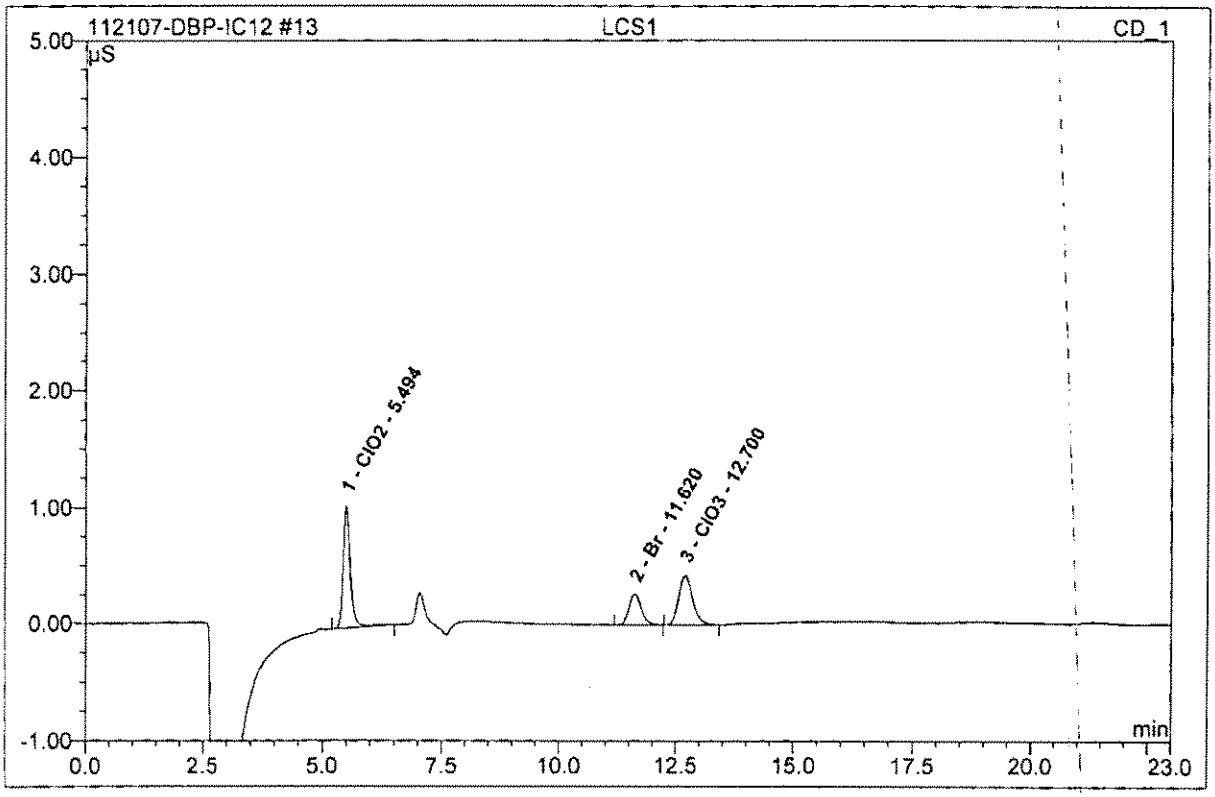


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount ppb	Type
Total:			0.000	0.000	0.00	0.000	

13 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:	**11/21/2007 11:41**	*Sample Weight:*	**1.0000**
Run Time (min):	**23.00**	*Sample Amount:*	**1.0000**

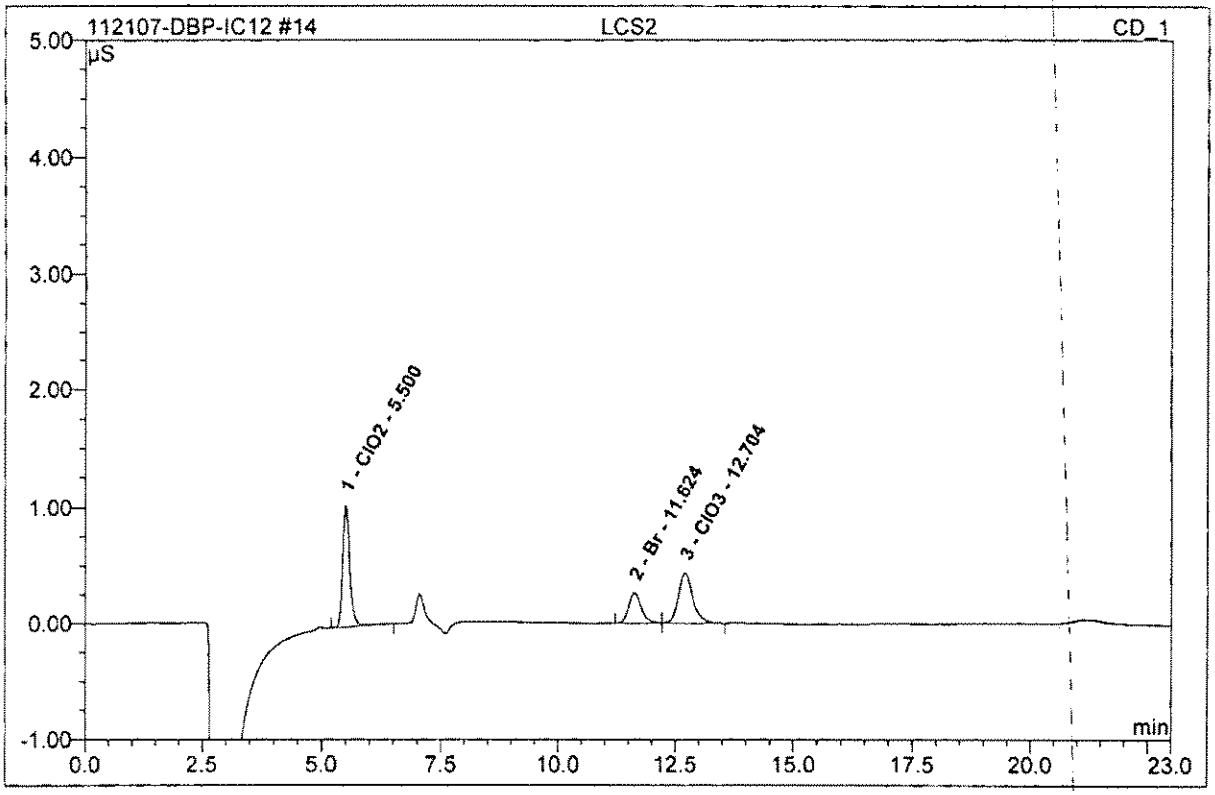


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount ppb	Type
1	5.49	ClO2	1.055	0.186	44.59	217.380	BMB
2	11.62	Br	0.266	0.083	19.92	99.050	BMB
3	12.70	ClO3	0.428	0.148	35.48	196.421	BMB
Total:			1.749	0.417	100.00	512.851	

14 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:	**11/21/2007 12:07**	*Sample Weight:*	**1.0000**
Run Time (min):	**23.00**	*Sample Amount:*	**1.0000**

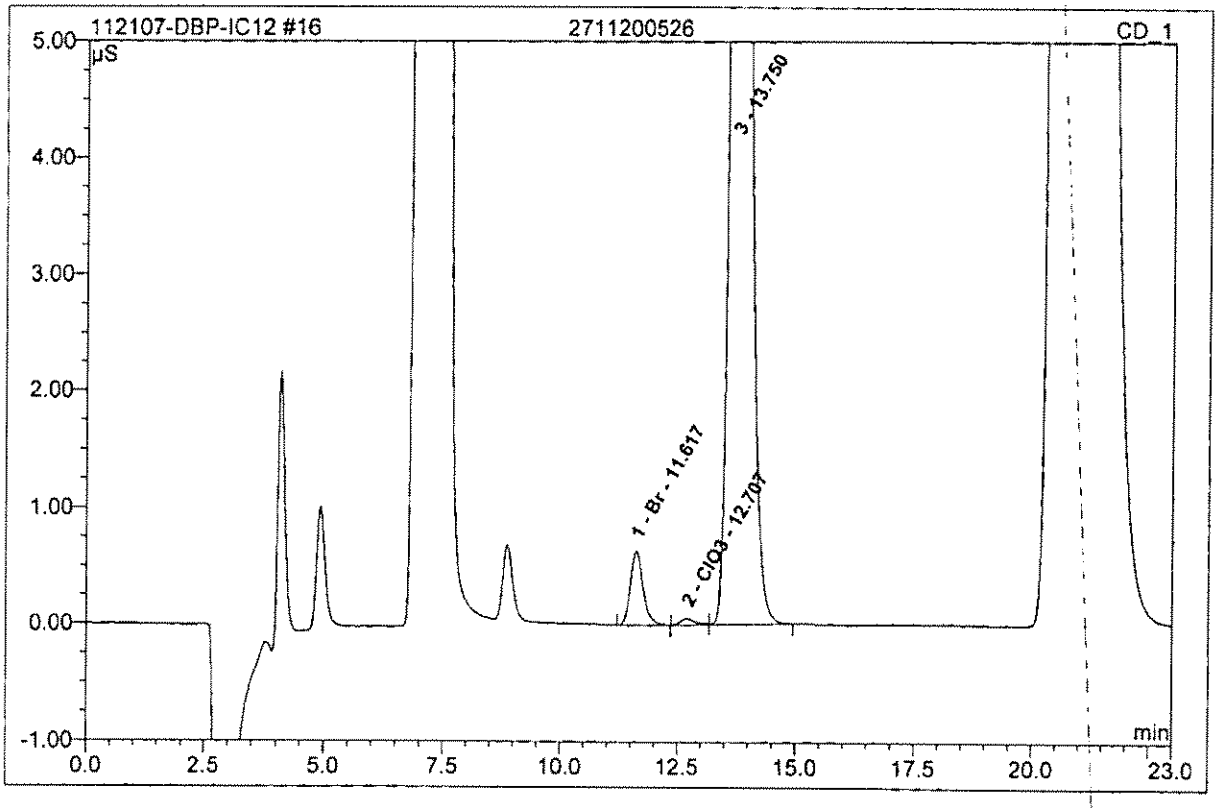


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount ppb	Type
1	5.50	ClO2	1.049	0.181	42.74	211.457	BMB
2	11.62	Br	0.266	0.084	19.75	99.647	BM
3	12.70	ClO3	0.438	0.159	37.51	210.715	MB
Total:			1.753	0.423	100.00	521.819	

16 2711200526

CLO3

Sample Name:	**2711200526**	*Injection Volume:*	**1000.0**
Vial Number:	**538**	*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:	**11/21/2007 12:57**	*Sample Weight:*	**1.0000**
Run Time (min):	**23.00**	*Sample Amount:*	**1.0000**

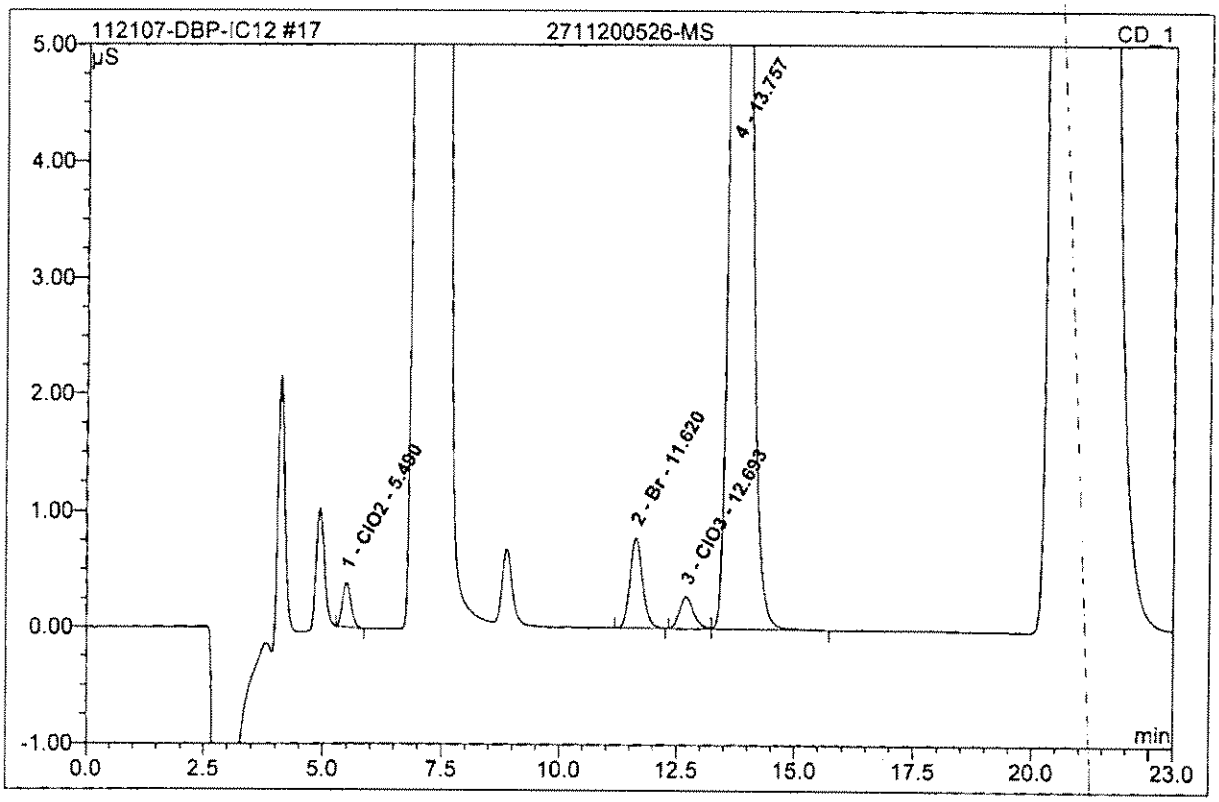


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount ppb	Type
1	11.62	Br	0.637	0.201	2.59	240.234	BMB
2	12.71	ClO3	0.054	0.020	0.25	25.892	BM
3	13.75	n.a.	20.796	7.547	97.16	n.a.	MB
Total:			21.487	7.768	100.00	266.126	

17 2711200526-MS

100/50/100

Sample Name:	**2711200526-MS**	*Injection Volume:*	**1000.0**
Vial Number:	**539**	*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:	**11/21/2007 13:23**	*Sample Weight:*	**1.0000**
Run Time (min):	**23.00**	*Sample Amount:*	**1.0000**

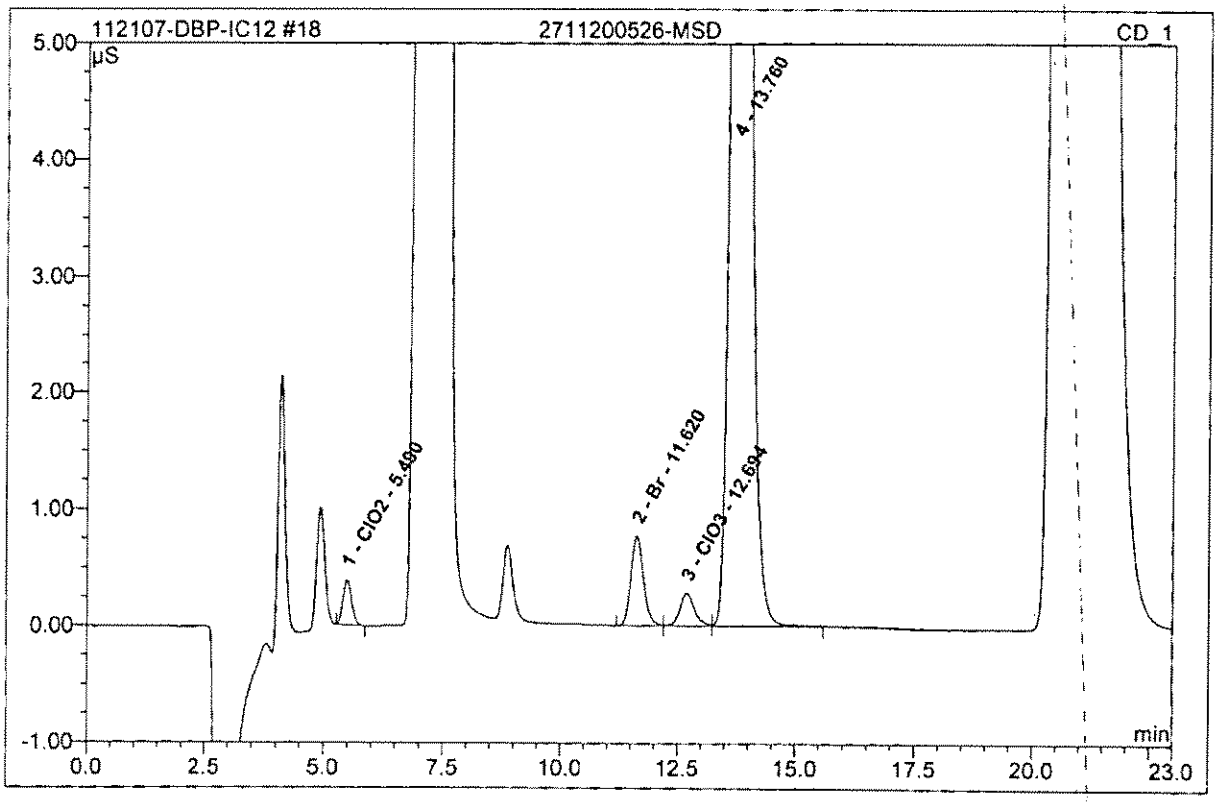


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount ppb	Type
1	5.49	ClO2	0.384	0.081	1.03	94.810	BMB
2	11.62	Br	0.775	0.242	3.06	288.619	BMB
3	12.69	ClO3	0.273	0.095	1.21	126.773	BM
4	13.76	n.a.	20.577	7.489	94.71	n.a.	MB
Total:			22.009	7.907	100.00	510.202	

18 2711200526-MSD

100/50/100

Sample Name:	**2711200526-MSD**	*Injection Volume:*	**1000.0**
Vial Number:	**539**	*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:	**11/21/2007 13:48**	*Sample Weight:*	**1.0000**
Run Time (min):	**23.00**	*Sample Amount:*	**1.0000**

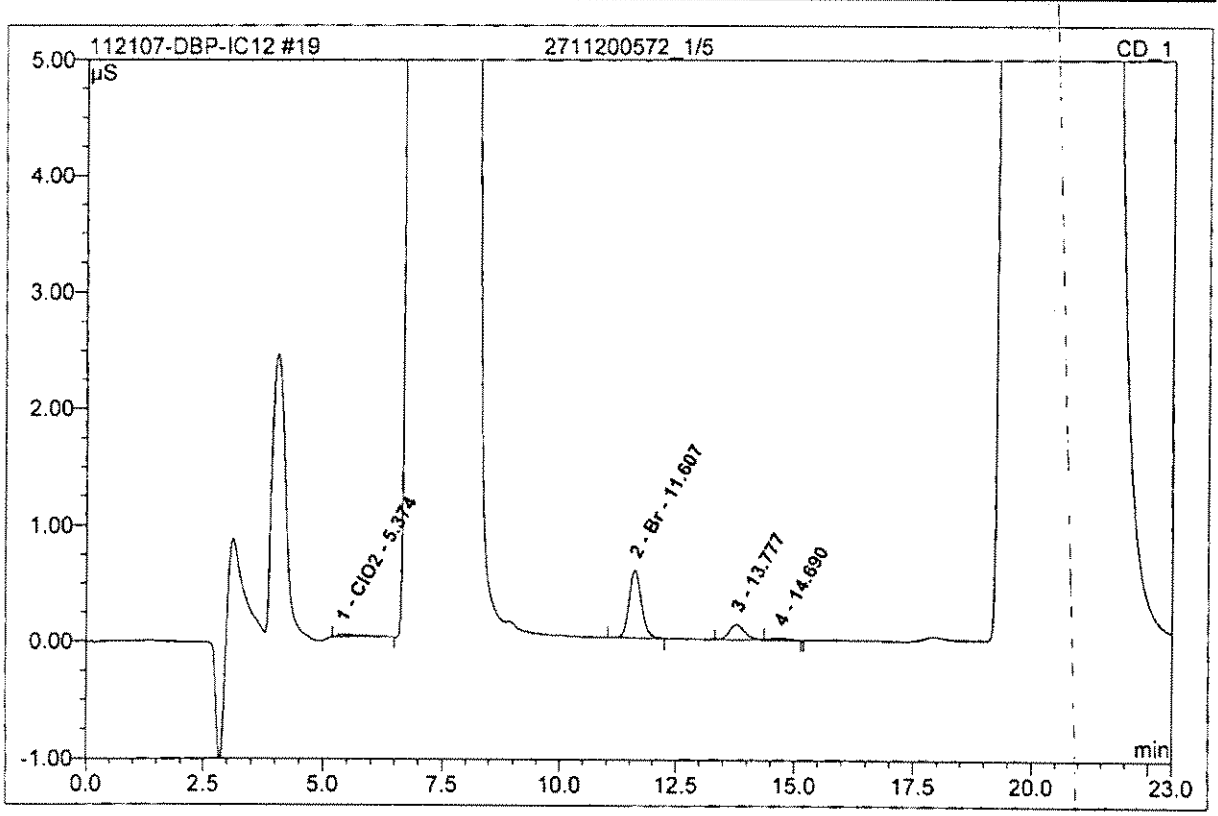


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount ppb	Type
1	5.49	ClO2	0.386	0.082	1.04	95.814	BMB
2	11.62	Br	0.768	0.240	3.04	286.320	BM
3	12.69	ClO3	0.281	0.104	1.32	137.751	M
4	13.76	n.a.	20.537	7.465	94.60	n.a.	MB
Total:			21.973	7.891	100.00	519.884	

19 2711200572_1/5

CLO3

Sample Name:	**2711200572_1/5**	*Injection Volume:*	**1000.0**
Vial Number:	**538**	*Channel:*	**CD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**IC12 test Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**DBP-Method**	*Dilution Factor:*	**5.0000**
Recording Time:	**11/21/2007 14:14**	*Sample Weight:*	**1.0000**
Run Time (min):	**23.00**	*Sample Amount:*	**1.0000**

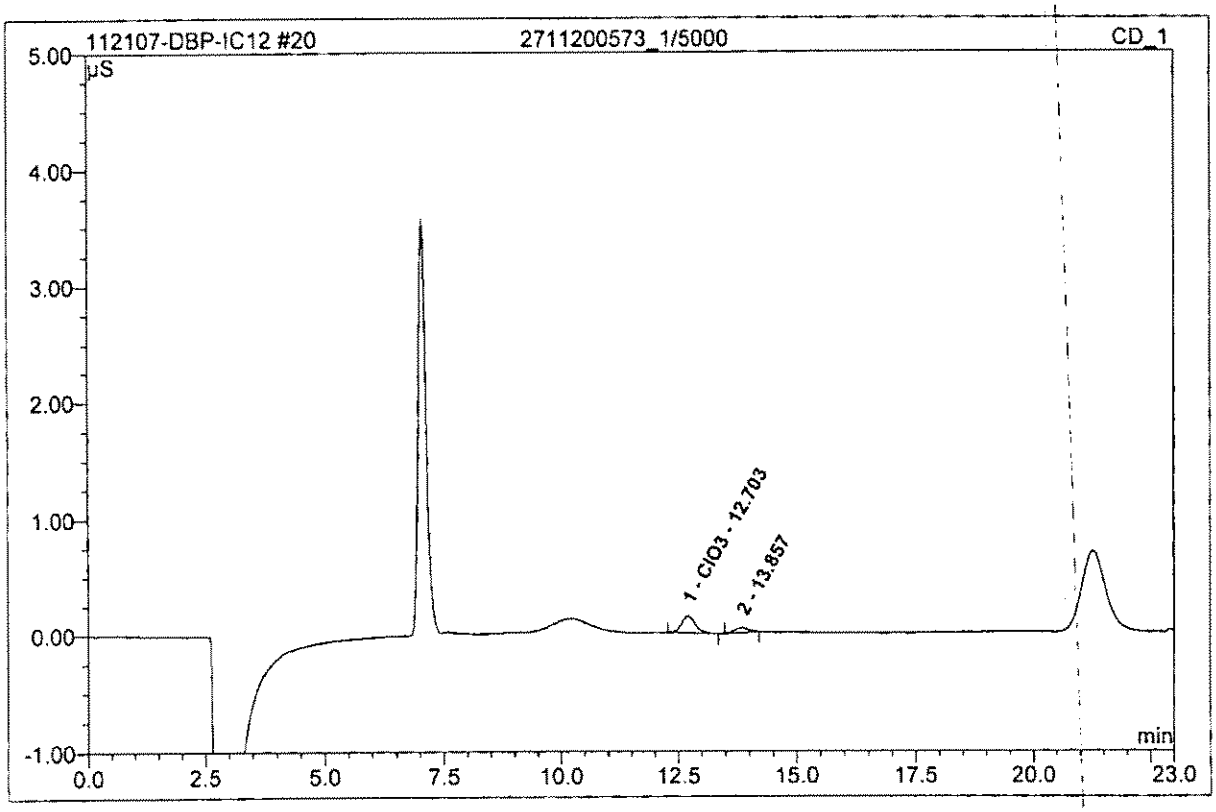


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount ppb	Type
1	5.37	ClO2	0.024	0.015	5.86	85.764	BMB
2	11.61	Br	0.583	0.178	71.23	1063.028	BMB
3	13.78	n.a.	0.131	0.053	21.01	n.a.	BMB
4	14.69	n.a.	0.013	0.005	1.90	n.a.	Rd
Total:			0.752	0.250	100.00	1148.792	

20 2711200573_1/5000

CLO3

Sample Name:	**2711200573_1/5000**	*Injection Volume:*	**1000.0**
Vial Number:	**532**	*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:	**11/21/2007 14:39**	*Sample Weight:*	**1.0000**
Run Time (min):	**23.00**	*Sample Amount:*	**1.0000**

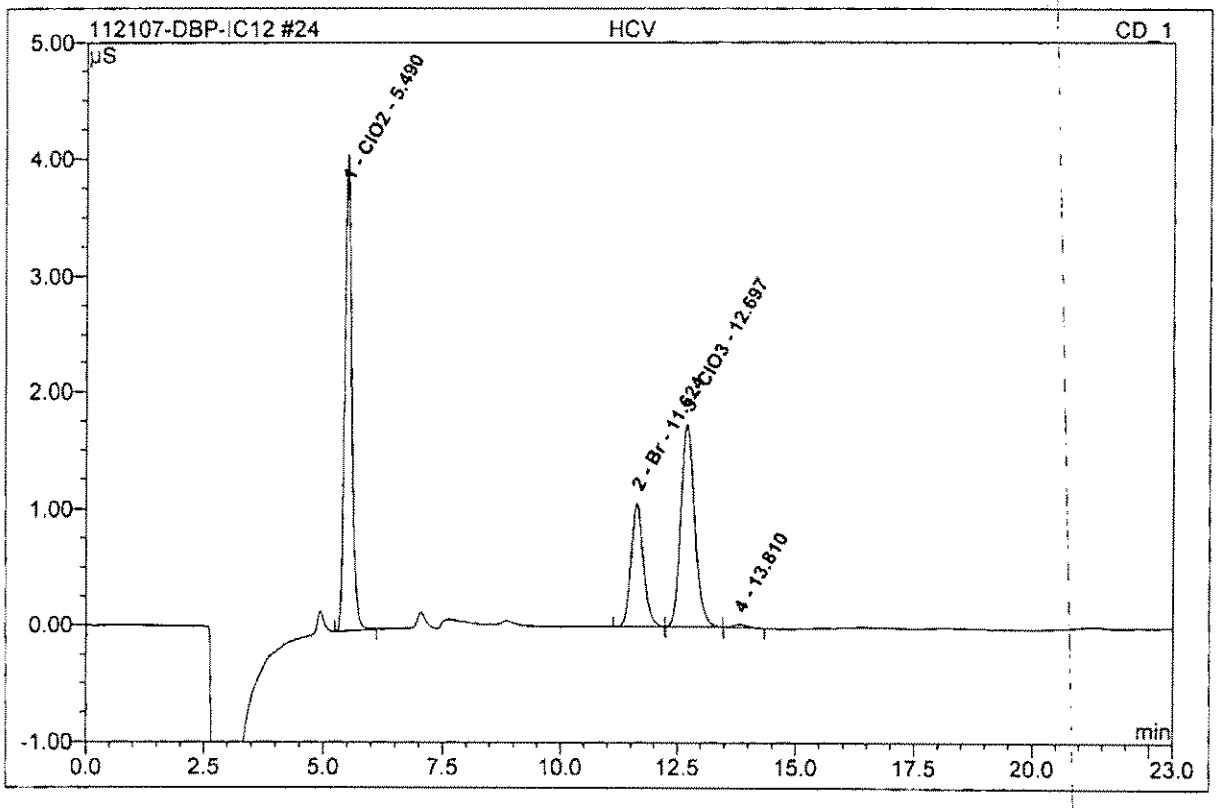


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount ppb	Type
1	12.70	ClO3	0.147	0.050	77.89	#########	BMB
2	13.86	n.a.	0.041	0.014	22.11	n.a.	BMB
Total:			0.188	0.065	100.00	#########	

24 HCV

800/400/800

Sample Name:	**HCV**	*Injection Volume:*	**1000.0**
Vial Number:	**527**	*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:	**11/21/2007 16:21**	*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	5.49	ClO2	4.088	0.694	42.42	810.822	BMB
2	11.62	Br	1.065	0.330	20.17	393.209	BM
3	12.70	ClO3	1.743	0.602	36.85	799.794	Mb
4	13.81	n.a.	0.026	0.009	0.57	n.a.	bMB
Total:			6.922	1.635	100.00	2003.826	

26 STOP

Sample Name:	**STOP**	*Injection Volume:*	**1000.0**
Vial Number:	**588**	*Channel:*	**n.a.**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**DPB Stop Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**DBP-Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**11/21/2007 17:11**	*Sample Weight:*	**1.0000**
Run Time (min):	**n.a.**	*Sample Amount:*	**1.0000**

112107-DBP-IC12 #26 STOP CD_1

Can't open raw data file "\\USPAS2SDIO1\RawData$\IC\IC12_DBP\2007\NOV\112107-DBP-IC12.SEQ\CD_1.CHL\33.acd".
The system cannot find the file specified.

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

Standard Preparation Worksheet & Certificate of Analysis

Reagent Preparation Documentation

Page: ________

Reagent: DBP Init. Cal. Std. 10/5/10 ppb — **MW #:** CW070717-3
Date Received/Prepped: 071707 / / / / / — **By:** Ch
Date Expired: 081708 / / / / / — **Matrix:** A
Manufacturer: — **Amount:** 100 ml
Storage Condition: ROOM TEMP / BROWN BOTTLE — **Lot #:**

Component	Comment	Standard	Concentration
50 ml 100,000 ppm	EDA	LHR040129-12 EDA	100,000 ppm
0.5 ml 1,000 ppm	Br EXP 060108 > 100 ml soln.	R201650	1,000 ppm
1.0 ml 1,000 ppm	ClO_2 EXP 060108	R201648	1,000 ppm
1.0 ml 1,000 ppm	ClO_3 EXP 060108	R201649	1,000 ppm

Comment:

Reagent: DBP 2nd Source 10/5/10 ppb — **MW #:** CW070717-4
Date Received/Prepped: 071707 / / / / / — **By:** Ch
Date Expired: 081707 / / / / / — **Matrix:** A
Manufacturer: — **Amount:** 100 ml
Storage Condition: ROOM TEMP / BROWN BOTTLE — **Lot #:**

Component	Comment	Standard	Concentration
50 ml 100,000 ppm	EDA	LHR040229-12 EDA	100,000 ppm
0.5 ml 1,000 ppm	Br EXP 102707	R201369	1,000 ppm
1.0 ml 1,000 ppm	ClO_2 EXP 013108 > 100 ml soln.	R201587	1,000 ppm
1.0 ml 1,000 ppm	ClO_3 EXP 093109	R201400	1,000 ppm

Comment:

Reagent: DBP SI / MDL/MRL 10/5/10 ppb — **MW #:** CW070717-5
Date Received/Prepped: 071707 / 080607 / 090507 / 092107 / 101607 / 102307 — **By:** Ch
Date Expired: 081707 / 090607 / 100507 / 102107 / 111607 / 112307 — **Matrix:** A
Manufacturer: — **Amount:** 100 ml
Storage Condition: ROOM TEMP / BROWN BOTTLE — **Lot #:**

Component	Comment	Standard	Concentration
50 ml 100,000 ppm	EDA > 100 ml soln.	LHR040229-12 EDA	100,000 ppm
0.1 ml 10/5/10 ppb	Init. Cal	CW070717-3	10/5/10 ppb

Comment:

Reagent Preparation Documentation

Page:_____

Reagent: DBP S2/MRL 20/10/20 ppb
Date Received/Prepped: 071707 / 080607 / 082507 / 092007 / /
Date Expired: 081707 / 090607 / 092507 / 102007 / /
CW
Manufacturer:
Storage Condition: ROOM TEMP / BROWN BOTTLE

MW #: CLV0707I7-6
By: Clw
Matrix: A
Amount: 100 ml
Lot #:

Component	Comment	Standard	Concentration
50 ml 100,000 ppm	EDA	EDA	100,000 ppm
0.2 ml 10/5/10 ppb	Init. Cal Std	CLV0707I7-3	10/5/10 ppm

Comment:

Reagent: DBP S3 100/50/100 ppb
Date Received/Prepped: 071707 / 092007 / / / /
Date Expired: 081707 / 090607 / / / /
Manufacturer:
Storage Condition: ROOM TEMP / BROWN BOTTLE

MW #: CLV0707I7-7
By: Clw
Matrix: A
Amount: 100 ml
Lot #:

Component	Comment	Standard	Concentration
50 ml 100,000 ppm	EDA	EDA	100,000 ppm
10 ml 10/5/10 ppm	Init. Cal Std	CLV0707I7-3	10/5/10 ppm

Comment:

Reagent: DBP S4/MCL 200/100/200 ppb
Date Received/Prepped: 071707 / 072707 / 080907 / 090507 / 091007 / 092507 / 101107 / 101707
Date Expired: 081707 / 082707 / 090507 / 100507 / 101007 / 102507 / 111107 / 111707
102607 / 112607
Manufacturer:
Storage Condition: ROOM TEMP / BROWN BOTTLE

MW #: CLV0707I7-8
By: Clw
Matrix: A
Amount: 100 ml
Lot #:

Component	Comment	Standard	Concentration
50 ml 100,000 ppm	EDA	EMQ 040227-12	100,000 ppm
20 ml 10/5/10 ppm	Init. Cal Std	CLV0707I7-3	10/5/10 ppm

Comment:

Reagent: DBP 55 400/200/40 ppb
Date Received/Prepped: 07/17/07 / 09/20/07 / / / /
Date Expired: 08/17/07 / 10/20/07 / / / /
Manufacturer:
Storage Condition: ROOM TEMP / BROWN BOTTLE

MW #: CLV0707I7 - 9
By: ch
Matrix: A
Amount: 10 ml
Lot #:

Component	Comment	Standard	Concentration
50 ml 100.00 ppm	EDA > 10 ml Sol'n	LMR040229-12	100.00 ppm
4 Oml 10/5/10 ppm	Int. Cal Std /	CLV0707I7-3	10/5/10 ppm

Comment:

Reagent: DBP 56/HCV 800/400/800 ppb
Date Received/Prepped: 07/17/07 / 08/06/07 / 09/05/07 / 09/21/07 / 10/16/07 / 10/26/07
Date Expired: 08/17/07 / 09/06/07 / 10/05/07 / 10/21/07 / 11/16/07 / 11/26/07
Manufacturer:
Storage Condition: ROOM TEMP / BROWN BOTTLE

MW #: CLV0707I7-10
By: ch
Matrix: A
Amount: 100 ml
Lot #:

Component	Comment	Standard	Concentration
80 ml 100.00 ppm	EDA > 10 ml Sol'n	LMR040229-12	100.00 ppm
8 Oml 10/5/10 ppm	Int. Cal Std /	CLV0707I7-3	10/5/10 ppm

Comment:

Reagent: DBP LCS/LCSD 200/100/20 ppb
Date Received/Prepped: 07/17/07 / 07/27/07 / 08/10/07 / 09/10/07 / 09/21/07 / 10/04/07 / 10/16/07
Date Expired: 08/17/07 / 08/27/07 / 09/10/07 / 10/10/07 / 10/21/07 / 11/04/07 / 11/16/07
/ 10/29 / 10/25/07 / 11/29/07
Manufacturer:
Storage Condition: ROOM TEMP / BROWN BOTTLE

MW #: CLV0707I7 - 11
By: ch
Matrix: A
Amount: 100 ml
Lot #:

Component	Comment	Standard	Concentration
50 ml 100.00 ppm	EDA > 10 ml Sol'n	LMR040229-12	100.00 ppm
2 Oml 10/5/10 ppm	2nd Source /	CLV0709I7-9	10/5/10 ppm

Comment:

Reagent Documentation

Reagent: Bromide 1000 ppm std
Date Received: 2 May 06
Date Expired: 27 Oct 07
Manufacturer: CPI
Storage Condition: refrigerate 4±2°C

Reagent #: 201369
By: LMR
Matrix: aq
Amount: 100 ml
Lot #: Ø6C265

Component	Comment	Standard	Concentration
	CPI #4400-IC8M		

Comment:

Reagent: Orthophosphate 1000 ppm (as P) std
Date Received: 2 May 06
Date Expired: 28 Oct 07
Manufacturer: CPI
Storage Condition: refrigerate 4±2°C

Reagent #: 201370
By: LMR
Matrix: aq
Amount: 100 ml
Lot #: 05H158

Component	Comment	Standard	Concentration
	CPI #4400-IC14M		

Comment:

Reagent: Orthophosphate 1000 ppm (as P) std
Date Received: 2 May 06
Date Expired: 1 May 07
Manufacturer: Inorganic Ventures
Storage Condition: room temp. 20±4°C (per C of A)

Reagent #: 201371
By: LMR
Matrix: aq
Amount: 125 ml
Lot #: Y-POXØ1Ø71

Component	Comment	Standard	Concentration
	IV # ICP041-1		

Comment:

OCT 2 3 07

CPI INTERNATIONAL

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Innovative Solutions in Analytical Science and Technology

201369

exp 27 Oct 07

CERTIFICATE OF ANALYSIS

P/N 4400-IC8M

Ion Chromatography Bromide Standard
Br in H_2O
1000 µg/mL ± 0.5%

Lot # 06C265

Material Source: Sodium bromide (NaBr)
Source Purity: 99.99%

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.

Reagent Documentation

Reagent: Ultrex Nitric Acid
Reagent #: 201399
Date Received: 6/15/06 / 6.19.06 / 8.16.06 / 9.6.06 (2x500ml) / 10.17.06 (2x500ml)
By: UBM
Date Expired: 6/13/07
Matrix: DI
Manufacturer: JT BAKER
Amount: 2 x 500ml + 2 x 500ml (1x500ml) 6/19/06
Storage Condition: Room Temp
Lot #: B50420

Component	Comment	Standard	Concentration
	LMR # JT 6901-05		

Comment:

Reagent: Chlorate 1000 ppm std
Reagent #: 201400
Date Received: 13 Jun 06
By: LMR
Date Expired: 31 May 09
Matrix: aq
Manufacturer: Absolute Stds
Amount: 100 ml
Storage Condition: refrigerate
Lot #: 053106

Component	Comment	Standard	Concentration
	AS# 54110		

Comment:

Reagent: Chlorite 1000 ppm std
Reagent #: 201401
Date Received: 13 Jun 06
By: LMR
Date Expired: 24 Mar 07
Matrix: aq
Manufacturer: Absolute Stds
Amount: 100 ml
Storage Condition: refrigerate
Lot #: 032406

Component	Comment	Standard	Concentration
	AS# 54109		

Comment:

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DLS ANSI/RAB Accredited

CERTIFIED WEIGHT REPORT:

Part Number: 54110
Lot Number: 053106
Description: Chlorate (ClO_3^-)

Expiration Date: 053109

Nominal Concentration (µg/mL): 1000

Lot #
Solvent(s): 053106 ASTM Type 1 Water

R201400

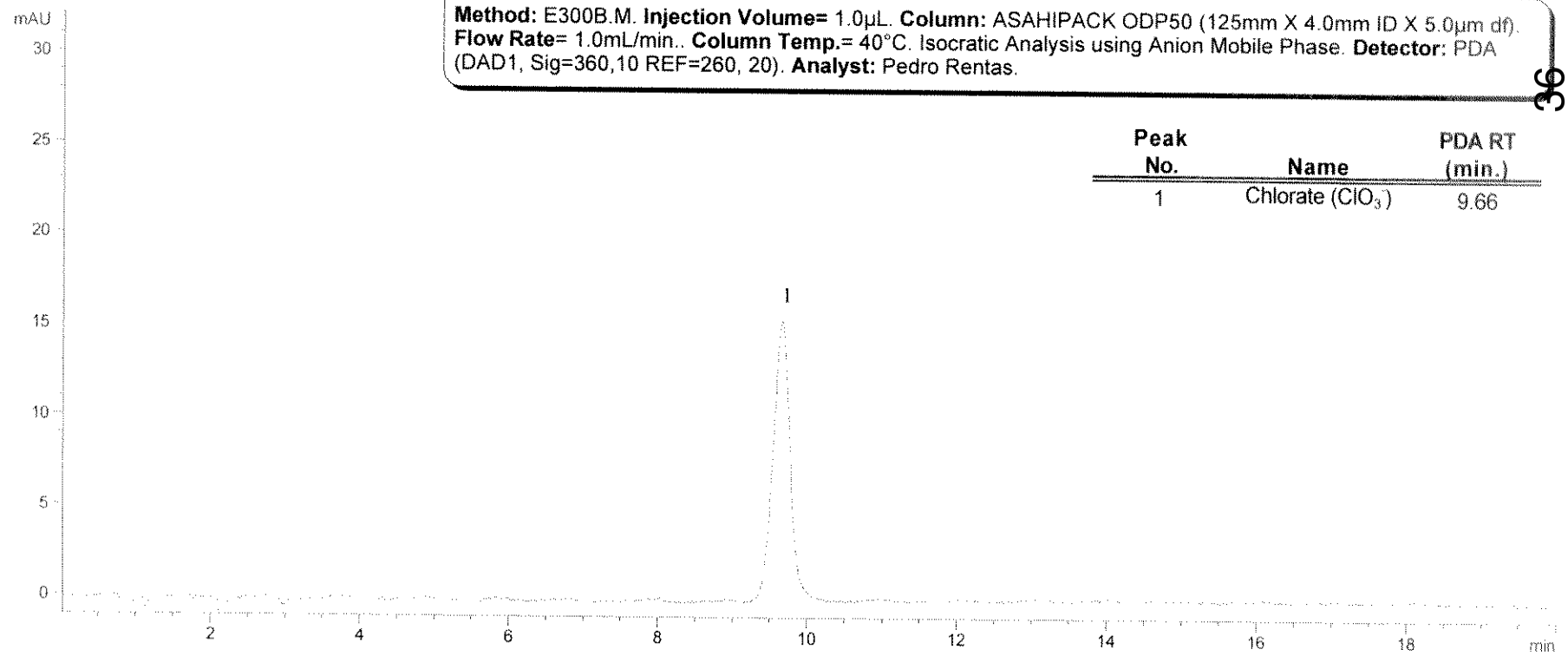
5E-05 Balance Uncertainty

Weight(s) shown below were combined and diluted to (mL) 1000.55 0.084 Flask Uncertainty

Formulated By:	Lawrence Barry 053106
Reviewed By:	Pedro L. Rentas 053106

MSDS Information

Compound	RM#	Lot Number	Nominal Conc (µg/mL)	Purity	Uncertainty Purity	Assay (%)	*Target Weight(g)	Actual Weight(g)	*Actual Conc (µg/mL)	Expanded Uncertainty (+/-)	CAS#	(Solvent Safety Info. On Attached pg.) OSHA PEL (TWA)	LD50	NIST SRM
1. Sodium chlorate (ClO3)	IN096	JS05801ES	1000.0	99.0	0.10	78.4	1.2760	1.27614	1000.1	0.00203	07775-09-9	N/A	orl-rat 120mg/kg	N/A



Method: E300B.M. **Injection Volume=** 1.0µL. **Column:** ASAHIPACK ODP50 (125mm X 4.0mm ID X 5.0µm df). **Flow Rate=** 1.0mL/min.. **Column Temp.=** 40°C. Isocratic Analysis using Anion Mobile Phase. **Detector:** PDA (DAD1, Sig=360,10 REF=260, 20). **Analyst:** Pedro Rentas.

Peak No.	Name	PDA RT (min.)
1	Chlorate (ClO_3)	9.66

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RK201587 recd 3-14-07

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CERTIFIED WEIGHT REPORT:

		Lot #		
Part Number:	**54109**	**Solvent(s):**	013107	ASTM Type 1 Water
Lot Number:	013107			
Description:	Chlorite (ClO_2^-)			
Expiration Date:	013108			
Nominal Concentration (µg/mL):	1000			

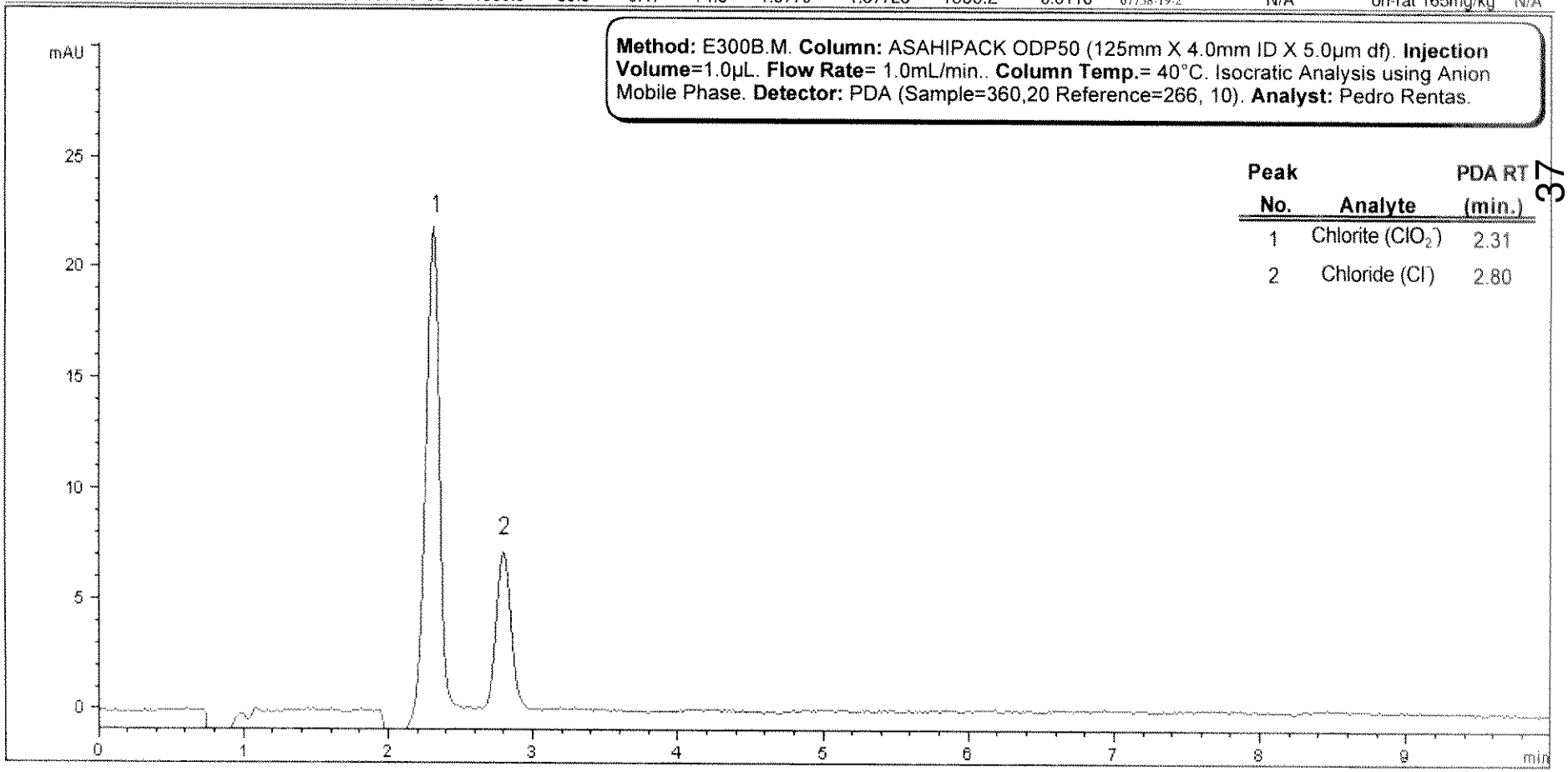
5E-05 Balance Uncertainty

Weight(s) shown below were combined and diluted to (mL) 1000.55 0.084 Flask Uncertainty

Formulated By:	Lawrence Barry	013107
Reviewed By:	Pedro L. Rentas	013107

MSDS Information

Compound	RM#	Lot Number	Nominal Conc (µg/mL)	Purity	Uncertainty Purity	Assay (%)	Target Weight(g)	Actual Weight(g)	*Actual Conc (µg/mL)	Expanded Uncertainty (+/-)	CAS#	(Solvent Safety Info. On Attached pg.) OSHA PEL (TWA)	LD50	NIST SRM
1. Sodium chlorite (ClO2)	IN095	JU03131CU	1000.0	80.0	0.47	74.6	1.6770	1.67726	1000.2	0.0116	07758-19-2	N/A	orl-rat 165mg/kg	N/A



Method: E300B.M. **Column:** ASAHIPACK ODP50 (125mm X 4.0mm ID X 5.0µm df). **Injection Volume**=1.0µL. **Flow Rate**= 1.0mL/min.. **Column Temp.**= 40°C. Isocratic Analysis using Anion Mobile Phase. **Detector:** PDA (Sample=360,20 Reference=266, 10). **Analyst:** Pedro Rentas.

Peak No.	Analyte	PDA RT (min.)
1	Chlorite (ClO_2^-)	2.31
2	Chloride (Cl^-)	2.80

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Reagent Documentation

Reagent: Chloramine-T trihydrate
Date Received: 16 March 07
Date Expired: March 2012
Manufacturer: Acros
Storage Condition:

Reagent #: 201585
By: RH
Matrix: Solid
Amount: 2x25g
Lot #: A0209989001

Component	Comment	Standard	Concentration
	Acros #22785025D		

Comment:

Reagent: Ascorbic Acid, Crystalline Powder
Date Received: 19 March 07
Date Expired: March 2012
Manufacturer: JT Baker
Storage Condition: room temperature

Reagent #: 201586
By: RH
Matrix: Solid
Amount: 2x500g
Lot #: C42596

Component	Comment	Standard	Concentration
	JT Baker #0936-07		

Comment:

Reagent: Chloride Standard 1000µg/mL
Date Received: 19 March 07
Date Expired: Jan 31 2008
Manufacturer: Absolute Standards
Storage Condition: refrigerate - keep out of light

Reagent #: 201587
By: RH
Matrix: aq
Amount: 100mL
Lot #: 013107

Component	Comment	Standard	Concentration

Comment:

K8C1650 rec'd 5-23-07

INORGANIC VENTURES — CERTIFICATE OF ANALYSIS

195 Lehigh Avenue, Suite 4
Lakewood, New Jersey [illegible] USA
inorganicventures.com

1.0 **INORGANIC VENTURES** is an ISO Guide 34:2000 registered Certified Reference Material (CRM) Manufacturer (Certificate #883-02). The certificate is designed and the data is determined in accordance with ISO Guide 31:2000 (Reference Materials-Contents of Certificates and Labels), ISO Guide 34:2000 "Quality System Guidelines for the Production of Reference Materials," and ISO Guide 35:1989 "Certification of Reference Materials - General and Statistical Principals."

2.0 **DESCRIPTION OF CRM** **Ion Chromatography** **1000 µg/mL Bromide in Water**

Catalog Number:	ICBR1-1 and ICBR1-5
Lot Number:	**Z-BR01060**
Starting Material:	Potassium Bromide
Starting Material Purity (%):	99.0000
Starting Material Lot No.:	09014BY
Matrix:	Water

3.0 **CERTIFIED VALUES AND UNCERTAINTIES**

Certified Concentration: 995 ± 2 µg/mL

Certified Density: 0.997 g/mL (measured at 22° C)

The Certified Value is based upon the most precise method used to analyze this CRM. The following equations are used in the calculation of the certified value and the uncertainty:

Certified Value $(\bar{x}) = \frac{\Sigma x_i}{n}$

Uncertainty $(\pm) = \frac{2[(\Sigma s_i)^2]^{1/2}}{(n)^{1/2}}$

$(\bar{x})$ = mean
x_i = individual results
n = number of measurements
Σs_i = The summation of all significant estimated errors (Most common are the errors from instrumental measurement, weighing, dilution to volume, and the fixed error reported on the NIST SRM certificate of analysis.)

The independent samples t-test was used to determine if there is agreement between the above assay methods at the 95% confidence interval. Both methods were compared and showed agreement within the stated uncertainties. This agreement is a confirmation of the accuracy of this CRM.

4.0 **TRACEABILITY TO NIST AND VALUES OBTAINED BY INDEPENDENT METHODS**

- "Property of the result of a measurement or the value of a standard whereby it can be related to stated references, usually national or international standards, through an unbroken chain of comparisons all having stated uncertainties." (ISO VIM, 2nd ed., 1993, definition 6.10)
- This product is Traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRMs are available, the term 'in-house std.' is specified.

Assay Method #1	**995 ± 2 µg/mL** IC Assay NIST SRM 3184 Lot Number: 020701
Assay Method #2	**1002 ± 7 µg/mL** Volhard NIST SRM 999a Lot Number: 999a

Reagent Documentation

Reagent: Chlorite Standard 975±2µg/mL
Date Received: 23 May 07
Date Expired: 01 Jun 08
Manufacturer: Inorganic Ventures
Storage Condition: Room temp

Reagent #: 201648
By: TLH
Matrix: aq
Amount: 125mL
Lot #: Z-CLOX01041

Component	Comment	Standard	Concentration
	IV# ICCL021-1		

Comment:

Reagent: Chlorate Standard 1000±3µg/mL
Date Received: 23 May 07
Date Expired: 01 Jun 08
Manufacturer: Inorganic Ventures
Storage Condition: Room temp

Reagent #: 201649
By: TLH
Matrix: aq
Amount: 125mL
Lot #: A2-CLOX01043

Component	Comment	Standard	Concentration
	IV# ICCL031-1		

Comment:

Reagent: Bromide Standard 995±2µg/mL
Date Received: 23 May 07
Date Expired: 01 Jun 08
Manufacturer: Inorganic Ventures
Storage Condition: Room temp

Reagent #: 201650
By: TLH
Matrix: aq
Amount: 125mL
Lot #: Z-BRC1060

Component	Comment	Standard	Concentration
	IV# ICBR1-1		

Comment:

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Lakewood, New Jersey 08701 - USA
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CERTIFICATE OF ANALYSIS

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2.0 **DESCRIPTION OF CRM** **Ion Chromatography 1000 µg/mL Chlorate in Water**

Catalog Number:	ICCLO31-1 and ICCLO31-5
Lot Number:	**A2-CLOX01043**
Starting Material:	Potassium Chlorate
Starting Material Purity (%):	99.0000
Starting Material Lot No.:	02407TF
Matrix:	Water

3.0 **CERTIFIED VALUES AND UNCERTAINTIES**

Certified Concentration: 1000 ± 3 µg/mL

Certified Density: 0.999 g/mL (measured at 22° C)

The Certified Value is based upon the most precise method used to analyze this CRM. The following equations are used in the calculation of the certified value and the uncertainty:

$$\text{Certified Value } (\bar{x}) = \frac{\Sigma x_i}{n}$$

$$\text{Uncertainty } (\pm) = \frac{2[(\Sigma s_i)^2]^{1/2}}{(n)^{1/2}}$$

($\bar{x}$) = mean
x_i = individual results
n = number of measurements
Σs_i = The summation of all significant estimated errors (Most common are the errors from instrumental measurement, weighing, dilution to volume, and the fixed error reported on the NIST SRM certificate of analysis.)

The independent samples t-test was used to determine if there is agreement between the above assay methods at the 95% confidence interval. Both methods were compared and showed agreement within the stated uncertainties. This agreement is a confirmation of the accuracy of this CRM.

4.0 **TRACEABILITY TO NIST AND VALUES OBTAINED BY INDEPENDENT METHODS**

- "Property of the result of a measurement or the value of a standard whereby it can be related to stated references, usually national or international standards, through an unbroken chain of comparisons all having stated uncertainties." (ISO VIM, 2nd ed., 1993, definition 6.10)
- This product is Traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRMs are available, the term 'in-house std.' is specified.

Assay Method #1 **999 ± 6 µg/mL**
ICP Assay NIST SRM 3182 Lot Number: 990506

Assay Method #2 **1000 ± 3 µg/mL**
IC Assay NIST SRM Lot Number: in-house std

INORGANIC VENTURES
CERTIFICATE OF ANALYSIS
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fax: 732.901.1909
info@inorganicventures.com

I-CAL ION CHROMATOGRAPHY SOLUTION 1000 µg/mL Chlorite in H_2O

Catalog No: ICCLO21-1and ICCLO21-5

Lot Number: **Z-CLOX01041**

Starting Material:	Sodium Chlorite
Starting Material Lot No:	E02F39

CERTIFIED CONCENTRATION: 975 ± 2 µg/mL

*** The Certified Concentration for Lot No. Z-CLOX01041 is only the ClO_2^-. The value of Cl^- is 12 ± 1 µg/mL, and the value of ClO_3^- is 12 ± 1 µg/mL. This was determined by Ion Chromatography vs an in-house standard solutions traceable to NIST SRM 3182. The value of Unknown 1 is 7 ± 1 µg/mL, and the value of Unknown 2 is 4 ± 1 µg/mL.**

The Certified Value is based upon the wet assay value. The following equations are used in the calculation of the certified value and the uncertainty:

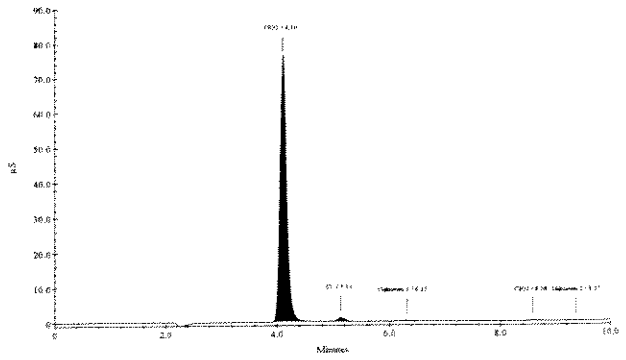
$$\text{Certified Value } (\bar{x}) = \frac{\sum x_i}{n} \qquad \text{Uncertainty } (\pm) = \frac{2[(\sum s_i)^2]^{1/2}}{(n)^{1/2}}$$

$(\bar{x})$ = mean x_i = individual results n = number of measurements $\sum S_i$ = The summation of all significant estimated errors.

Instrument Value: 994 ± 2 µg/mL
Method:Ion Chromatography vs NIST SRM 136e Lot number 980702.

Wet Analysis: 975 ± 2 µg/mL
Method: Iodometric Titration NIST SRM 136e Lot number 980702.

ClO_2^- Z-CLOX01041



DIONEX DX-120 Ion Chromatograph
Anal. Column: IonPac AS9-HC 4 x 250mm
Guard Column: IonPac AG9-HC 4 x 50mm
Anion self Generating Suppressor:
ASRS-ULTRA II 4mm
Suppressor Current: 100mA
Eluent: 9 mM Na_2CO_3
Eluent Flow Rate: 1.00 mL/min
Cell Temp.: 35 °C
Scale:Y-axis = 90µS scale
X-axis = minutes
Concentration: 100µg/g

ANALYZED DENSITY OF SOLUTION (measured at 22°C): 0.998 g/mL

QA:KL Rev.120406NTM

Paul R. Haines

Quality Assurance Manager

Expires: EXPIRES 1/1/2008