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Level IV Data Package

MWH Group 194620

Method: 300.0 CLO3

Sample No.:

2701300206

2701300450

DBP QC Checklist

rev: 18 Sep 03

Analysis Date: 2-01-07 Analyst: Raja

QC'd by IN Date 3 Feb 07

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

Batch # 1

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

☒ MBLANK 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: 175-220ppb for 200ppb

☒ CLO3: 175-220ppb 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 75%-125% recovery.

☒ CLO2: 75-125ppb for 100ppb spike

☒ CLO3: 75-125ppb for 100ppb spike

☒ BR: 37.5-62.5ppb 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 85%-115%

☒ CLO2 (175-220ppb)

☒ CLO3 (175-220ppb)

☒ BR (90-110ppb)

☒ HCV recovery is between 85%-115

☒ CLO2 (680-920ppb)

☒ CLO3 (680-920ppb)

☒ BR (340-460ppb)

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,		01/25/07 12:00,	1.0,	n.a.	
2,	autocal2,	RAJA060520-3	01/25/07 12:26,	1.0,	10.2132	
3,	autocal3,	RAJA060520-4	01/25/07 12:51,	1.0,	20.13	
4,	autocal4,	RAJA060520-5	01/25/07 13:17,	1.0,	99.4065	
5,	autocal5,	RAJA060520-6	01/25/07 13:42,	1.0,	200.1745	
6,	autocal6,	RAJA060520-7	01/25/07 14:07,	1.0,	400.1024	
7,	autocal7,	RAJA060520-8	01/25/07 14:33,	1.0,	799.9734	
8,	wash,		02/01/07 08:26,	1.0,	n.a.	
9,	-MRLCHK,		02/01/07 08:51,	1.0,	14.4064	
10,	-MBLK,		02/01/07 09:17,	1.0,	n.a.	
11,	-LCS1,		02/01/07 09:42,	1.0,	✓ 218.5214	109%
12,	-LCS2,		02/01/07 10:08,	1.0,	✓ 222.4802	111%
13,	-MRLCHK,	RERUN	02/01/07 10:33,	1.0,	✓ 11.1325	111%
14,	2701310009,	CLO2/BR	02/01/07 10:58,	1.0,	n.a.	
15,	2701310010,	CLO2/BR	02/01/07 11:24,	1.0,	n.a.	
16,	2701310011,	CLO2/CLO3	02/01/07 11:49,	1.0,	4.7078 ✓	
17,	2701310012,	CLO2/CLO3	02/01/07 12:15,	1.0,	n.a. ✓	
18,	2701310014,	CLO2/CLO3	02/01/07 12:40,	1.0,	n.a. ✓	
19,	2701310014MS,		02/01/07 13:05,	1.0,	✓ 103.9957	104%
20,	2701310014MSD,		02/01/07 13:31,	1.0,	✓ 100.8633	101%
21,	2701310018,	CLO2/CLO3	02/01/07 13:56,	1.0,	13.3853 ✓	
22,	2701310086,	CLO2/CLO3	02/01/07 14:21,	1.0,	n.a. ✓	
23,	2701310122,	CLO2/CLO3	02/01/07 14:47,	1.0,	n.a. ✓	
24,	2701310147,	CLO2/CLO3	02/01/07 15:12,	1.0,	n.a. ✓	
25,	2701310156,	CLO2/CLO3	02/01/07 15:38,	1.0,	n.a. ✓	
26,	MCV,		02/01/07 16:03,	1.0,	219.7691	110%
27,	2701310181,	CLO2/CLO3	02/01/07 16:28,	1.0,	n.a. ✓	
28,	2701310222,	CLO2/CLO3	02/01/07 16:54,	1.0,	n.a. ✓	
29,	2701310222MS,		02/01/07 17:19,	1.0,	100.5211	101%
30,	2701310222MSD,		02/01/07 17:45,	1.0,	98.3669	98.4%
31,	2701310408,	CLO2/CLO3	02/01/07 18:10,	1.0,	37.4143 ✓	
32,	2701300206_1/5000,	CLO3	02/01/07 18:35,	5000.0,	454021.522 ✓	
33,	2701300450_1/5,	CLO3	02/01/07 19:01,	5.0,	45.2849 ✓	
34,	2701240232_1/2,	BR	02/01/07 19:26,	2.0,	138.4539	
35,	2701250029_1/2,	BR3001	02/01/07 19:52,	2.0,	n.a.	
36,	2701100142,	BR	02/01/07 20:17,	1.0,	78.8583 ✓	
37,	2701170084DNR,	BR	02/01/07 20:42,	1.0,	n.a.	
38,	2701100140,	CLO2/CLO3	02/01/07 21:08,	1.0,	n.a.	
39,	HCV,		02/01/07 21:33,	1.0,	870.3447	109%
40,	wash,		02/01/07 21:59,	1.0,	n.a.	
41,	-MRLCHK,		02/01/07 22:24,	1.0,	15.8069	
42,	-MBLK,		02/01/07 22:49,	1.0,	128.8327	
43,	-LCS1,		02/01/07 23:15,	1.0,	220.1559	
44,	-LCS2,		02/01/07 23:40,	1.0,	218.2004	
45,	2701260005,	BR	02/02/07 00:06,	1.0,	n.a.	
46,	2701260005MS,		02/02/07 00:31,	1.0,	102.162	
47,	2701260005MSD,		02/02/07 00:56,	1.0,	102.3982	
48,	2701260006,	BR	02/02/07 01:22,	1.0,	n.a.	

No.	Sample Name	Comment	Time	Dil.Fac.	Amount	
					ppb CIO3 CD_1	
49,	2701260009,	BR	02/02/07 01:47,	1.0,	n.a.	
50,	2701260010,	BR	02/02/07 02:13,	1.0,	n.a.	
51,	2701260011,	BR	02/02/07 02:38,	1.0,	n.a.	
52,	2701260014,	BR	02/02/07 03:03,	1.0,	n.a.	
53,	2701260015,	BR	02/02/07 03:29,	1.0,	n.a.	
54,	2701260016,	BR	02/02/07 03:54,	1.0,	n.a.	
55,	2701260019,	BR	02/02/07 04:20,	1.0,	n.a.	
56,	2701260022,	BR	02/02/07 04:45,	1.0,	n.a.	
57,	MCV,		02/02/07 05:10,	1.0,	218.0173	
58,	2701260023,	BR	02/02/07 05:36,	1.0,	n.a.	
59,	2701260026,	BR	02/02/07 06:01,	1.0,	n.a.	
60,	2701260027,	BR	02/02/07 06:27,	1.0,	n.a.	
61,	2701260028,	BR	02/02/07 06:52,	1.0,	n.a.	
62,	2701260028MS,		02/02/07 07:17,	1.0,	100.4788	
63,	2701260028MSD,		02/02/07 07:43,	1.0,	102.7289	
64,	2701300397,	BR	02/02/07 08:08,	1.0,	37.4465	
65,	2702010020,	BR	02/02/07 08:34,	1.0,	1593.0505	
66,	2702010021,	BR	02/02/07 08:59,	1.0,	n.a.	
67,	2702010022,	BR	02/02/07 09:24,	1.0,	6653.6595	
68,	2702010023,	BR	02/02/07 09:50,	1.0,	38.8422	
69,	2702010024,	BR	02/02/07 10:15,	1.0,	n.a.	
70,	HCV,		02/02/07 10:41,	1.0,	886.4428	

Sequence: 020107-DBP-IC12
Operator: raja

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Printed: 2/3/2007 5:03:12 PM

Title:
Datasource: IC-SERVER_local
Location: IC12\2007\FEB
Timebase: IC12
#Samples: 70

Created: 1/31/2007 7:30:15 PM by raja
Last Update: 2/3/2007 11:44:59 AM by raja

No.	Name	Comment	Dil. Factor	Sample ID	Type	Program	Method
1	autocal1		1.0000		Standard	IC12 test Program	DBP-Method
2	autocal2	RAJA060520-3	1.0000		Standard	IC12 test Program	DBP-Method
3	autocal3	RAJA060520-4	1.0000		Standard	IC12 test Program	DBP-Method
4	autocal4	RAJA060520-5	1.0000		Standard	IC12 test Program	DBP-Method
5	autocal5	RAJA060520-6	1.0000		Standard	IC12 test Program	DBP-Method
6	autocal6	RAJA060520-7	1.0000		Standard	IC12 test Program	DBP-Method
7	autocal7	RAJA060520-8	1.0000		Standard	IC12 test Program	DBP-Method
8	wash		1.0000		Unknown	IC12 test Program	DBP-Method
9	-MRLCHK		1.0000		Unknown	IC12 test Program	DBP-Method
10	-MBLK		1.0000		Unknown	IC12 test Program	DBP-Method
11	-LCS1		1.0000		Unknown	IC12 test Program	DBP-Method
12	-LCS2		1.0000		Unknown	IC12 test Program	DBP-Method
13	-MRLCHK	RERUN	1.0000		Unknown	IC12 test Program	DBP-Method
14	2701310009	CLO2/BR	1.0000		Unknown	IC12 test Program	DBP-Method
15	2701310010	CLO2/BR	1.0000		Unknown	IC12 test Program	DBP-Method
16	2701310011	CLO2/CLO3	1.0000		Unknown	IC12 test Program	DBP-Method
17	2701310012	CLO2/CLO3	1.0000		Unknown	IC12 test Program	DBP-Method
18	2701310014	CLO2/CLO3	1.0000		Unknown	IC12 test Program	DBP-Method
19	2701310014MS		1.0000		Unknown	IC12 test Program	DBP-Method
20	2701310014MSD		1.0000		Unknown	IC12 test Program	DBP-Method
21	2701310018	CLO2/CLO3	1.0000		Unknown	IC12 test Program	DBP-Method
22	2701310086	CLO2/CLO3	1.0000		Unknown	IC12 test Program	DBP-Method
23	2701310122	CLO2/CLO3	1.0000		Unknown	IC12 test Program	DBP-Method
24	2701310147	CLO2/CLO3	1.0000		Unknown	IC12 test Program	DBP-Method
25	2701310156	CLO2/CLO3	1.0000		Unknown	IC12 test Program	DBP-Method
26	MCV		1.0000		Unknown	IC12 test Program	DBP-Method
27	2701310181	CLO2/CLO3	1.0000		Unknown	IC12 test Program	DBP-Method
28	2701310222	CLO2/CLO3	1.0000		Unknown	IC12 test Program	DBP-Method
29	2701310222MS		1.0000		Unknown	IC12 test Program	DBP-Method
30	2701310222MSD		1.0000		Unknown	IC12 test Program	DBP-Method
31	2701310408	CLO2/CLO3	1.0000		Unknown	IC12 test Program	DBP-Method
32	2701300206_1/5000	CLO3	5000.0000		Unknown	IC12 test Program	DBP-Method
33	2701300450_1/5	CLO3	5.0000		Unknown	IC12 test Program	DBP-Method
34	2701240232_1/2	BR	2.0000		Unknown	IC12 test Program	DBP-Method
35	2701250029_1/2	BR3001	2.0000		Unknown	IC12 test Program	DBP-Method
36	2701100142	BR	1.0000		Unknown	IC12 test Program	DBP-Method
37	2701170084DNR	BR	1.0000		Unknown	IC12 test Program	DBP-Method
38	2701100140	CLO2/CLO3	1.0000		Unknown	IC12 test Program	DBP-Method
39	HCV		1.0000		Unknown	IC12 test Program	DBP-Method
40	wash		1.0000		Unknown	IC12 test Program	DBP-Method
41	-MRLCHK		1.0000		Unknown	IC12 test Program	DBP-Method
42	-MBLK		1.0000		Unknown	IC12 test Program	DBP-Method

Sequence: 020107-DBP-IC12
Operator: raja

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Printed: 2/3/2007 5:03:13 PM

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Location: IC12\2007\FEB
Timebase: IC12
#Samples: 70

Created: 1/31/2007 7:30:15 PM by raja
Last Update: 2/3/2007 11:44:59 AM by raja

No.	Name	Status	Inj. Date/Time	*Analyst
1	autocal1	Finished	1/25/2007 12:00:59 PM	raja
2	autocal2	Finished	1/25/2007 12:26:23 PM	raja
3	autocal3	Finished	1/25/2007 12:51:47 PM	raja
4	autocal4	Finished	1/25/2007 1:17:09 PM	raja
5	autocal5	Finished	1/25/2007 1:42:33 PM	raja
6	autocal6	Finished	1/25/2007 2:07:57 PM	raja
7	autocal7	Finished	1/25/2007 2:33:20 PM	raja
8	wash	Finished	2/1/2007 8:26:25 AM	raja
9	-MRLCHK	Finished	2/1/2007 8:51:49 AM	raja
10	-MBLK	Finished	2/1/2007 9:17:14 AM	raja
11	-LCS1	Finished	2/1/2007 9:42:38 AM	raja
12	-LCS2	Finished	2/1/2007 10:08:02 AM	raja
13	-MRLCHK	Finished	2/1/2007 10:33:26 AM	raja
14	2701310009	Finished	2/1/2007 10:58:49 AM	raja
15	2701310010	Finished	2/1/2007 11:24:13 AM	raja
16	2701310011	Finished	2/1/2007 11:49:37 AM	raja
17	2701310012	Finished	2/1/2007 12:15:00 PM	raja
18	2701310014	Finished	2/1/2007 12:40:24 PM	raja
19	2701310014MS	Finished	2/1/2007 1:05:48 PM	raja
20	2701310014MSD	Finished	2/1/2007 1:31:12 PM	raja
21	2701310018	Finished	2/1/2007 1:56:36 PM	raja
22	2701310086	Finished	2/1/2007 2:21:59 PM	raja
23	2701310122	Finished	2/1/2007 2:47:23 PM	raja
24	2701310147	Finished	2/1/2007 3:12:47 PM	raja
25	2701310156	Finished	2/1/2007 3:38:10 PM	raja
26	MCV	Finished	2/1/2007 4:03:34 PM	raja
27	2701310181	Finished	2/1/2007 4:28:58 PM	raja
28	2701310222	Finished	2/1/2007 4:54:22 PM	raja
29	2701310222MS	Finished	2/1/2007 5:19:45 PM	raja
30	2701310222MSD	Finished	2/1/2007 5:45:09 PM	raja
31	2701310408	Finished	2/1/2007 6:10:33 PM	raja
32	2701300206_1/5000	Finished	2/1/2007 6:35:56 PM	raja
33	2701300450_1/5	Finished	2/1/2007 7:01:21 PM	raja
34	2701240232_1/2	Finished	2/1/2007 7:26:44 PM	raja
35	2701250029_1/2	Finished	2/1/2007 7:52:08 PM	raja
36	2701100142	Finished	2/1/2007 8:17:32 PM	raja
37	2701170084DNR	Finished	2/1/2007 8:42:56 PM	raja
38	2701100140	Finished	2/1/2007 9:08:19 PM	raja
39	HCV	Finished	2/1/2007 9:33:43 PM	raja
40	wash	Finished	2/1/2007 9:59:07 PM	raja
41	-MRLCHK	Finished	2/1/2007 10:24:30 PM	raja
42	-MBLK	Finished	2/1/2007 10:49:54 PM	raja

Sequence: 020107-DBP-IC12
Operator: raja

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Printed: 2/3/2007 5:03:13 PM

Title:
Datasource: IC-SERVER_local
Location: IC12\2007\FEB
Timebase: IC12
#Samples: 70

Created: 1/31/2007 7:30:15 PM by raja
Last Update: 2/3/2007 11:44:59 AM by raja

No.	Name	Comment	Dil. Factor	Sample ID	Type	Program	Method
43	-LCS1		1.0000		Unknown	IC12 test Program	DBP-Method
44	-LCS2		1.0000		Unknown	IC12 test Program	DBP-Method
45	2701260005	BR	1.0000		Unknown	IC12 test Program	DBP-Method
46	2701260005MS		1.0000		Unknown	IC12 test Program	DBP-Method
47	2701260005MSD		1.0000		Unknown	IC12 test Program	DBP-Method
48	2701260006	BR	1.0000		Unknown	IC12 test Program	DBP-Method
49	2701260009	BR	1.0000		Unknown	IC12 test Program	DBP-Method
50	2701260010	BR	1.0000		Unknown	IC12 test Program	DBP-Method
51	2701260011	BR	1.0000		Unknown	IC12 test Program	DBP-Method
52	2701260014	BR	1.0000		Unknown	IC12 test Program	DBP-Method
53	2701260015	BR	1.0000		Unknown	IC12 test Program	DBP-Method
54	2701260016	BR	1.0000		Unknown	IC12 test Program	DBP-Method
55	2701260019	BR	1.0000		Unknown	IC12 test Program	DBP-Method
56	2701260022	BR	1.0000		Unknown	IC12 test Program	DBP-Method
57	MCV		1.0000		Unknown	IC12 test Program	DBP-Method
58	2701260023	BR	1.0000		Unknown	IC12 test Program	DBP-Method
59	2701260026	BR	1.0000		Unknown	IC12 test Program	DBP-Method
60	2701260027	BR	1.0000		Unknown	IC12 test Program	DBP-Method
61	2701260028	BR	1.0000		Unknown	IC12 test Program	DBP-Method
62	2701260028MS		1.0000		Unknown	IC12 test Program	DBP-Method
63	2701260028MSD		1.0000		Unknown	IC12 test Program	DBP-Method
64	2701300397	BR	1.0000		Unknown	IC12 test Program	DBP-Method
65	2702010020	BR	1.0000		Unknown	IC12 test Program	DBP-Method
66	2702010021	BR	1.0000		Unknown	IC12 test Program	DBP-Method
67	2702010022	BR	1.0000		Unknown	IC12 test Program	DBP-Method
68	2702010023	BR	1.0000		Unknown	IC12 test Program	DBP-Method
69	2702010024	BR	1.0000		Unknown	IC12 test Program	DBP-Method
70	HCV		1.0000		Unknown	IC12 test Program	DBP-Method

Sequence: 020107-DBP-IC12
Operator: raja

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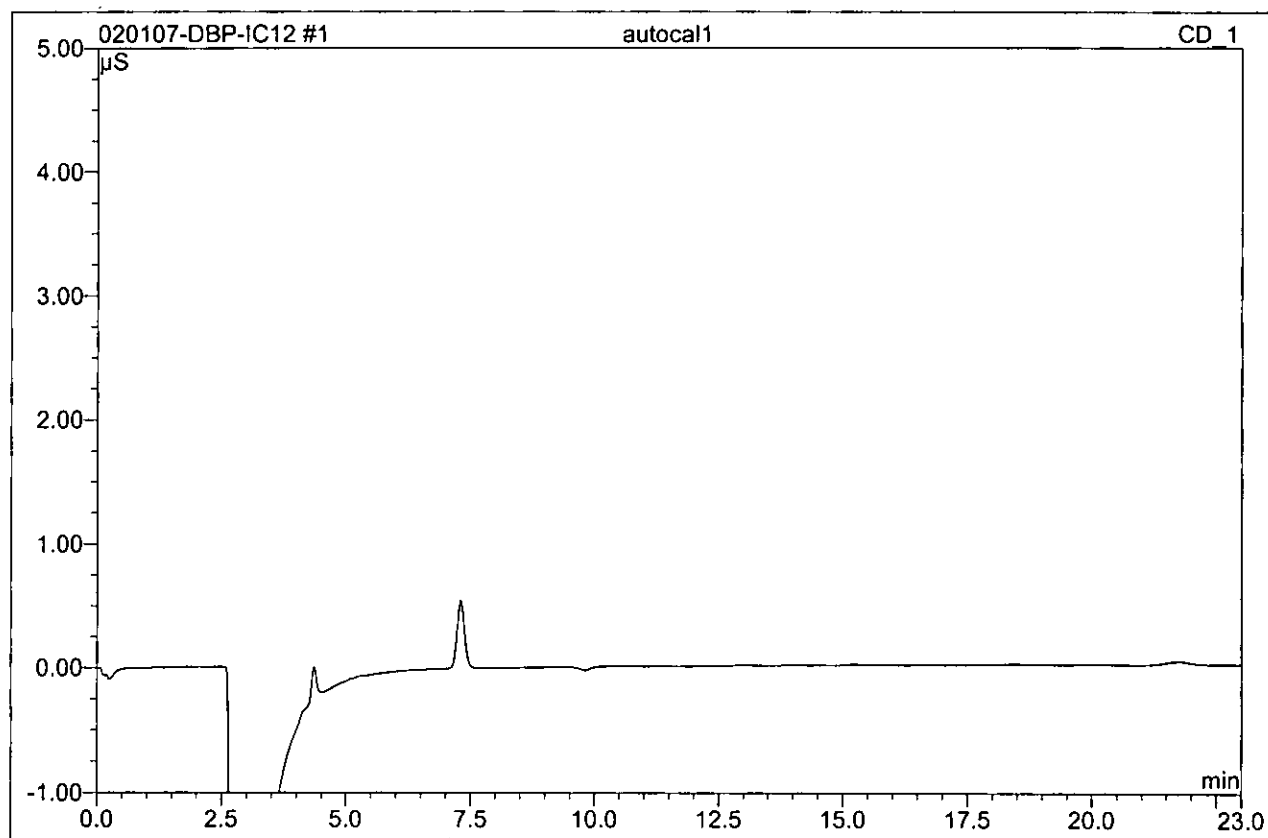
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Datasource: IC-SERVER_local
Location: IC12\2007\FEB
Timebase: IC12
#Samples: 70

Created: 1/31/2007 7:30:15 PM by raja
Last Update: 2/3/2007 11:44:59 AM by raja

No.	Name	Status	Inj. Date/Time	*Analyst
43	-LCS1	Finished	2/1/2007 11:15:18 PM	raja
44	-LCS2	Finished	2/1/2007 11:40:42 PM	raja
45	2701260005	Finished	2/2/2007 12:06:05 AM	raja
46	2701260005MS	Finished	2/2/2007 12:31:29 AM	raja
47	2701260005MSD	Finished	2/2/2007 12:56:53 AM	raja
48	2701260006	Finished	2/2/2007 1:22:16 AM	raja
49	2701260009	Finished	2/2/2007 1:47:40 AM	raja
50	2701260010	Finished	2/2/2007 2:13:04 AM	raja
51	2701260011	Finished	2/2/2007 2:38:28 AM	raja
52	2701260014	Finished	2/2/2007 3:03:51 AM	raja
53	2701260015	Finished	2/2/2007 3:29:15 AM	raja
54	2701260016	Finished	2/2/2007 3:54:38 AM	raja
55	2701260019	Finished	2/2/2007 4:20:02 AM	raja
56	2701260022	Finished	2/2/2007 4:45:26 AM	raja
57	MCV	Finished	2/2/2007 5:10:50 AM	raja
58	2701260023	Finished	2/2/2007 5:36:14 AM	raja
59	2701260026	Finished	2/2/2007 6:01:38 AM	raja
60	2701260027	Finished	2/2/2007 6:27:01 AM	raja
61	2701260028	Finished	2/2/2007 6:52:25 AM	raja
62	2701260028MS	Finished	2/2/2007 7:17:49 AM	raja
63	2701260028MSD	Finished	2/2/2007 7:43:13 AM	raja
64	2701300397	Finished	2/2/2007 8:08:36 AM	raja
65	2702010020	Finished	2/2/2007 8:34:00 AM	raja
66	2702010021	Finished	2/2/2007 8:59:24 AM	raja
67	2702010022	Finished	2/2/2007 9:24:47 AM	raja
68	2702010023	Finished	2/2/2007 9:50:12 AM	raja
69	2702010024	Finished	2/2/2007 10:15:36 AM	raja
70	HCV	Finished	2/2/2007 10:41:00 AM	raja

1 autocal1

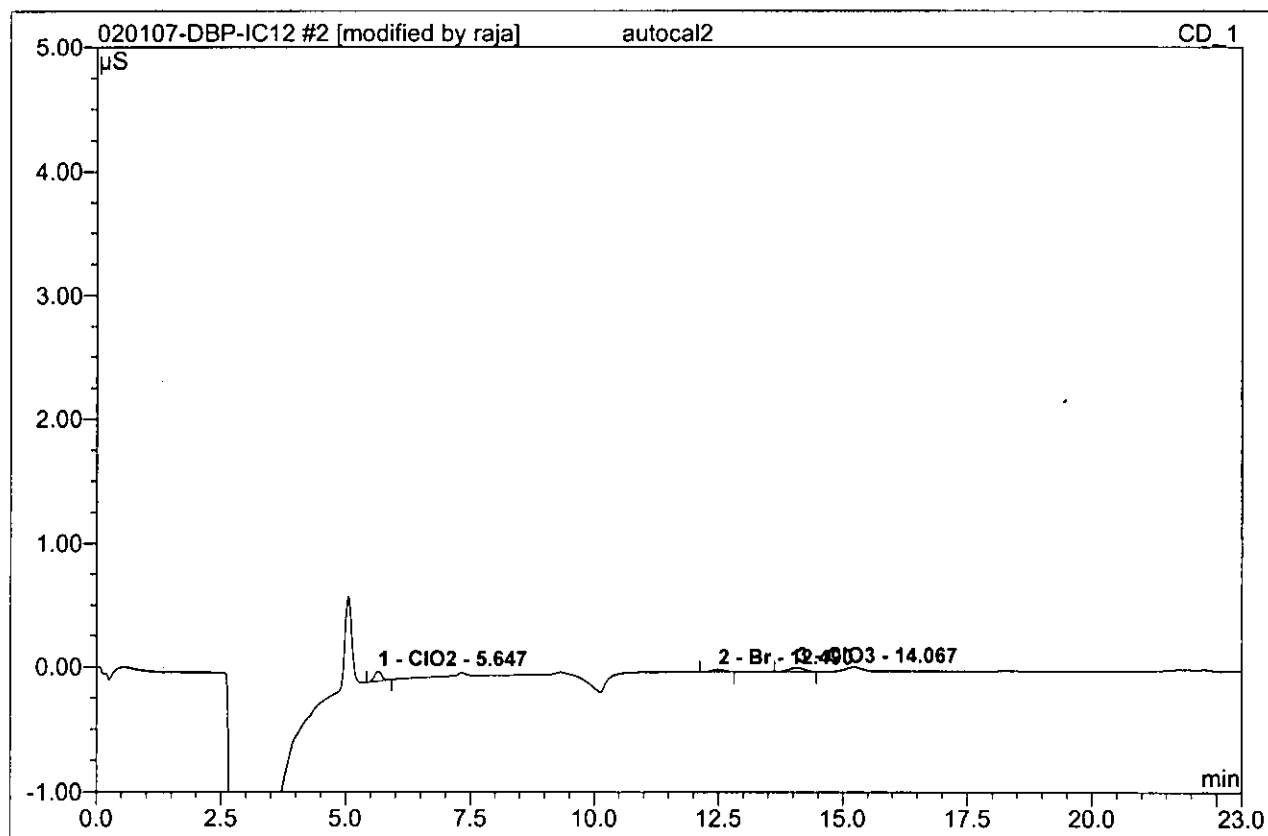
Sample Name:	autocal1	Injection Volume:	1000.0
Vial Number:	334	Channel:	CD_1
Sample Type:	standard	Wavelength:	n.a.
Control Program:	IC12 test Program	Bandwidth:	n.a.
Quantif. Method:	DBP-Method	Dilution Factor:	1.0000
Recording Time:	1/25/2007 12:00	Sample Weight:	1.0000
Run Time (min):	23.00	Sample Amount:	1.0000



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

2 autocal2**RAJA060520-3**

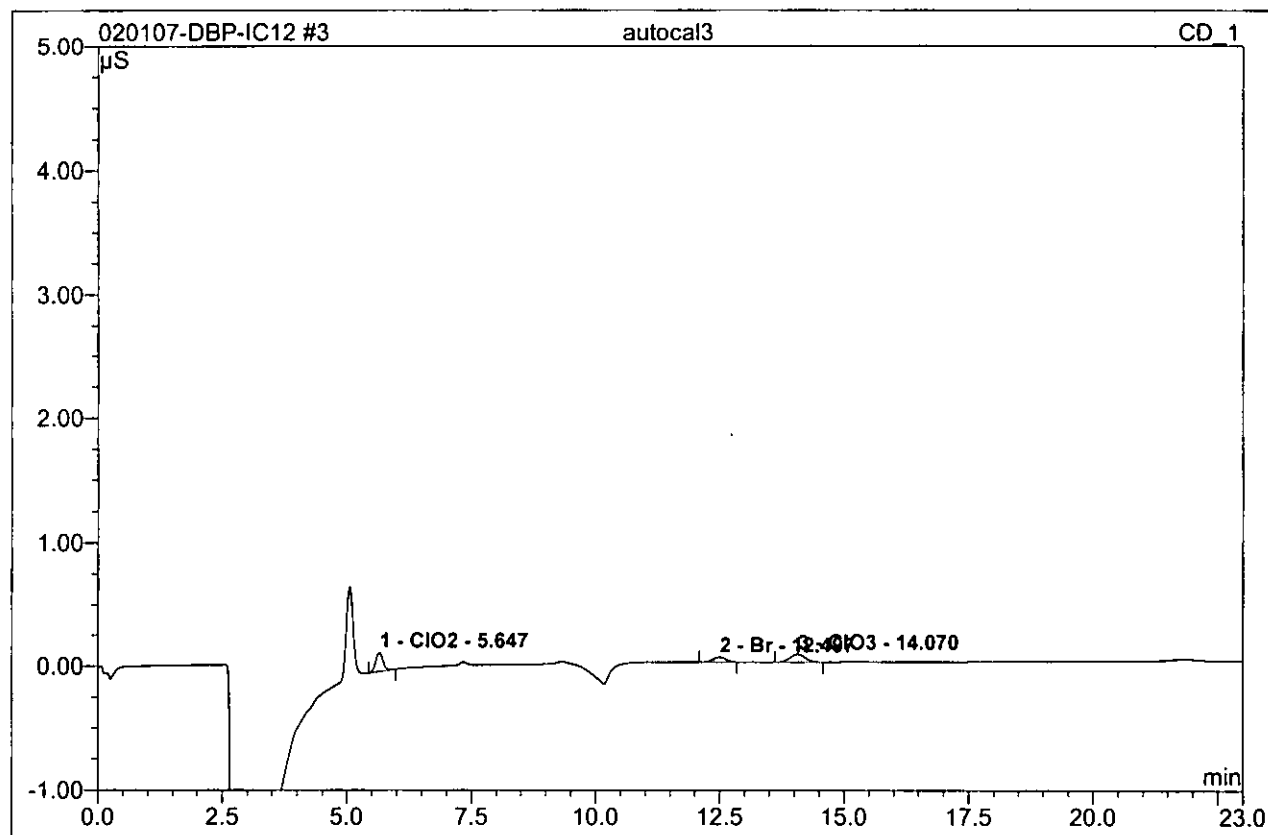
Sample Name:	autocal2	Injection Volume:	1000.0
Vial Number:	335	Channel:	CD_1
Sample Type:	standard	Wavelength:	n.a.
Control Program:	IC12 test Program	Bandwidth:	n.a.
Quantif. Method:	DBP-Method	Dilution Factor:	1.0000
Recording Time:	1/25/2007 12:26	Sample Weight:	1.0000
Run Time (min):	23.00	Sample Amount:	1.0000



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount ppb	Type
1	5.65	CIO2	0.079	0.013	42.25	10.062	BMB*
2	12.49	Br	0.020	0.006	19.14	5.245	BMB
3	14.07	CIO3	0.034	0.012	38.61	10.213	BMB
Total:			0.133	0.032	100.00	25.521	

3 autocal3**RAJA060520-4**

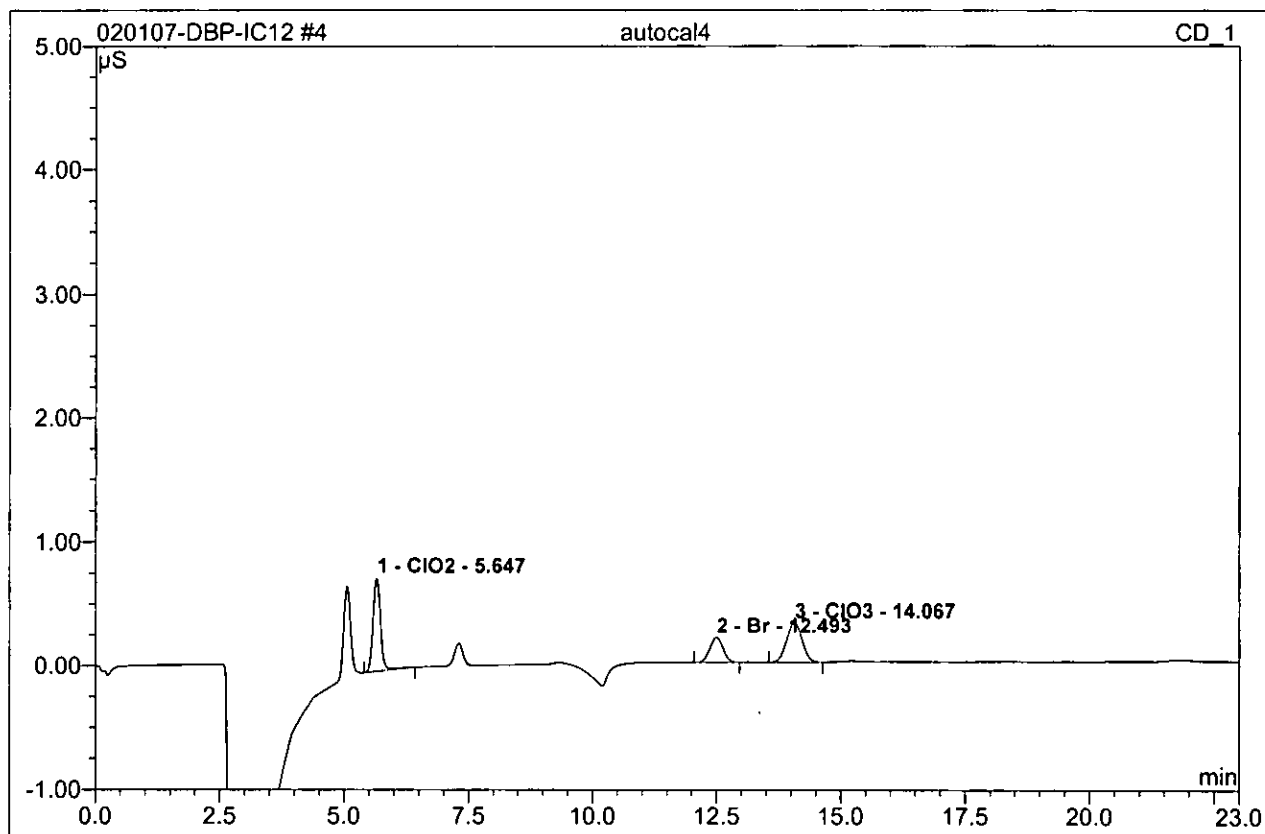
Sample Name:	autocal3	Injection Volume:	1000.0
Vial Number:	336	Channel:	CD_1
Sample Type:	standard	Wavelength:	n.a.
Control Program:	IC12 test Program	Bandwidth:	n.a.
Quantif. Method:	DBP-Method	Dilution Factor:	1.0000
Recording Time:	1/25/2007 12:51	Sample Weight:	1.0000
Run Time (min):	23.00	Sample Amount:	1.0000



No.	Ret.Time min	Peak Name	Height μS	Area μS*min	Rel.Area %	Amount ppb	Type
1	5.65	ClO2	0.152	0.026	42.04	19.686	BMB
2	12.50	Br	0.040	0.012	19.62	10.036	BMB
3	14.07	ClO3	0.065	0.024	38.34	20.130	BMB
Total:			0.257	0.062	100.00	49.852	

4 autocal4**RAJA060520-5**

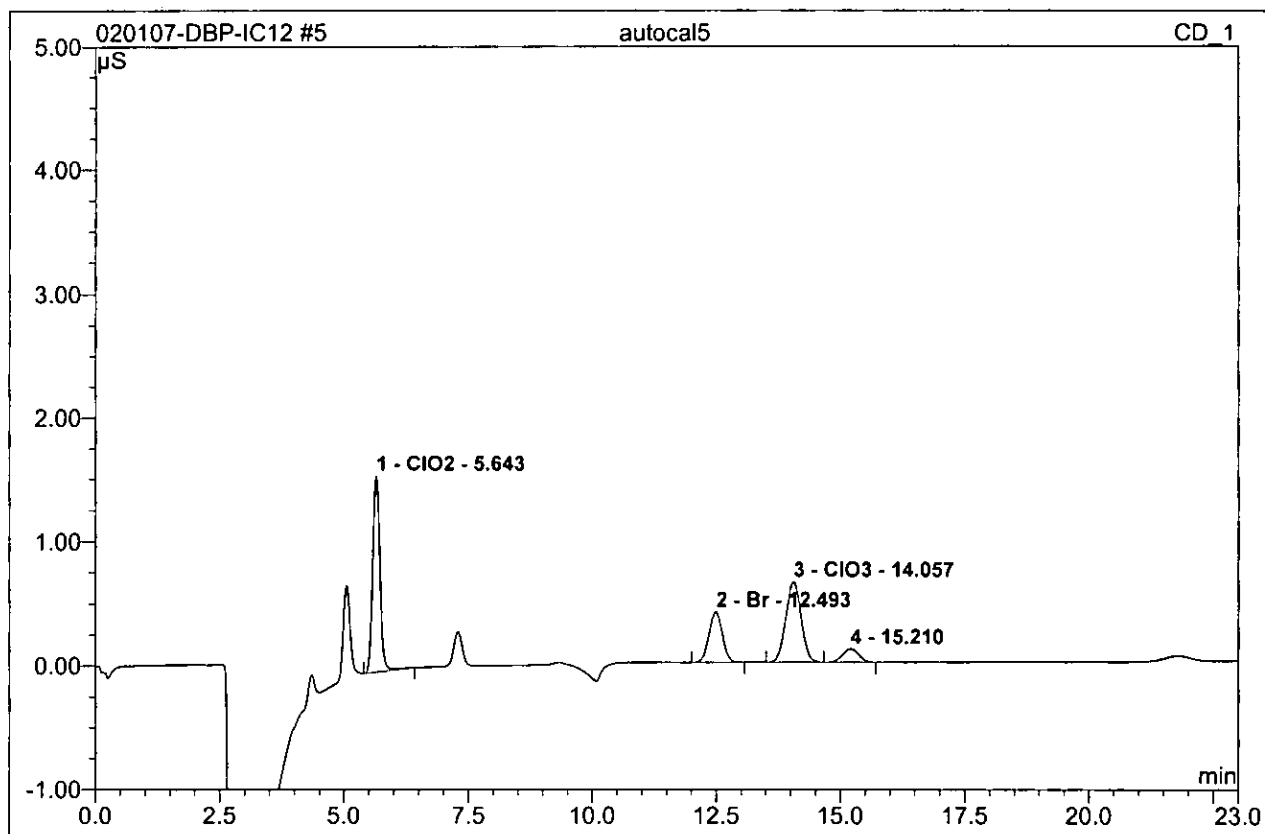
Sample Name:	autocal4	Injection Volume:	1000.0
Vial Number:	337	Channel:	CD_1
Sample Type:	standard	Wavelength:	n.a.
Control Program:	IC12 test Program	Bandwidth:	n.a.
Quantif. Method:	DBP-Method	Dilution Factor:	1.0000
Recording Time:	1/25/2007 13:17	Sample Weight:	1.0000
Run Time (min):	23.00	Sample Amount:	1.0000



No.	Ret.Time min	Peak Name	Height μS	Area μS*min	Rel.Area %	Amount ppb	Type
1	5.65	ClO2	0.755	0.132	42.56	99.812	BMB
2	12.49	Br	0.200	0.062	20.03	49.311	BMB
3	14.07	ClO3	0.321	0.116	37.41	99.406	BMB
Total:			1.276	0.311	100.00	248.530	

5 autocal5**RAJA060520-6**

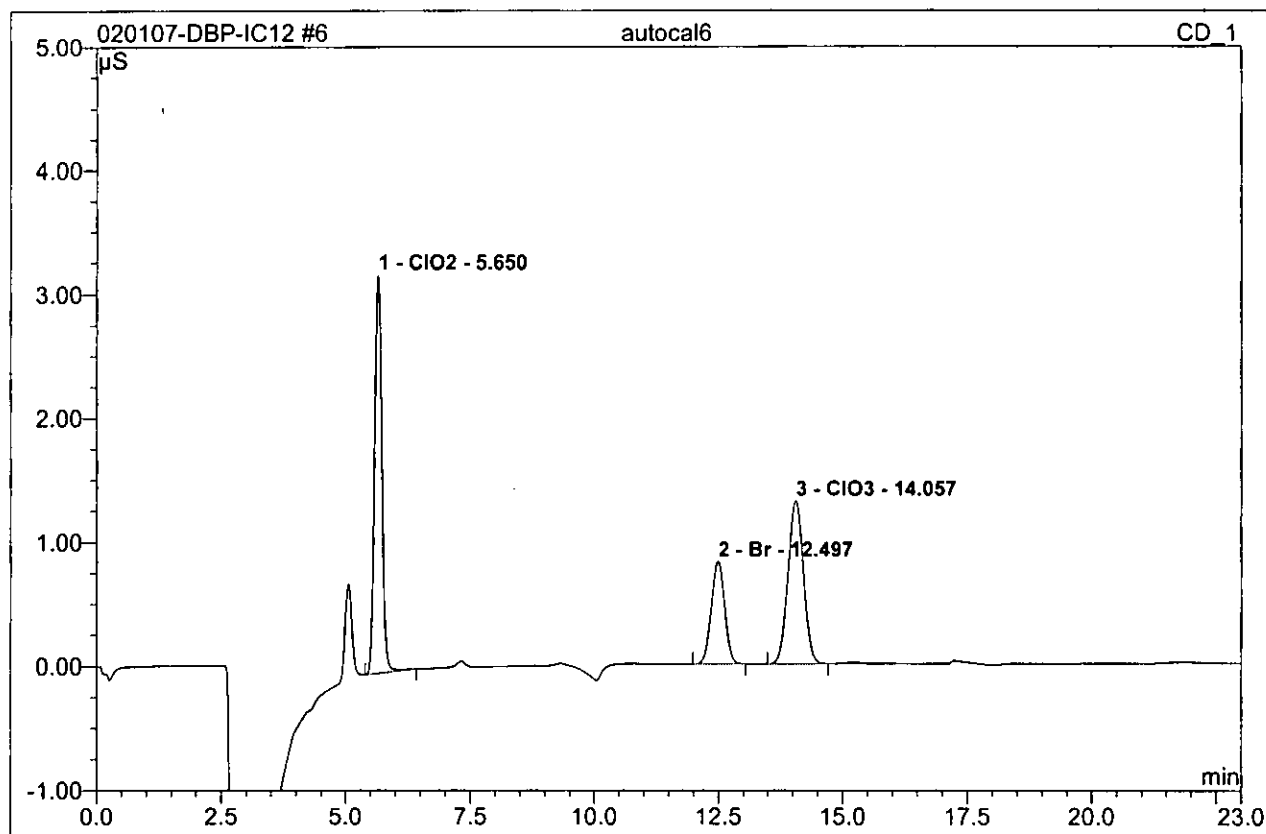
Sample Name:	autocal5	Injection Volume:	1000.0
Vial Number:	338	Channel:	CD_1
Sample Type:	standard	Wavelength:	n.a.
Control Program:	IC12 test Program	Bandwidth:	n.a.
Quantif. Method:	DBP-Method	Dilution Factor:	1.0000
Recording Time:	1/25/2007 13:42	Sample Weight:	1.0000
Run Time (min):	23.00	Sample Amount:	1.0000



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount ppb	Type
1	5.64	CIO2	1.578	0.268	39.93	200.922	BMB
2	12.49	Br	0.409	0.128	19.03	100.487	BMB
3	14.06	CIO3	0.648	0.235	34.95	200.174	BMB
4	15.21	n.a.	0.108	0.041	6.09	n.a.	Rd
Total:			2.743	0.672	100.00	501.584	

6 autocal6**RAJA060520-7**

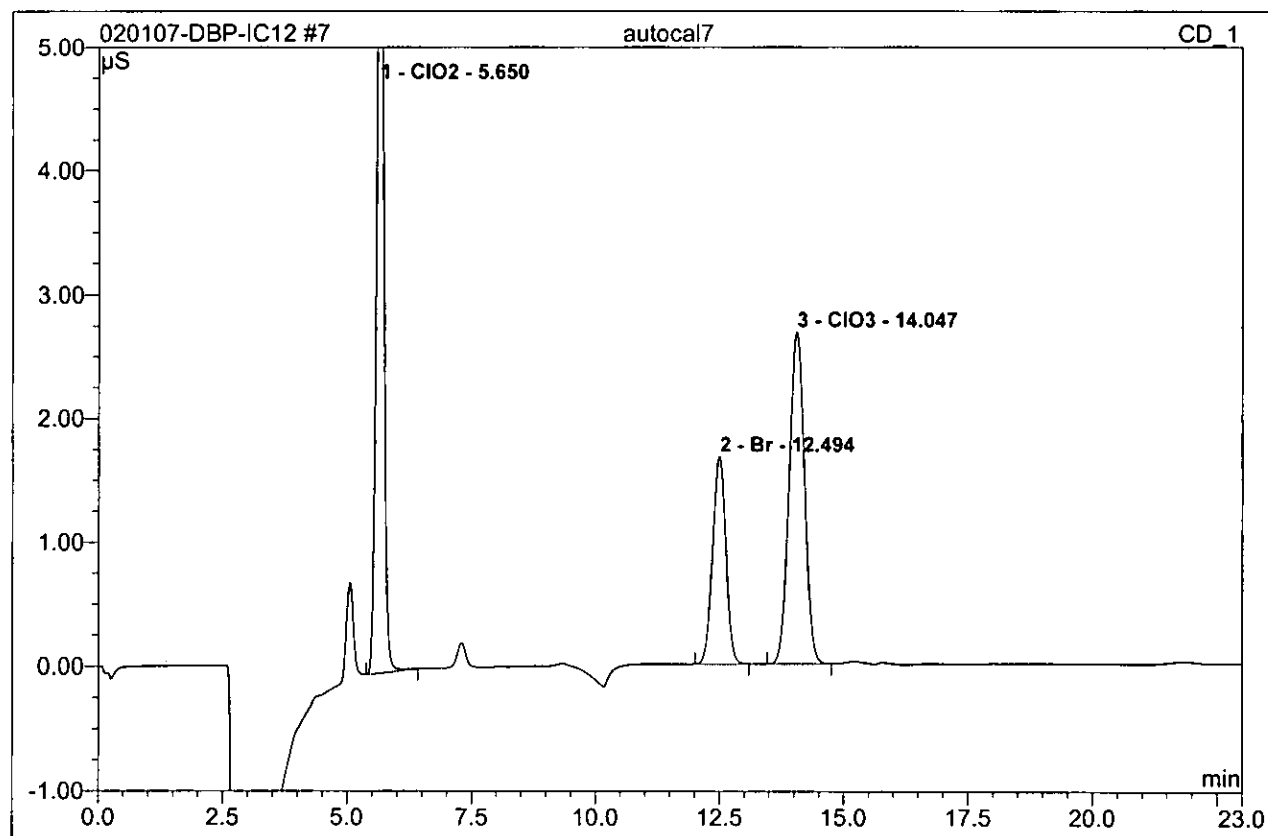
Sample Name:	autocal6	Injection Volume:	1000.0
Vial Number:	334	Channel:	CD_1
Sample Type:	standard	Wavelength:	n.a.
Control Program:	IC12 test Program	Bandwidth:	n.a.
Quantif. Method:	DBP-Method	Dilution Factor:	1.0000
Recording Time:	1/25/2007 14:07	Sample Weight:	1.0000
Run Time (min):	23.00	Sample Amount:	1.0000



No.	Ret.Time min	Peak Name	Height μS	Area μS*min	Rel.Area %	Amount ppb	Type
1	5.65	ClO2	3.209	0.541	42.62	399.433	BMB
2	12.50	Br	0.823	0.256	20.18	199.920	BMB
3	14.06	ClO3	1.310	0.472	37.20	400.102	BMB
Total:			5.343	1.270	100.00	999.456	

7 autocal7**RAJA060520-8**

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:	1/25/2007 14:33	Sample Weight:	1.0000
Run Time (min):	23.00	Sample Amount:	1.0000

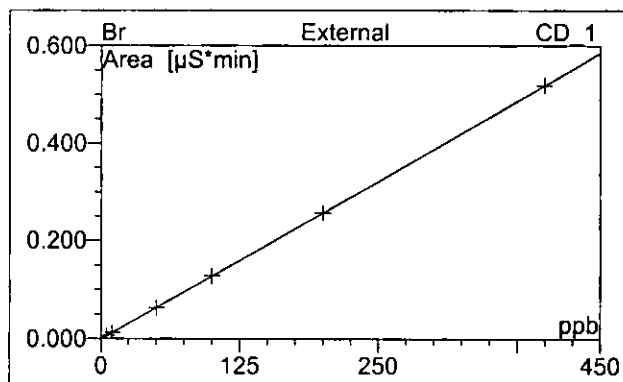
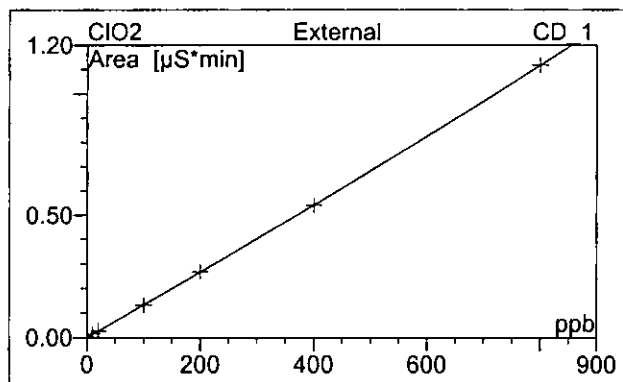
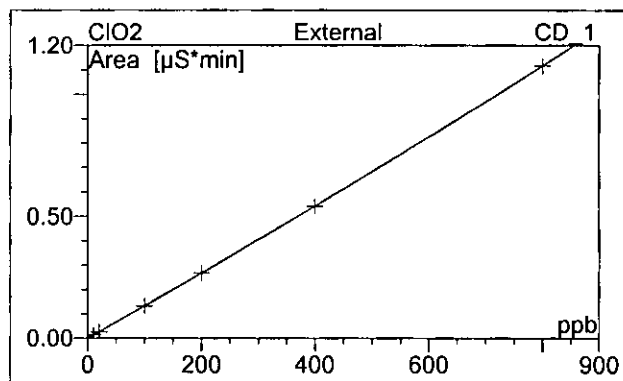
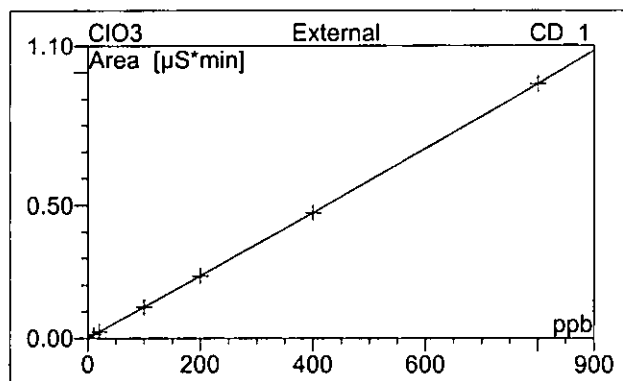


No.	Ret.Time min	Peak Name	Height μS	Area μS*min	Rel.Area %	Amount ppb	Type
1	5.65	ClO2	6.638	1.117	43.07	800.084	BMB
2	12.49	Br	1.672	0.518	19.99	400.000	BMB
3	14.05	ClO3	2.680	0.958	36.95	799.973	BMB
Total:			10.991	2.594	100.00	2000.058	

7 autocal7**RAJA060520-8**

Sample Name: autocal7
 Vial Number: 334
 Sample Type: standard
 Control Program: IC12 test Program
 Quantif. Method: DBP-Method
 Recording Time: 1/25/2007 14:33
 Run Time (min): 23.00

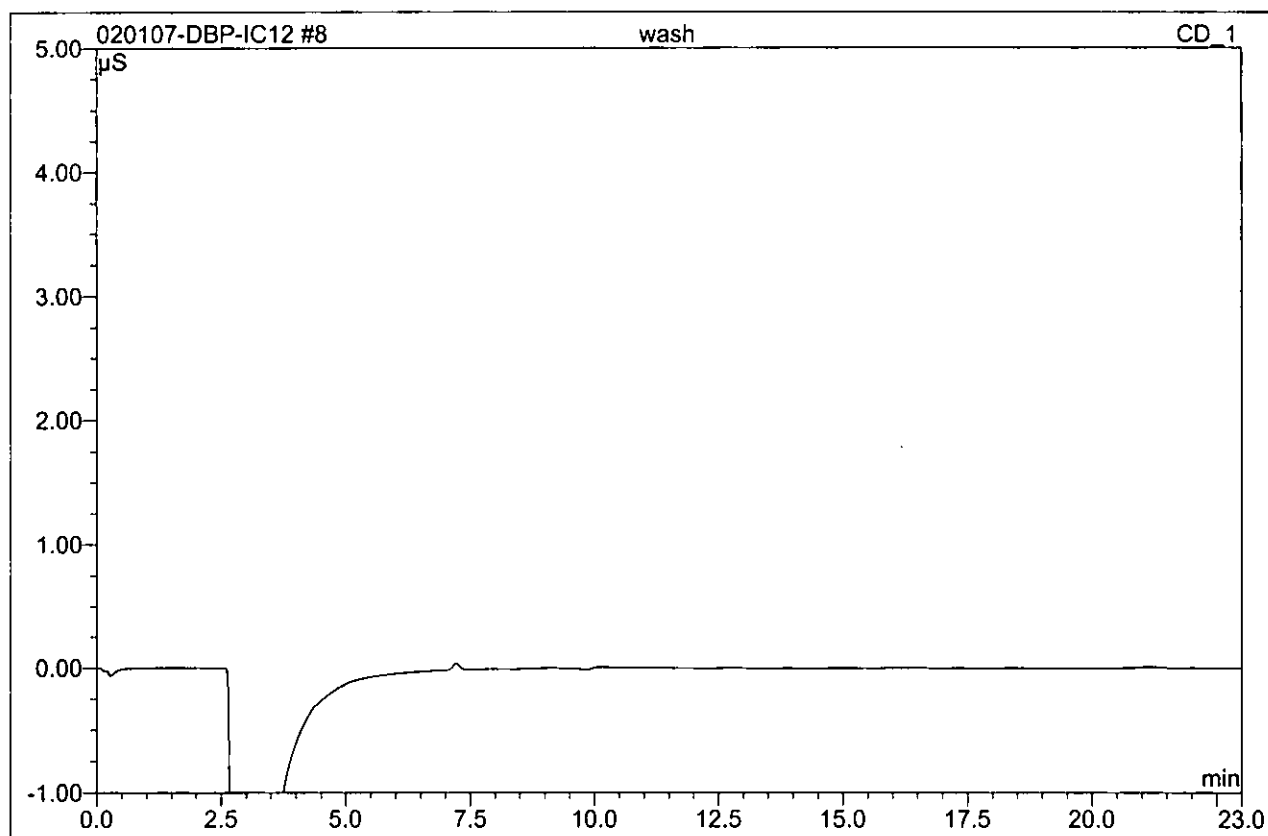
Injection Volume: 1000.0
 Channel: CD_1
 Wavelength: n.a.
 Bandwidth: n.a.
 Dilution Factor: 1.0000
 Sample Weight: 1.0000
 Sample Amount: 1.0000



No.	Ret.Time min	Peak Name	Cal.Type	Points	Corr.Coeff. %	Offset	Slope	Curve
1	5.65	CIO2	QOff	6	99.9870	0.0001	0.0013	0.0000
2	12.49	Br	QOff	6	99.9982	-0.0006	0.0013	0.0000
3	14.05	CIO3	QOff	6	99.9967	0.0003	0.0012	0.0000
Average:					99.9940	-0.0001	0.0012	0.0000

8 wash

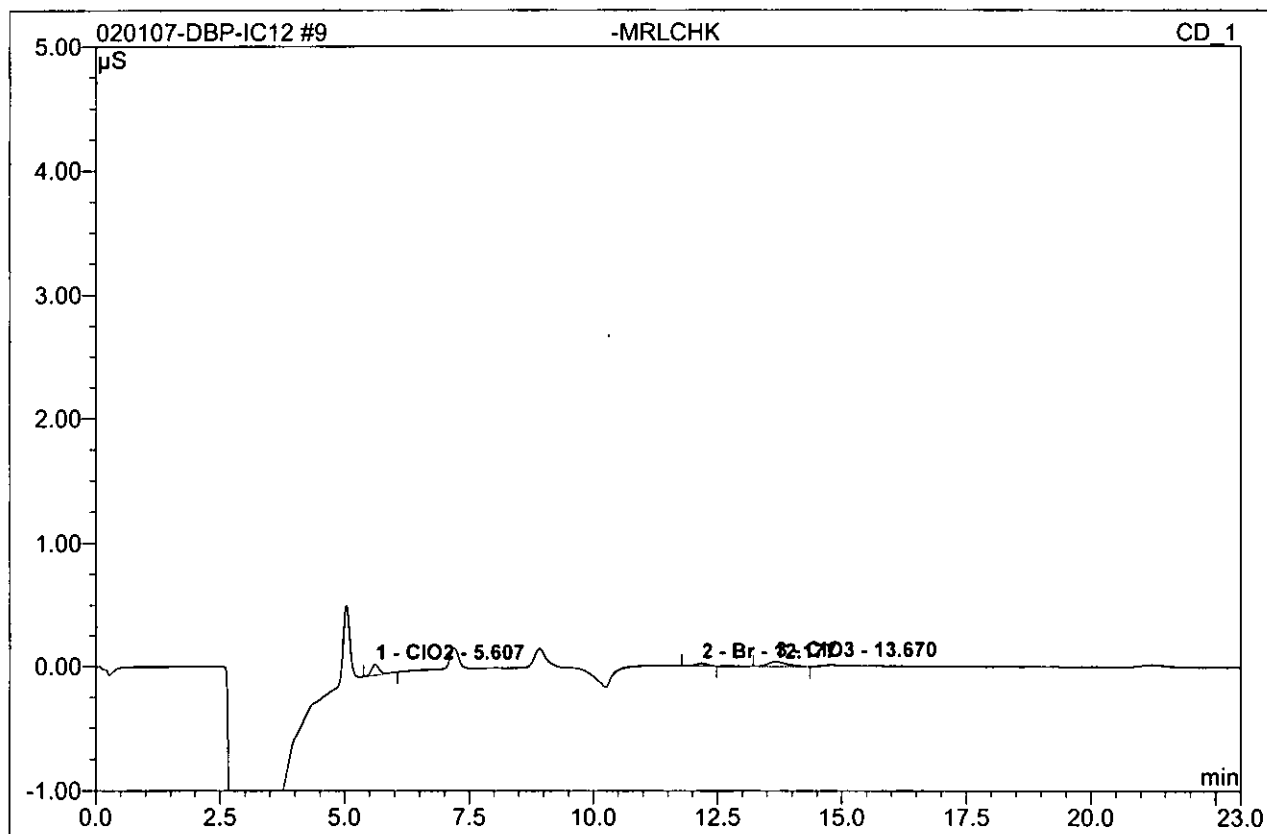
Sample Name:	wash	Injection Volume:	1000.0
Vial Number:	521	Channel:	CD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	IC12 test Program	Bandwidth:	n.a.
Quantif. Method:	DBP-Method	Dilution Factor:	1.0000
Recording Time:	2/1/2007 8:26	Sample Weight:	1.0000
Run Time (min):	23.00	Sample Amount:	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	

9 -MRLCHK

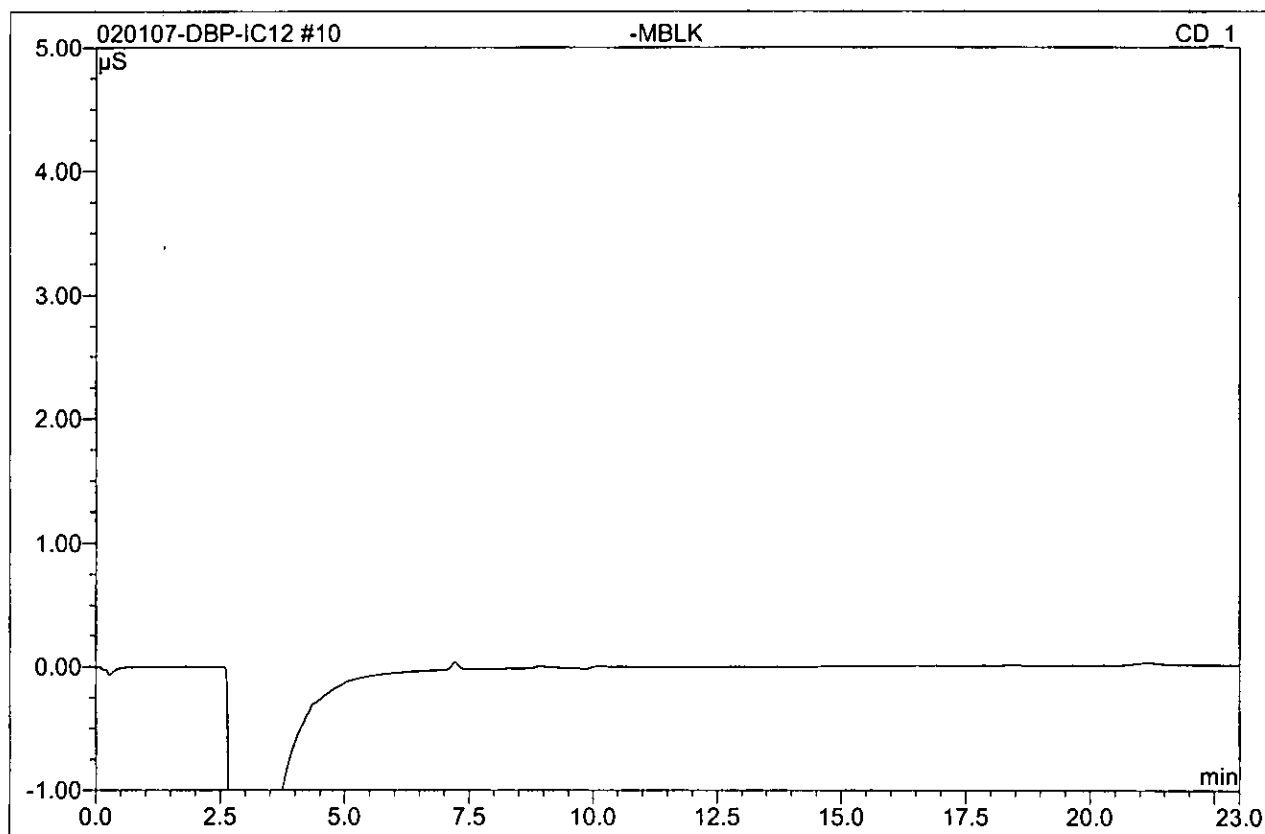
Sample Name:	-MRLCHK	Injection Volume:	1000.0
Vial Number:	522	Channel:	CD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	IC12 test Program	Bandwidth:	n.a.
Quantif. Method:	DBP-Method	Dilution Factor:	1.0000
Recording Time:	2/1/2007 8:51	Sample Weight:	1.0000
Run Time (min):	23.00	Sample Amount:	1.0000



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount ppb	Type
1	5.61	ClO2	0.087	0.016	39.69	11.718	BMB
2	12.18	Br	0.022	0.007	16.67	5.619	BMB
3	13.67	ClO3	0.038	0.017	43.64	14.406	BMB
Total:			0.148	0.039	100.00	31.744	

10 -MBLK

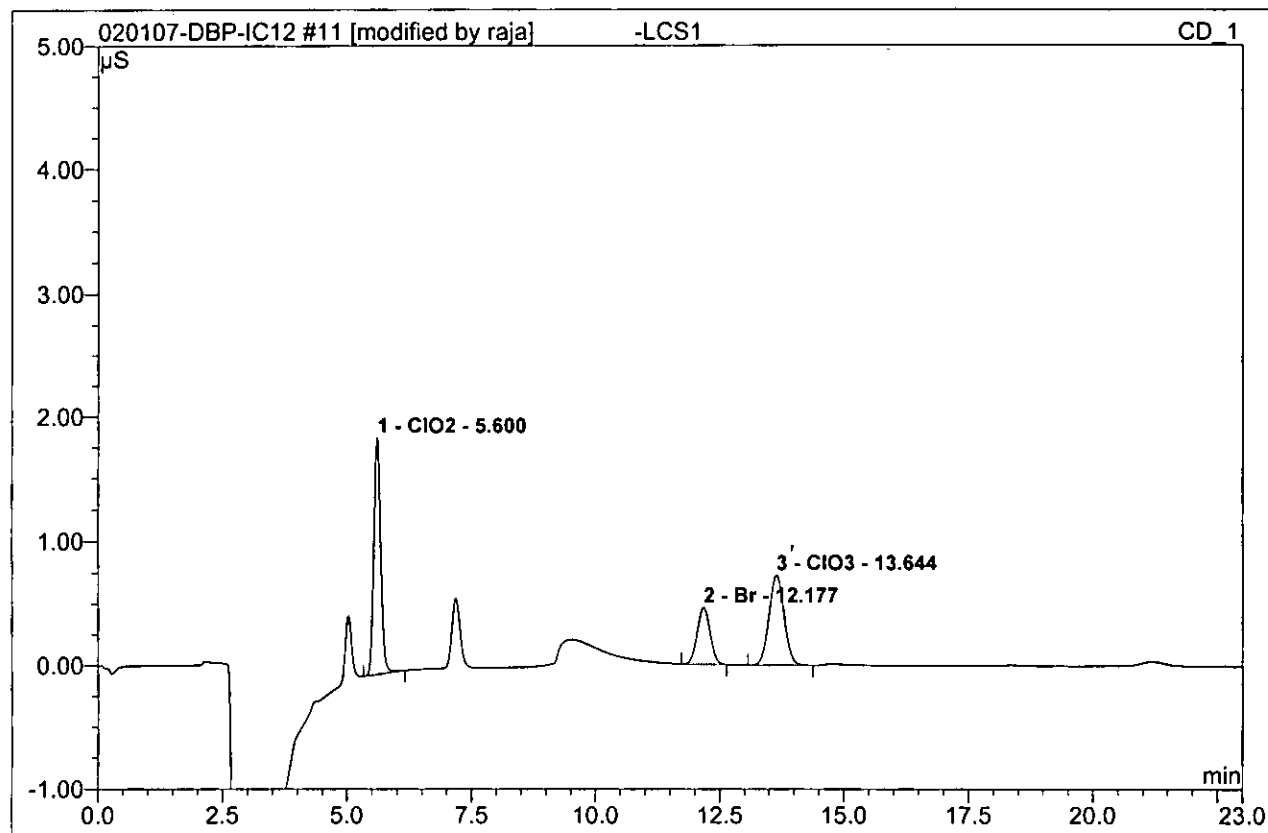
Sample Name:	-MBLK	Injection Volume:	1000.0
Vial Number:	523	Channel:	CD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	IC12 test Program	Bandwidth:	n.a.
Quantif. Method:	DBP-Method	Dilution Factor:	1.0000
Recording Time:	2/1/2007 9:17	Sample Weight:	1.0000
Run Time (min):	23.00	Sample Amount:	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	

11 -LCS1

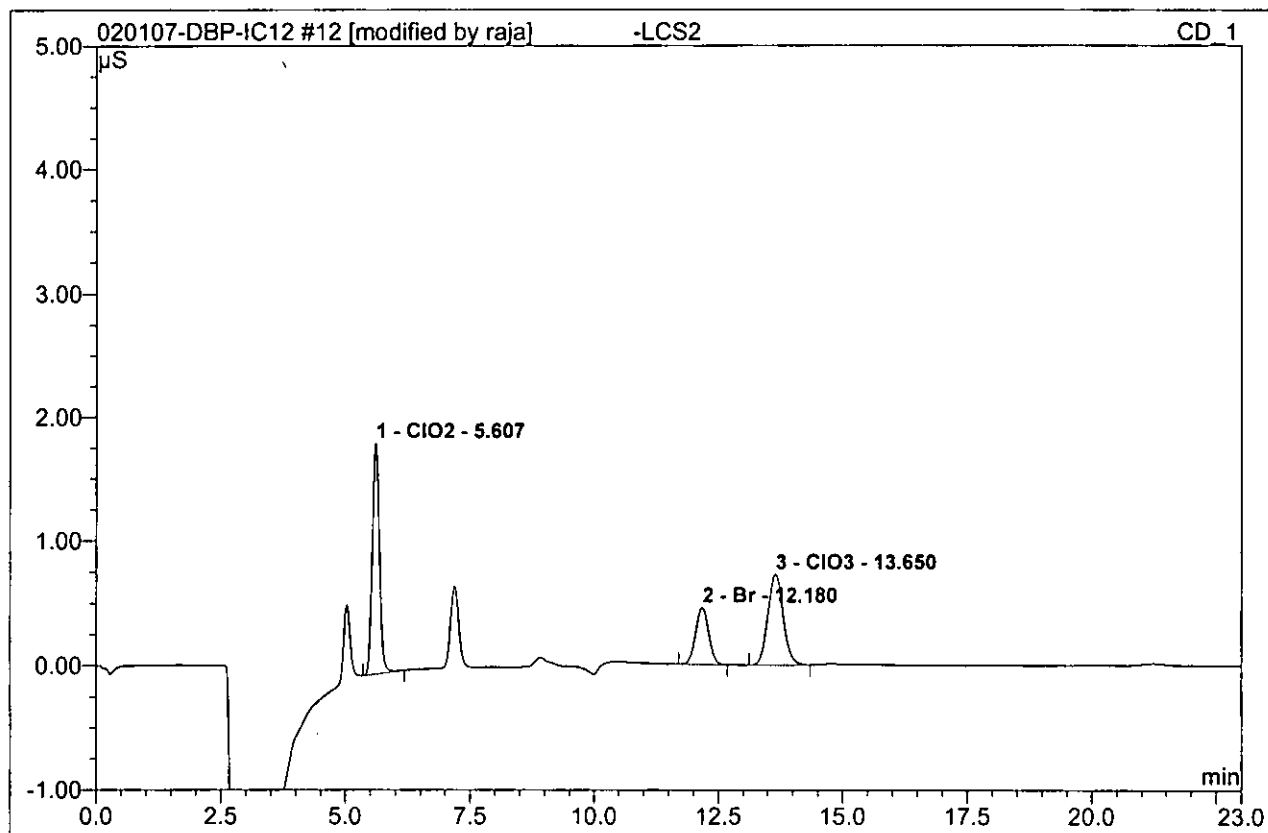
Sample Name:	-LCS1	Injection Volume:	1000.0
Vial Number:	524	Channel:	CD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	IC12 test Program	Bandwidth:	n.a.
Quantif. Method:	DBP-Method	Dilution Factor:	1.0000
Recording Time:	2/1/2007 9:42	Sample Weight:	1.0000
Run Time (min):	23.00	Sample Amount:	1.0000



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount ppb	Type
1	5.60	CIO2	1.902	0.307	43.76	229.240	BMB*
2	12.18	Br	0.458	0.138	19.66	108.257	BMB
3	13.64	CIO3	0.726	0.256	36.58	218.521	BMB
Total:			3.085	0.701	100.00	556.018	

12 -LCS2

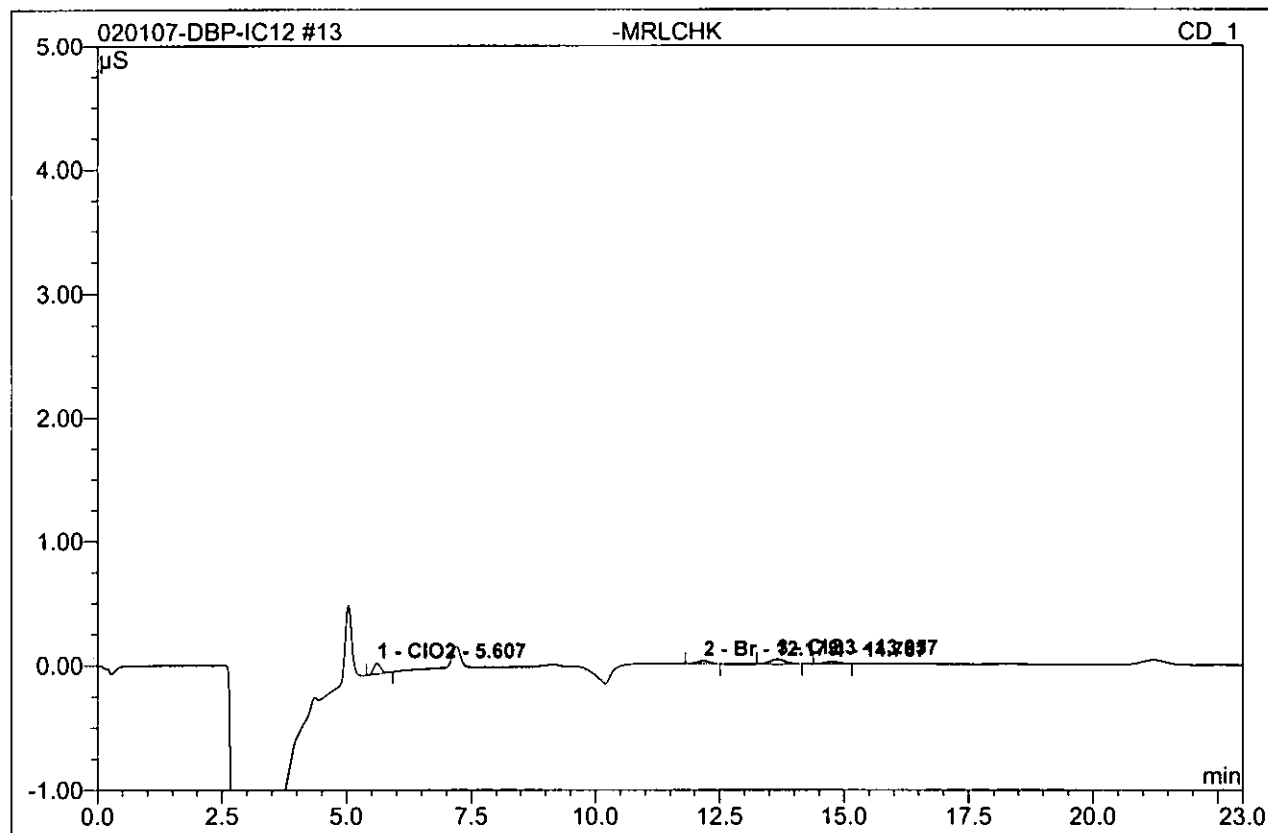
Sample Name:	-LCS2	Injection Volume:	1000.0
Vial Number:	525	Channel:	CD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	IC12 test Program	Bandwidth:	n.a.
Quantif. Method:	DBP-Method	Dilution Factor:	1.0000
Recording Time:	2/1/2007 10:08	Sample Weight:	1.0000
Run Time (min):	23.00	Sample Amount:	1.0000



No.	Ret.Time min	Peak Name	Height μS	Area μS*min	Rel.Area %	Amount ppb	Type
1	5.61	ClO2	1.857	0.307	43.48	229.704	BMB*
2	12.18	Br	0.457	0.138	19.59	108.771	BMB
3	13.65	ClO3	0.728	0.261	36.93	222.480	BMB
Total:			3.041	0.707	100.00	560.956	

13 -MRLCHK**RERUN**

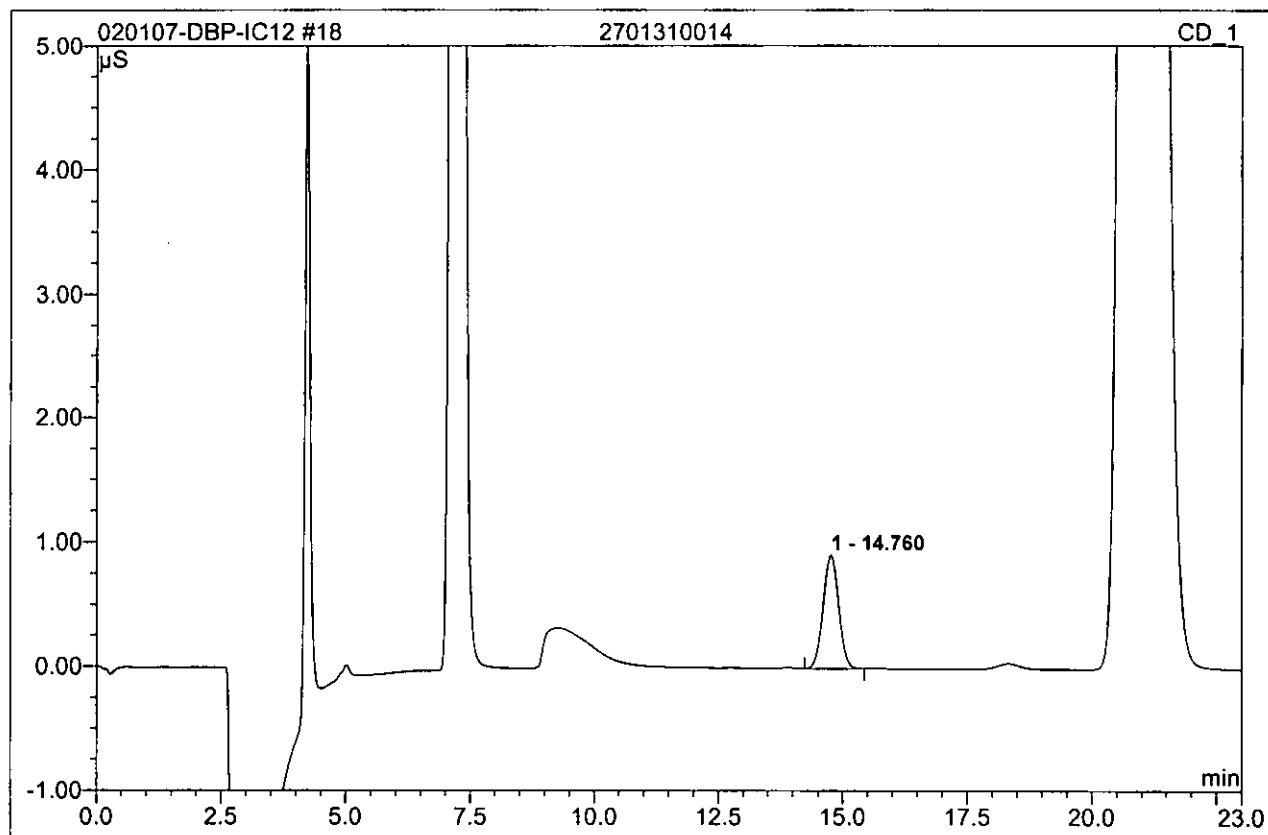
Sample Name:	-MRLCHK	Injection Volume:	1000.0
Vial Number:	526	Channel:	CD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	IC12 test Program	Bandwidth:	n.a.
Quantif. Method:	DBP-Method	Dilution Factor:	1.0000
Recording Time:	2/1/2007 10:33	Sample Weight:	1.0000
Run Time (min):	23.00	Sample Amount:	1.0000



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount ppb	Type
1	5.61	ClO2	0.085	0.014	34.74	10.583	BMB
2	12.17	Br	0.023	0.007	17.31	5.991	BMB
3	13.66	ClO3	0.037	0.013	32.84	11.133	BMB
4	14.79	n.a.	0.018	0.006	15.11	n.a.	BMB
Total:			0.163	0.040	100.00	27.706	

18 2701310014**CLO2/CLO3**

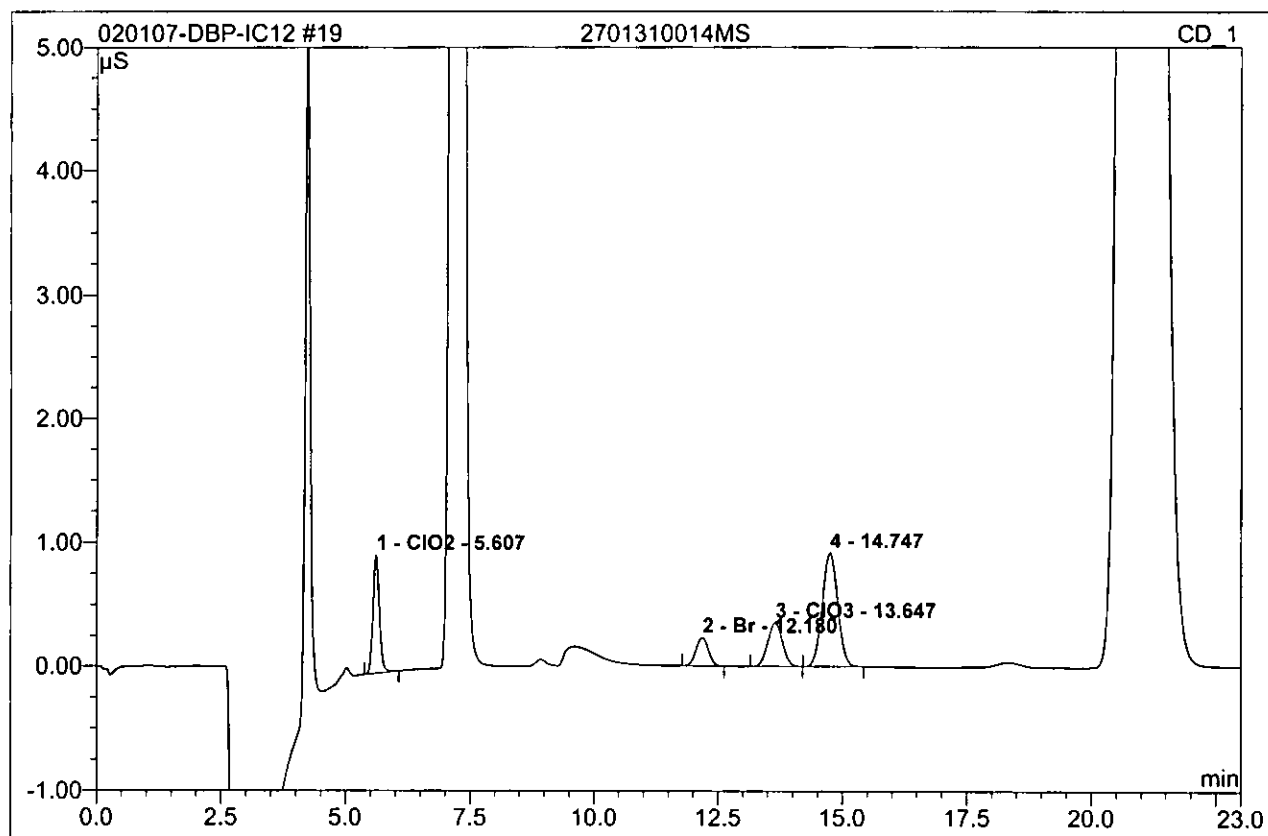
Sample Name:	2701310014	Injection Volume:	1000.0
Vial Number:	577	Channel:	CD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	IC12 test Program	Bandwidth:	n.a.
Quantif. Method:	DBP-Method	Dilution Factor:	1.0000
Recording Time:	2/1/2007 12:40	Sample Weight:	1.0000
Run Time (min):	23.00	Sample Amount:	1.0000



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount ppb	Type
1	14.76	n.a.	0.909	0.330	100.00	n.a.	BMB
Total:			0.909	0.330	100.00	0.000	

19 2701310014MS

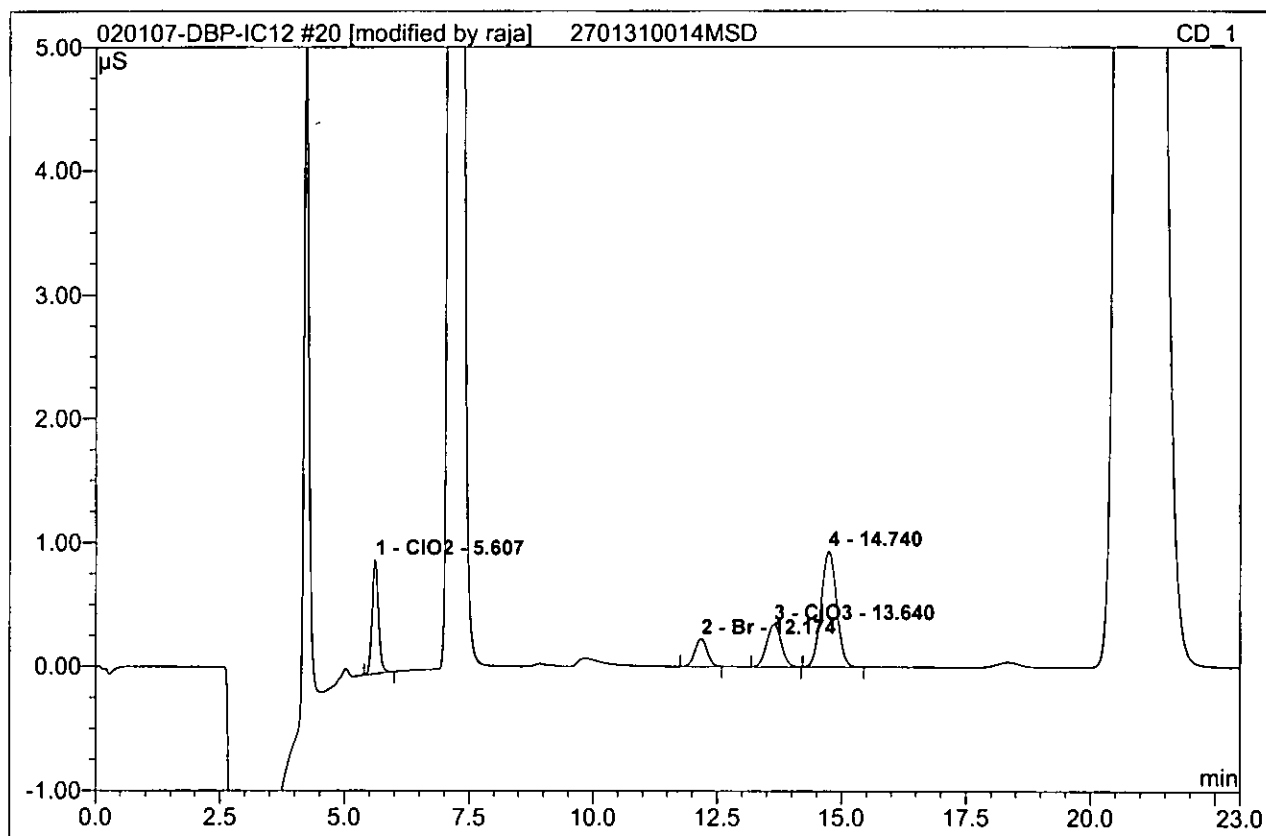
Sample Name:	2701310014MS	Injection Volume:	1000.0
Vial Number:	578	Channel:	CD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	IC12 test Program	Bandwidth:	n.a.
Quantif. Method:	DBP-Method	Dilution Factor:	1.0000
Recording Time:	2/1/2007 13:05	Sample Weight:	1.0000
Run Time (min):	23.00	Sample Amount:	1.0000



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount ppb	Type
1	5.61	ClO2	0.952	0.142	21.48	107.313	BMB
2	12.18	Br	0.229	0.066	9.99	52.391	BMB
3	13.65	ClO3	0.356	0.122	18.37	103.996	BMB
4	14.75	n.a.	0.916	0.332	50.15	n.a.	BMB
Total:			2.452	0.662	100.00	263.700	

20 2701310014MSD

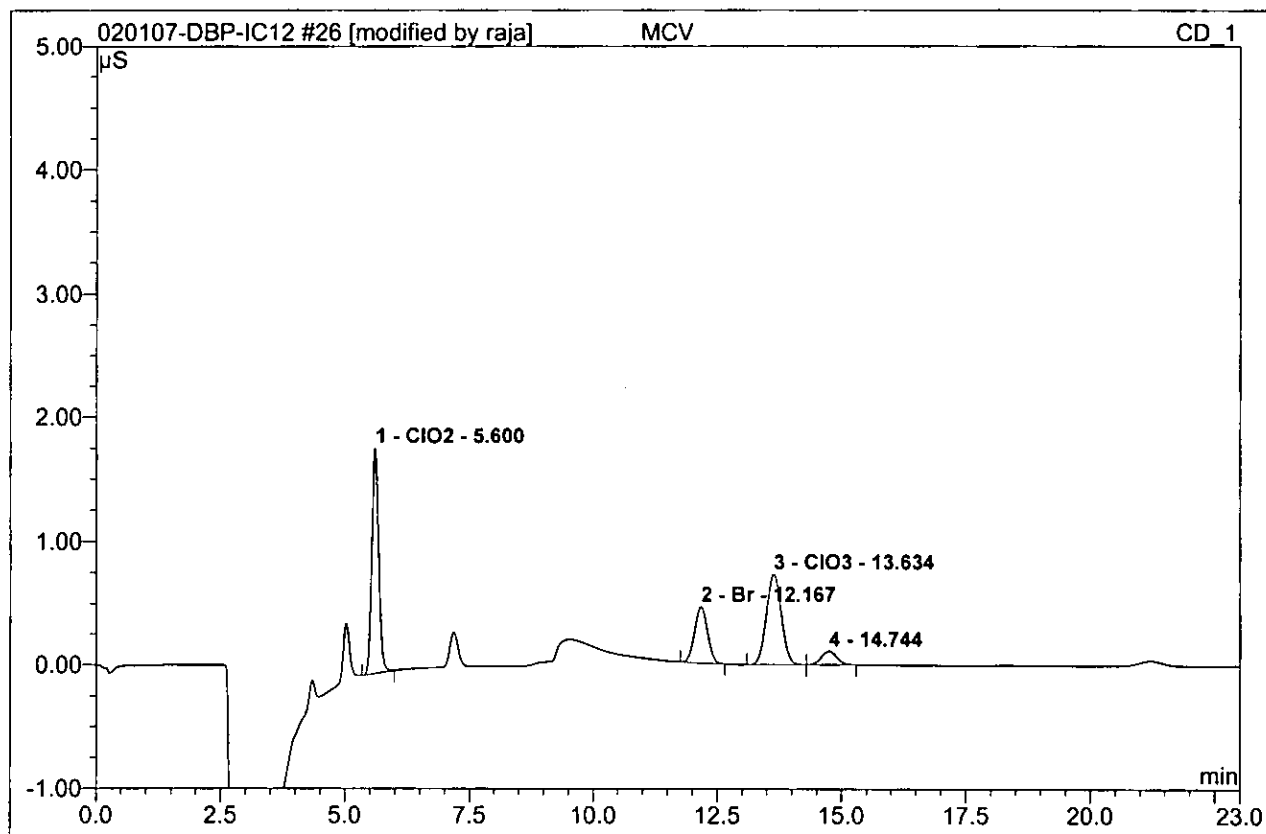
Sample Name:	2701310014MSD	Injection Volume:	1000.0
Vial Number:	579	Channel:	CD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	IC12 test Program	Bandwidth:	n.a.
Quantif. Method:	DBP-Method	Dilution Factor:	1.0000
Recording Time:	2/1/2007 13:31	Sample Weight:	1.0000
Run Time (min):	23.00	Sample Amount:	1.0000



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount ppb	Type
1	5.61	C1O2	0.921	0.137	20.78	103.123	BMB*
2	12.17	Br	0.223	0.064	9.79	51.010	BMB
3	13.64	C1O3	0.345	0.118	17.93	100.863	BMB
4	14.74	n.a.	0.936	0.339	51.50	n.a.	BMB
Total:			2.424	0.658	100.00	254.997	

26 MCV

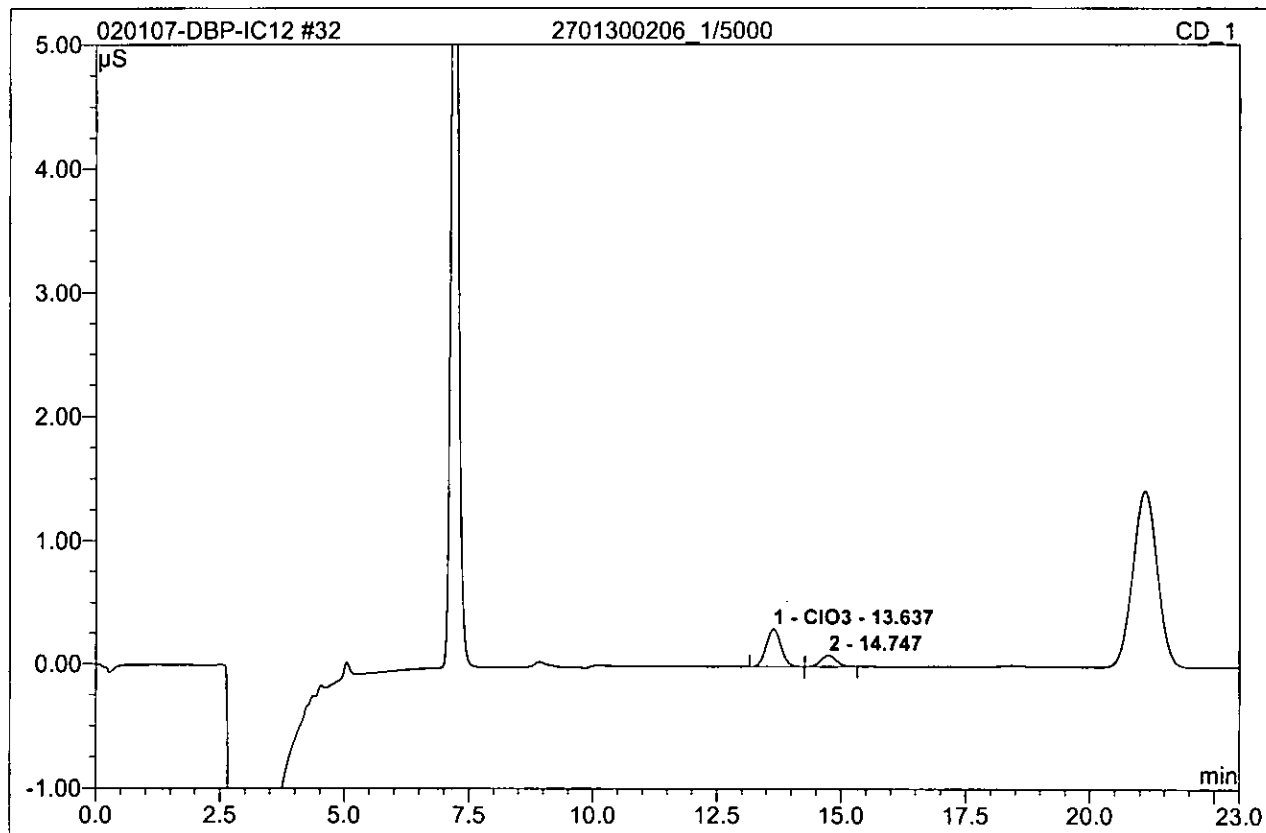
Sample Name:	MCV	Injection Volume:	1000.0
Vial Number:	585	Channel:	CD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	IC12 test Program	Bandwidth:	n.a.
Quantif. Method:	DBP-Method	Dilution Factor:	1.0000
Recording Time:	2/1/2007 16:03	Sample Weight:	1.0000
Run Time (min):	23.00	Sample Amount:	1.0000



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount ppb	Type
1	5.60	ClO2	1.819	0.293	40.25	219.143	BMB*
2	12.17	Br	0.457	0.137	18.83	107.635	BMB
3	13.63	ClO3	0.733	0.258	35.43	219.769	BMB
4	14.74	n.a.	0.109	0.040	5.50	n.a.	BMB
Total:			3.118	0.728	100.00	546.547	

32 2701300206_1/5000**CLO3**

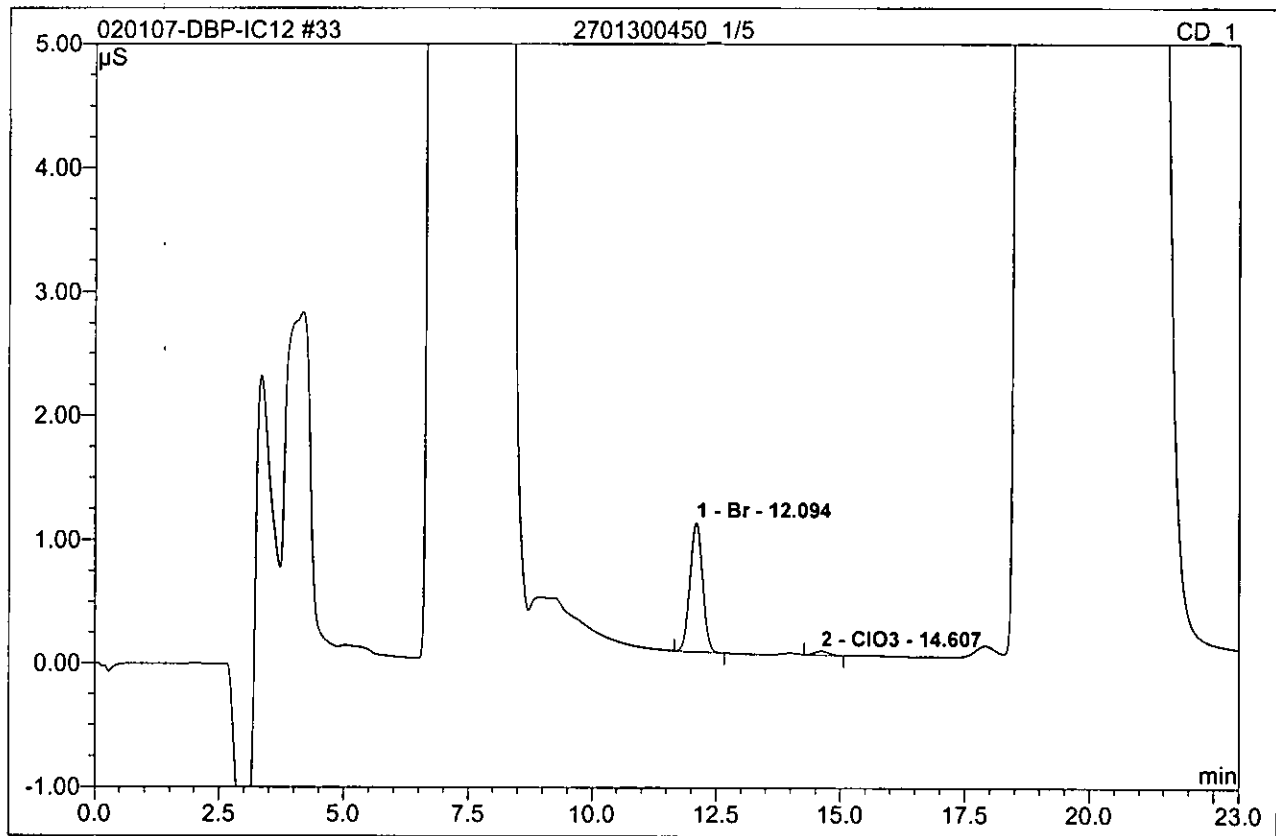
Sample Name:	2701300206_1/5000	Injection Volume:	1000.0
Vial Number:	591	Channel:	CD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	IC12 test Program	Bandwidth:	n.a.
Quantif. Method:	DBP-Method	Dilution Factor:	5000.0000
Recording Time:	2/1/2007 18:35	Sample Weight:	1.0000
Run Time (min):	23.00	Sample Amount:	1.0000



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount ppb	Type
1	13.64	ClO3	0.306	0.106	75.96	454021.522	BMB
2	14.75	n.a.	0.092	0.034	24.04	n.a.	BMB
Total:			0.397	0.140	100.00	454021.522	

33 2701300450_1/5**CLO3**

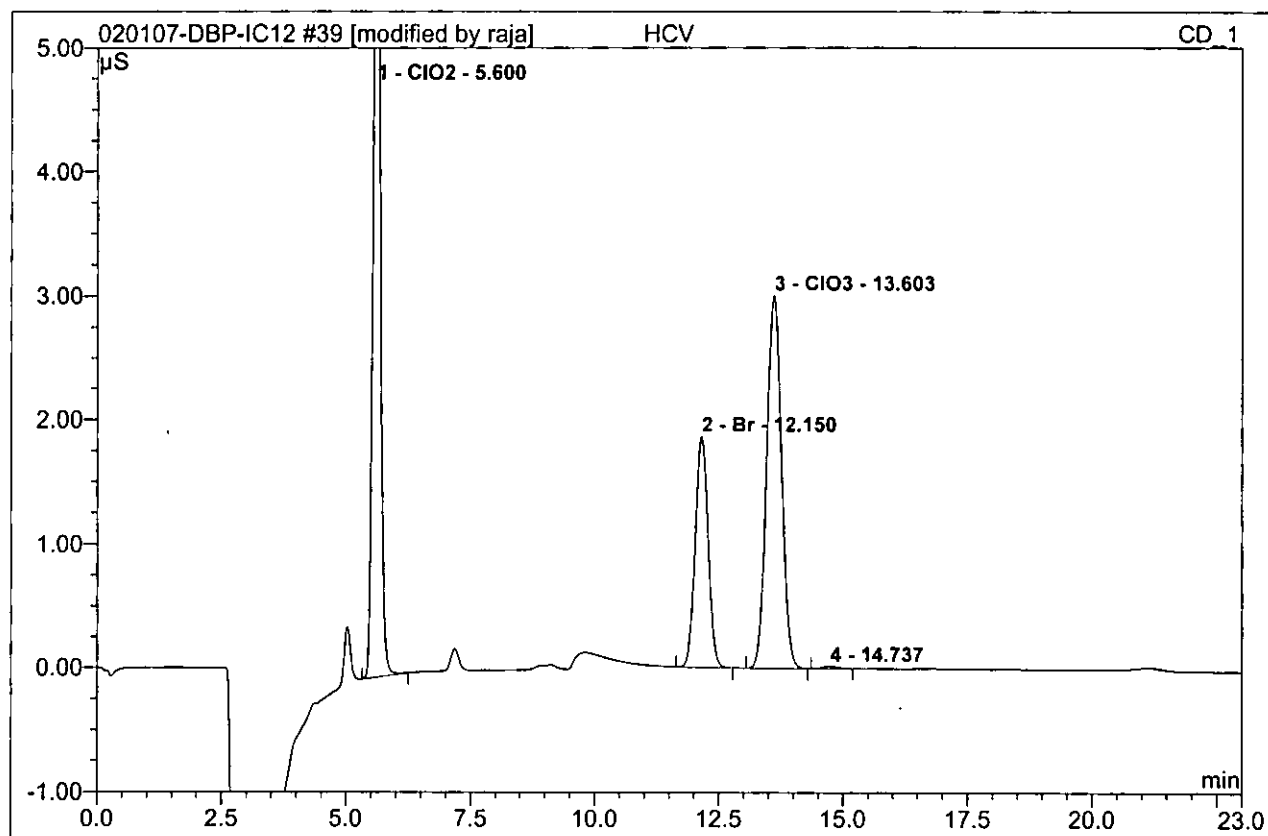
Sample Name:	2701300450_1/5	Injection Volume:	1000.0
Vial Number:	592	Channel:	CD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	IC12 test Program	Bandwidth:	n.a.
Quantif. Method:	DBP-Method	Dilution Factor:	5.0000
Recording Time:	2/1/2007 19:01	Sample Weight:	1.0000
Run Time (min):	23.00	Sample Amount:	1.0000



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount ppb	Type
1	12.09	Br	1.045	0.309	96.60	1201.655	BMB
2	14.61	ClO3	0.032	0.011	3.40	45.285	BMB
Total:			1.077	0.320	100.00	1246.940	

39 HCV

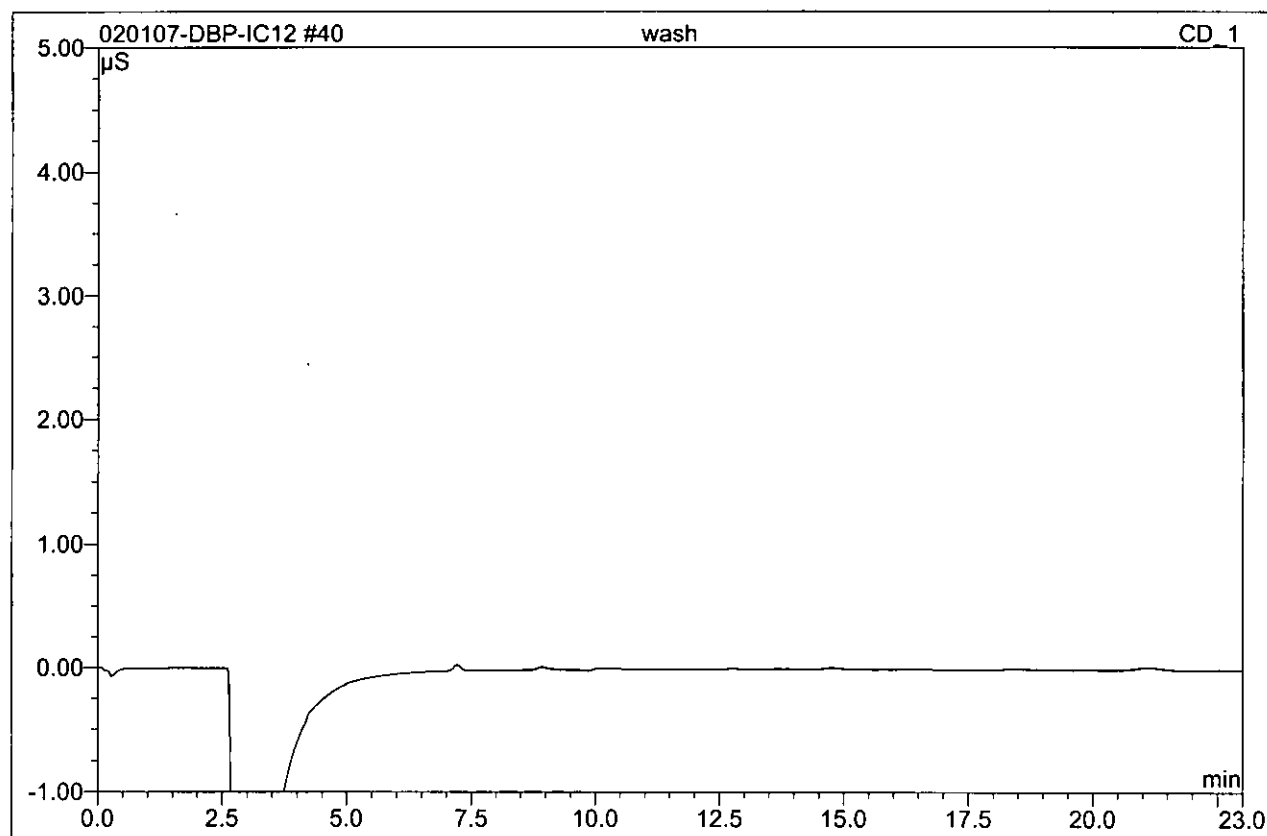
Sample Name:	HCV	Injection Volume:	1000.0
Vial Number:	595	Channel:	CD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	IC12 test Program	Bandwidth:	n.a.
Quantif. Method:	DBP-Method	Dilution Factor:	1.0000
Recording Time:	2/1/2007 21:33	Sample Weight:	1.0000
Run Time (min):	23.00	Sample Amount:	1.0000



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount ppb	Type
1	5.60	CIO2	7.702	1.231	43.27	876.708	BMB*
2	12.15	Br	1.859	0.562	19.75	432.680	BMB
3	13.60	CIO3	3.009	1.045	36.74	870.345	BMB
4	14.74	n.a.	0.020	0.007	0.25	n.a.	BMB
Total:			12.590	2.845	100.00	2179.733	

40 wash

Sample Name:	wash	Injection Volume:	1000.0
Vial Number:	596	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:	2/1/2007 21:59	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

Page: 8

Reagent: DBP Calibration stock ^{RR} solution
 Date Received/Prepped: 052006/1060606/1062206/1071306/1072506/1080806
 Date Expired: 062006/1060606 Raja 1072206/1081306/1082506/1090806
 Manufacturer:
 Storage Condition:

MW #: Raja 060520-2
 By: Raja
 Matrix: ag
 Amount: 100ml
 Lot #:

Component	Comment	Standard	Concentration
Bromide 100ppm Exp:- 06/07	500 ML ? add 50 ML EDA solution (LMR 060129-12) then	R 201373 ✓	5ppm
Chlorate 100ppm Exp:- 06/07	1000 ML dilute to 100ml with D.I. water	R 201374 ✓	10ppm
Chlorite 100ppm Exp:- 06/07	1000 ML	R 201375 ✓	10ppm

Comment: 082706/100106/110106/111606/112206/1010807/1020607/
 Expired 092706/110106/1120106/1121606/1012007/1020807/1030607/
 110106 Raja 120106

Reagent: DBP Calibration standard #1
 Date Received/Prepped: 052006/1060606/1062206/1071306/1072506/1080806
 Date Expired: 062006/1070606/1072206/1081306/1082506/1090806
 Manufacturer:
 Storage Condition:

MW #: Raja 060520-3
 By: Raja
 Matrix: ag
 Amount: 100ml
 Lot #:

Component	Comment	Standard	Concentration
DBP calib. stock soln	100 ML ? Dilute with D.I. water to 100ml	Raja 060520-2	Br- 5ppb
EDA solution	50 ML	LMR 060129-12	ClO ₂ - 10ppb ClO ₃ - 10ppb

Comment: Used as MBL-check Prep:- 082706/100106/110106/111606/112206/101080
 Exp:- 092706/110106/1120106/1121606/1012007/1020807
 Raja 11-01-06

Reagent: DBP Calibration Standard #2
 Date Received/Prepped: 052006/1060606/1062206/1071306/1072506/1080806
 Date Expired: 062006/1070606/1072206/1081306/1082506/1090806
 Manufacturer:
 Storage Condition:

MW #: Raja 060520-4
 By: Raja
 Matrix: ag
 Amount: 100ml
 Lot #:

Component	Comment	Standard	Concentration
DBP calib. stock soln	200 ML ? Dilute with D.I. water to 100ml	Raja 060520-2	Br- 10ppb
EDA solution	50 ML	LMR 060129-12	Br- ClO ₂ - 20ppb ClO ₃ - 20ppb

Comment: Prep:- 082706/100106/110106/111606/112206/1010807/1020607/
 Exp:- 092706/110106/1120106/1121606/1012007/1020807/1030607/
 Raja 11-01-06

Reagent Preparation Documentation

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Reagent: DBP Calibration Standard #3
 Date Received/Prepped: 052006/060606/062206/071306/072506/080806
 Date Expired: 062006/070606/072206/081306/082506/090806
 Manufacturer: _____
 Storage Condition: _____

MW #: Raja060520-5
 By: Raja
 Matrix: aq
 Amount: 100ml
 Lot #: _____

Component	Comment	Standard	Concentration
DBP Calib Stock Soln	1ml & Dilute with D.I. water to 100ml	Raja060520-2	Br-50ppb
EDA solution	50ML	LMR060129-12	ClO ₂ -100ppb ClO ₃ -100ppb

Comment: Prep:- 082706/100106/110406/110106/111606/122006/010807/020607/
 Exp:- 092706/110106/120406/120106/121606/012007/020807/030607/

Reagent: DBP Calibration Standard #4
 Date Received/Prepped: 052006/060606/062206/071306/072506/080806
 Date Expired: 062006/070606/072206/081306/082506/090806
 Manufacturer: _____
 Storage Condition: _____

MW #: Raja060520-6
 By: Raja
 Matrix: aq
 Amount: 100ml
 Lot #: _____

Component	Comment	Standard	Concentration
DBP Calib Stock Soln	2ml & Dilute with D.I. water to 100ml	Raja060520-2	Br-100ppb
EDA solution	50ML	LMR060129-12	ClO ₂ -200ppb 200ppb ClO ₃ -200ppb Raja

Comment: It is also used as MCV Prep:- 082706/100106/110406/110106/111606/122006
 Exp:- 092706/110106/120406/120106/121606/012007

Reagent: DBP Calibration Standard #5
 Date Received/Prepped: 052006/060606/062206/071306/072506/080806
 Date Expired: 062006/070606/072206/081306/082506/090806
 Manufacturer: _____
 Storage Condition: _____

MW #: Raja060520-7
 By: Raja
 Matrix: aq
 Amount: 100ml
 Lot #: _____

Component	Comment	Standard	Concentration
DBP calib stock soln	4ml & Dilute to 100ml with D.I. water	Raja060520-2	Br-200ppb
EDA solution	50ML	LMR060129-12	ClO ₂ -400ppb ClO ₃ -400ppb

Comment: Prep:- 082706/100106/110406/110106/111606/122006/010807/020607
 Exp:- 092706/110106/120406/120106/121606/012007/020807/030607

Reagent Preparation Documentation

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Reagent: DBP Calibration Standard #6
 Date Received/Prepped: 052006/060606/062206/071306/072506/080806
 Date Expired: 062006/070606/072206/081306/082506/090806
 Manufacturer:
 Storage Condition:

MW #: Raja060520-8
 By: Raja
 Matrix: ag
 Amount: 100ml
 Lot #:

Component	Comment	Standard	Concentration
DBP calib stock soln	8ml ? Dilute to 100ml with D.I. water	Raja060520-2	Br-400ppb
EDA	50ml	LMR060129-12	ClO ₂ -800ppb
			ClO ₃ -800ppb

Comment: Used as HCV Prep: 082706/100106/110406/110106/111606/122006/1010807/1020607
 Exp: 092706/110106/120406/120106/121606/012007/020807/030607

Reagent: IPCCV Solution for ClO₄ 25ppb
 Date Received/Prepped: 062406/071206/072206/080706/1
 Date Expired: 092406/101206/102206/110706/1
 Manufacturer:
 Storage Condition:

MW #: Raja060624-1
 By: Raja
 Matrix: ag
 Amount: 100ml
 Lot #:

Component	Comment	Standard	Concentration
Na ₂ CO ₃ 10,000ppm	4ml ?	LYL050510-06	400ppm
NaCl 10,000ppm	4ml Dilute to 100ml with D.I. water	LYL050510-04	400ppm
Na ₂ SO ₄ 10,000ppm	4ml	LYL050510-05	400ppm
ClO ₄ calib stock	2.5ml		25ppb

Comment:

Reagent: Na₂SO₄ Solution - ClO₄
 Date Received/Prepped: 081406/110906/011707/032307/052107/1
 Date Expired: 111406/020707/041707/062307/082107/1
 Manufacturer:
 Storage Condition:

MW #: Raja060814-1
 By: Raja
 Matrix: ag
 Amount: 100ml
 Lot #:

Component	Comment	Standard	Concentration
Na ₂ SO ₄	1.48g → Dilute to 100ml with D.I. water	R200651	10,000ppm
exp: 03/08			

Comment:

Reagent Preparation Documentation

Page: 17

Reagent: 3001 Multielement Calibration Std - 7
 Date Received/Prepped: 29 Jan 06 / 9 Feb 06 / 25 Apr 06 / 16 May 06 / 12 Apr 06 / 1 May 06
 Date Expired: / / / / /
 Manufacturer: / / / / /
 Storage Condition: / / / / /

MW #: LMR060129-11
 By: LMR
 Matrix: ag
 Amount: 100 ml
 Lot #: -

Component	Comment	Standard	Concentration
BrO ₃ -1000 ppb	5000 µl	LMR050109-3	50
ClO ₂ /ClO ₂ -10 ppm	2000 µl	LMR050895-1	200 ea
Arson Cal Mix	2000 µl	LMR060129-4	200-200 Ag, 200 Cl, 200 Br, 200 Se, 4000 Ag, 1000
EDA-100000 ppm	50 µl	LMR060129-12	50 ppm

Comment:

Reagent: Ethylenediamine - 100,000 ppm (EDA)
 Date Received/Prepped: 29 Jan 06 / 10 Jul 06 / / / /
 Date Expired: / / / / /
 Manufacturer: / / / / /
 Storage Condition: / / / / /

MW #: LMR060129-12
 By: LMR
 Matrix: ag
 Amount: 100 ml
 Lot #: -

Component	Comment	Standard	Concentration
Ethylenediamine	11.2 ml diluted to 100 ml w/ DI H ₂ O	R200653	100,000 ppm
	use 50 µl per 100 ml		

Comment:

Reagent: BrO₃ Color Reagent
 Date Received/Prepped: 1/29/06 / 2/2/06 / 2/6/06 / 2/8/06 / 2/14/06 / 2/20/06 / 2/24/06 / 3/1/06
 Date Expired: / / / / /
 Manufacturer: / / / / /
 Storage Condition: / / / / /

MW #: LMR060129-13
 By: LMR
 Matrix: ag
 Amount: 2-L
 Lot #: -

Component	Comment	Standard	Concentration
o-dianisidine (ODA)	1g dissolved in 400 ml HPLC/pur grade Methanol	R201258	
KBr	10g dissolved in ~1.4 L H ₂ O (DI)	R201284	
Ultrap HNO ₃	160 ml	R201319	
		R201320 (2/8-3/6/06), 3/9/06, 3/14/06, 3/20/06	
		R201321 (4/19/06, 5/1/06, 5/22/06, 6/12/06, 6/18/06, 6/24/06, 7/1/06, 7/13/06, 7/18/06, 7/24/06, 8/1/06, 8/13/06)	
		R201393 (6/12/06, 7/1/06, 7/13/06, 7/18/06, 7/24/06, 8/1/06, 8/13/06)	

Comment: Add ODA to MeOH and dissolve. Using a 2% v/v flask dissolve KBr in DI H₂O. Add HNO₃ to KBr solution. Add ODA to KBr/HNO₃ soln and bring to mark w/ DI H₂O. Soln must be clear in 30 min. Soln must stand minimum 6 hrs. before using. Best to stand overnight.



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CERTIFICATE OF ANALYSIS

R# 201375

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fax: 732.901.1903

info@inorganicventures.com

I-CAL ION CHROMATOGRAPHY SOLUTION 1000 µg/mL Chlorite in H₂O

Catalog No: ICCLO21-1 and ICCLO21-5

Lot Number: **Y-CLOX01036**

Starting Material:

Sodium Chlorite

Starting Material Lot No:

E02F39

CERTIFIED CONCENTRATION: 998 ± 3 µg/mL

* The Certified Concentration for Lot No. Y-CLOX01036 is only the ClO₂⁻. The value of Cl⁻ is 6 ± 1 µg/mL, and the value of ClO₃⁻ is 12 ± 1 µg/mL. This was determined by Ion Chromatography vs an in-house standard solutions traceable to NIST SRM 3182.

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:

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

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

($\bar{x}$) = mean

x_i = individual results

n = number of measurements

$\sum s_i$ = The summation of all significant estimated errors.

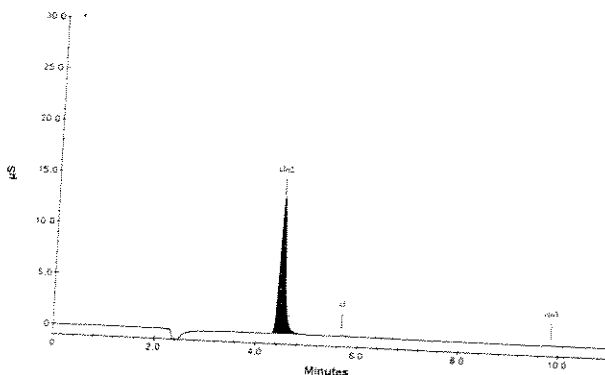
Instrument Value: 1002 ± 2 µg/mL

Method: Ion Chromatography vs NIST SRM 136e Lot number 980702.

Wet Analysis: 998 ± 3 µg/mL

Method: Iodometric Titration NIST SRM 136e Lot number 980702.

ClO₂⁻ Y-CLOX01036



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 Na₂CO₃
Eluent Flow Rate: 1.00 mL/min
Cell Temp.: 35 °C
Scale: Y-axis = 30µS scale
X-axis = minutes
Concentration: 20µg/g

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

QA:KL Rev 032006NTM

Paul R. Laines

37 Quality Assurance Manager

Expires:

EXPIRES
1#2007

QUALITY STANDARD DOCUMENTATION

1. ISO 9001 QMI Registered Quality System (Certificate Number 010105)

Members of IQ Net : Argentina (IRAM), Australia (QAS), Austria (ÖQS), Belgium (Avinter) , Brazil (FCAV), Canada (QMI), Hong Kong (HKQAA), Columbia (ICONTEC), Czech Republic (CQS), Denmark (DS), Finland (SFS), France (AFAQ), Germany (DQS), Greece (ELOT), Hungary (MSZT), Ireland (NSAI), Israel (SII), Italy (CISQ), Japan (JQA), Korea (KSA-QA), Netherlands (KEMA), Norway (NCS), Poland(PCBC), Portugal (APCER), Singapore (PSB), Slovenia (SIQ), Spain (AENOR), Switzerland (SQS)



2. ISO/IEC 17025-1999 - Chemical Testing - Accredited A2LA (Certificate Number 883.01)
3. ISO/IEC Guide 34-2000 - Reference Materials Production - Accredited A2LA (Certificate Number 883.02)
4. 10CFR50 Appendix B
5. 10CFR21

Please contact our Quality Assurance Department for further information and copies of documents pertaining to our Quality Standard certifications.

STABILITY/ EXPIRATION DOCUMENTATION

Shelf Life -

The length of time that a properly stored and packaged standard will remain within the specified uncertainty. Shelf life is affected by chemical stability and transpiration issues. Inorganic Ventures' Standard Solutions are chemically stable indefinitely. Transpiration loss is linear with time and limits the time a standard can be used with confidence. The smaller the bottle the higher the rate of transpiration. Inorganic Ventures' studies indicate that the shelf life of our 500 mL bottle is 4 years and the shelf life of our 125 mL bottle is 21 months.

Expiration Date -

The date after which a standard solution should not be used. A one year expiration date is recommended by most state and federal regulatory agencies. Transpiration issues and repeated use of solutions over a one year period may adversely affect the integrity of the standard.

PACKAGING DOCUMENTATION

Purified acid, 18 megohm double deionized water that has been filtered through a 0.2 μ m filter and in-house procedure IV-PACK-001 is used to clean all bottles. Contact us for technical information relating to contamination issues in packaging materials.

GLASSWARE CALIBRATION

In-house procedure 3-QC-002 is used to calibrate all Class A Glassware used in the manufacture and quality control of Custom Grade Standards.

BALANCE CALIBRATION

All balances are checked daily using in-house procedure number 6-IMM-001. The weights used for testing are annually compared to Gerhart Scale Corporation's master weights and are traceable to the National Institute of Standards and Technology (NIST). The NIST Traceability numbers are 428359B and 454678. The NIST test number is 822/260017-98.

All analytical balances are calibrated every 4 months by Gerhart Scale Corp. of South Amboy. The balances are calibrated with a class 1 analytical weight set. These weights are tested annually by a NIST / NVLAP accredited calibration lab. The NIST test number is 822/260017-8.

THERMOMETER CALIBRATION

The thermometers used in the determination of the final densities are calibrated vs standard thermometer No. 903-2680 which was certified in accordance with the procedures outlined by ASTM E77-87 and NIST Monograph 150 using NIST Test Nos. and Std Nos.: 769543, 217368/769543, 217368/P14452, 176240/P14452, 176240. The in-house procedure No. is 2-QC-001. Thermometers which are not calibrated vs standard thermometer No. 903-2680 are traceable to NIST Identification Nos. 92564, 119016, 471047 and NIST test report Nos. 811/258522, 811/2557078, and 236090.

TECHNICAL SUPPORT

All customers are encouraged to contact us for technical support for the proper use of our products.

TEL 1-800-569-6799

FAX 1-732-901-1903

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EMAIL IVtech@ivstandards.com



195 Lehigh Avenue, Suite 4
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CERTIFICATE OF ANALYSIS

R# 201374

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info@inorganicventures.com

I-CAL ION CHROMATOGRAPHY SOLUTION 1000 µg/mL Chlorate in H₂O

Catalog No: ICCLO31-1 and ICCLO31-5

Lot Number: **Y-CLOX01034**

Starting Material:

Potassium Chlorate

Starting Material Lot No:

02407TF

CERTIFIED CONCENTRATION: 1008 ± 3 µg/mL

The Certified Value is the Inductively Coupled Plasma Spectroscopy (ICP) value. The following equations are used in the calculation of the certified value and the uncertainty:

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

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

($\bar{x}$) = mean

x_i = individual results

n = number of measurements

$\sum s_i$ = The summation of all significant estimated errors.

Calculated Value: 1001 ± 5 µg/mL

Method: Calculated, based on starting material.

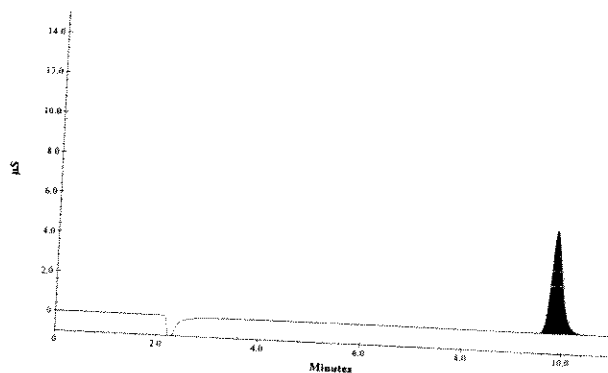
Instrument Value: 1006 ± 2 µg/mL

Method: Ion Chromatography vs an in-house standard.

Instrument Value: 1008 ± 3 µg/mL

Method: Analysis by Inductively Coupled Plasma Spectroscopy (ICP) vs NIST SRM 3182 Lot number: 990506.

ClO₃⁻ Y-CLOX01034



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: 9.0 mM Na₂CO₃
Eluent Flow Rate: 1.0 mL/min
Cell Temp.: 35 °C
Scale: Y-axis = 15µS scale
X-axis = minutes
Concentration: 20µg/g

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

QA:MG

Rev. 082405entm

Paul R. Gaines

Expires: **EXPIRES**

12/2007

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Quality Assurance Manager

QUALITY STANDARD DOCUMENTATION

1. ISO 9001:2000 QMI Registered Quality System (Certificate Number 010105)



Members of IQ Net : Argentina (IRAM), Australia (QAS), Austria (ÖQS), Belgium (Avinter), Brazil (FCAV), Canada (QMI), Hong Kong (HKQAA), Columbia (ICONTEC), Czech Republic (CQS), Denmark (DS), Finland (SFS), France (AFAQ), Germany (DQS), Greece (ELOT), Hungary (MSZT), Ireland (NSAI), Israel (SII), Italy (CISQ), Japan (JQA), Korea (KSA-QA), Netherlands (KEMA), Norway (NCS), Poland(PCBC), Portugal (APCER), Singapore (PSB), Slovenia (SIQ), Spain (AENOR), Switzerland (SQS)

2. ISO/IEC Guide 34-2000 "General Requirements for the Competence of Reference Material Producers" - Reference
 3. Materials Production - Accredited A2LA Certificate 883.02
 4. ISO/IEC17025-1999 "General Requirements for the Competence of Testing and Calibration" - Chemical Testing - Accredited A2LA Certificate 883.01
 5. MIL-STD-45662A
 6. 10CFR50 Appendix B - Nuclear Regulatory Commission - Domestic Licensing of Production and Utilization Facilities
 7. 10CFR21 - Nuclear Regulatory Commission - Reporting Defects and Non-Compliance
- Please contact our Quality Assurance Department for further information and copies of documents pertaining to our Quality Standard certifications.

STABILITY/ EXPIRATION DOCUMENTATION

Shelf Life -

The length of time that a properly stored and packaged standard will remain within the specified uncertainty. Shelf life is affected by chemical stability and transpiration issues. Inorganic Ventures' Standard Solutions are chemically stable indefinitely. Transpiration loss is linear with time and limits the time a standard can be used with confidence. The smaller the bottle the higher the rate of transpiration. Inorganic Ventures' studies indicate that the shelf life of our 500 mL bottle is 4 years and the shelf life of our 125 mL bottle is 21 months.

Expiration Date -

The date after which a standard solution should not be used. A one year expiration date is recommended by most state and federal regulatory agencies. Transpiration issues and repeated use of solutions over a one year period may adversely affect the integrity of the standard.

PACKAGING DOCUMENTATION

Purified acid, 18 megohm double deionized water that has been filtered through a 0.2 μ m filter and in-house procedure IV-PACK-001 is used to clean all bottles. Contact us for technical information relating to contamination issues in packaging materials.

GLASSWARE CALIBRATION

In-house procedure 3-QC-002 is used to calibrate all Class A Glassware used in the manufacture and quality control of Custom Grade Standards.

BALANCE CALIBRATION

All balances are checked daily using in-house procedure number 6-IMM-001. The weights used for testing are annually compared to Gerhart Scale Corporation's master weights and are traceable to the National Institute of Standards and Technology (NIST). The NIST Traceability numbers are 428359B and 454678. The NIST test number is 822/260017-98.

All analytical balances are calibrated every 4 months by Gerhart Scale Corp. of South Amboy. The balances are calibrated with a class 1 analytical weight set. These weights are tested annually by a NIST / NVLAP accredited calibration lab. The NIST test number is 822/260017-8.

THERMOMETER CALIBRATION

The thermometers used in the determination of the final densities are calibrated vs standard thermometer No. 903-2680 which was certified in accordance with the procedures outlined by ASTM E77-87 and NIST Monograph 150 using NIST Test Nos. and Std Nos.: 769543, 217368/769543, 217368/P14452, 176240/P14452, 176240. The in-house procedure No. is 2-QC-001. Thermometers which are not calibrated vs standard thermometer No. 903-2680 are traceable to NIST Identification Nos. 92564, 119016, 471047 and NIST test report Nos. 811/258522, 811/2557078, and 236090.

TECHNICAL SUPPORT

All customers are encouraged to contact us for technical support for the proper use of our products.

TEL 1-800-569-6799

INT'L 1-732-901-1900

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

1000 µg/mL Bromide in Water

Catalog Number: ICBR1-1 and ICBR1-5
Lot Number: Y-BR01057
Starting Material: Potassium Bromide
Starting Material Purity (%): 99.0000
Starting Material Lot No.: 09014BY
Matrix: Water

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Concentration: $999 \pm 3 \mu\text{g/mL}$

Certified Density: 0.998 g/mL (measured at 22° C)

The Certified Value is the instrument analysis value. The following equations are used in the calculation of the certified value and the uncertainty:

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

$(\bar{x})$ = mean
 x_i = individual results
 n = number of measurements

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

$\sum s_i$ = The summation of all significant estimated errors
(Most common are the errors from instrumental measurement weighting, 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 IV 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 ± 3 µg/mL**
IC Assay NIST SRM 3184 Lot Number: 020701

Assay Method #2 **997 ± 3 µg/mL**
Vollhard NIST SRM 999a Lot Number: 999a

- 4.2 BALANCE CALIBRATION** - All balances are checked daily using in-house procedure 6-IMM-001. The weights used for testing are annually compared to Gerhart Scale Corporation's master weights and are traceable to the National Institute of Standards and Technology (NIST). The NIST Traceability numbers are 692476 - Class 1 and 692476A - Class 2. The NIST test number is 822/260017-98. All analytical balances are calibrated every 4 months by Gerhart Scale Corp. of South Amboy. The balances are calibrated with a class 1 and/or class 2 analytical weight set. These weights are tested annually by a NIST / NVLAP accredited calibration lab. The NIST test number is 822/260017-98.
- 4.3 THERMOMETER CALIBRATION** - The thermometers used in the determination of the final densities are calibrated vs standard thermometer No. 903-2680 which was certified in accordance with the procedures outlined by ASTM E77-87 and NIST Monograph 150 using NIST Test Nos. and Std Nos.: 769543, 217368/769543, 217368/P14452, 176240/P14452, 176240. The in-house procedure is 2-QC-001. Thermometers which are not calibrated vs standard thermometer No. 903-2680 are traceable to NIST Identification Nos. 92564, 119016, 471047 and NIST test report Nos. 811/258522, 811/2557078, and 236090.
- 4.4 GLASSWARE CALIBRATION** - In-house procedure 3-QC-002 is used to calibrate all Class A Glassware used in the manufacture and quality control of CRM's.

5.0 Chromatogram - N/A

6.0 INTENDED USE

For the calibration of analytical instruments including but not limited to the following:
HPLC, IC, TLC, ISE, IR, NMR, UV/VIS, MS, Capillary Electrophoresis, Potentiometry, Wet Chemistry and Voltammetry
For the validation of analytical methods
For the preparation of "working reference samples"
For interference studies and the determination of correction coefficients
For detection limit and linearity studies
For additional intended uses, contact IV Technical Support

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

Storage & Handling - Keep **Tightly** sealed when not in use. Store and use at $20 \pm 4^{\circ}\text{C}$. **Do Not** pipette from the container. **Do Not** return portions removed from pipetting to container.

- Elements Specific Information - For specific information regarding the elements in your blend:
Go on line at www.inorganicventures.com/extras/pertable <<http://www.inorganicventures.com/extras/pertable>> Take advantage of our interactive Periodic Table.
- E-mail Technical Support at ivtech@inorganicventures.com <<mailto:ivtech@inorganicventures.com>> at any time and a technical representative will respond within 24 business hours.
- Call our toll free Technical Support line at (800) 569-6799 or dial (732) 901-1900, Monday through Friday, from 8:00AM to 6:00PM Eastern Standard Time.

8.0 HAZARDOUS INFORMATION - Please refer to the enclosed Material Safety Data sheet for information regarding this CRM.

9.0 HOMOGENEITY - This solution was mixed according to an in-house procedure IV-MPM-004 and is guaranteed to be homogeneous.

10.0 QUALITY STANDARD DOCUMENTATION



10.1 ISO 9001:2000 Quality Management System Registration - QMI Certificate Number 010105

Recognized by:

Registrar Accreditation Board (ANSI-RAB)

Standards Council of Canada (SCC)

Dutch Council for Accreditation (RVA)

Entidad Mexicana de Acreditacion, a.c.(EMA)

Members of IQ Net International Certification Network:

Argentina (IRAM), Australia (QAS), Austria (ÖQS), Belgium (Avinter), Brazil (FCAV), Canada (QMI), Hong Kong (HKQAA), Columbia (ICONTEC), Czech Republic (CQS), Denmark (DS), Finland (SFS), France (AFAQ), Germany (DQS), Greece (ELOT), Hungary (MSZT), Ireland (NSAI), Israel (SI), Italy (CISQ), Japan (JQA), Korea (KSA-QA), Netherlands (KEMA), Norway (NCS), Poland(PCBC), Portugal (APCER), Singapore (PSB), Slovenia (SIQ), Spain (AENOR), Switzerland (SQS)

10.2 ISO/IEC 17025 - 1999 "General Requirements for the Competence of Testing and Calibration" - Chemical Testing - Accredited A2LA Certificate Number 883.01

10.3 ISO/IEC Guide 34 - 2000 "General Requirements for the Competence of Reference Material Producers" - Reference Materials Production - Accredited A2LA Certificate Number 883.02

A2LA Mutual Recognition Agreement Partners:

Australia (NATA), Austria (BmWA), Belgium (BELTEST) (BKO-OBE), Canada (SCC), Chinese Taipei (CNLA), Czech Republic (NAO), Denmark (DANAK), Finland (FINAS), France (COFRAC), Germany (DAR), Hong Kong (HKAS), Ireland (NAB), Italy (SIT) (SINAL), Japan (JAB) (JNLA), Republic of Korea (KOLAS), The Netherlands (RvA), New Zealand (IANZ), Norway (NA), Portugal (IPQ), Singapore (SAC-SINGLAS), Spain (ENAC), Sweden (SWEDAC), Switzerland (SAS), United Kingdom (UKAS) and United States (NVLAP) (ICBO ES)

10.4 10CFR50 Appendix B - Nuclear Regulatory Commission - Domestic Licensing of Production and Utilization Facilities

10.5 10CFR21 - Nuclear Regulatory Commission - Reporting Defects and Non-Compliance

10.6 MIL-STD-45662A (Obsolete/Observed)

11.0 DATE OF CERTIFICATION AND PERIOD OF VALIDITY

11.1 **IV Shelf Life** - The period of time during which the concentration of the analyte(s) in a properly packaged, unopened, and unused standard stored under environmentally controlled and monitored conditions will remain within the specified uncertainty range. Shelf life is limited primarily by transpiration (loss of water from the solution) and infrequently, by chemical instability. Transpiration studies (P-SP01020) of chemically-stable solutions performed at the Manufacture's facility shows a CRM shelf-life of four years for solutions packaged in 500-mL low density polyethylene bottles. When stored under special environmental controls that minimize transpiration and instability, the shelf life can be extended past this limit.

11.2 **Expiration Date** - The date after which a CRM should not be used. Routine laboratory use of a CRM increases transpiration losses and the chance of contamination which affect the integrity of the CRM and limit its useful life. The manufacturer concurs with state and federal regulatory agencies' recommendations that solution standards be assigned a one-year expiration date.

Certification Date: February 28, 2006

Expiration Date: **EXPIRES**
1/2007

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

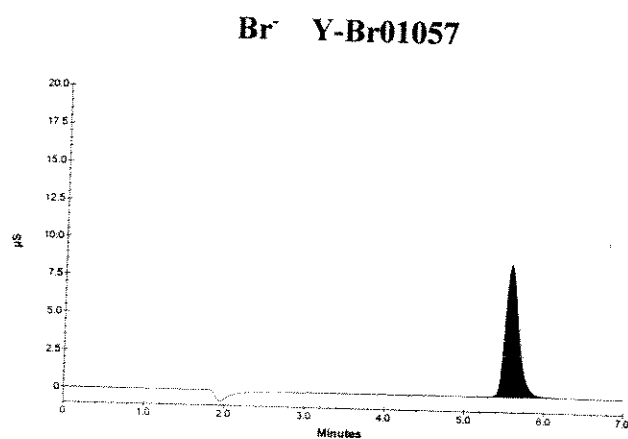
Certificate Prepared By: Nick Maida, QA Administrator

Certificate Approved By: Katalin Le, QC Manager

Certifying Officer: Paul Gaines, PhD., Technical Director

ATTACHMENT 1

CHROMATOGRAM FOR: 1000 $\mu\text{g/mL}$ Bromide Y-BR01057



DIONEX DX-120 Ion Chromatograph
Anal. Column: IonPac AS14 4 x 250 mm
Guard Column: IonPac AG14 4 x 50 mm
Anion Self Regenerating Suppressor:
ASRS-ULTRA II 4mm
Suppressor Current: 100 mA
Eluent: 3.5 mM Na_2CO_3
0.8mM NaHCO_3
Eluent Flow Rate: 1.00 mL/min
Cell Temp.: 35 °C
Scale: Y-axis = 20 μS scale
X-axis = minutes
Concentration: approx. 20 $\mu\text{g/g}$