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Level IV Data Package

MWH Group 197237

Method: 218.6

Sample No.:

2702270366

2702270367

No.	Sample Name	Time	Dil.Fac.	Amount	Comment	Analyst:	tlh
				ug/L			
				CRVI-LOW			
				UV VIS 1		Criteria	
1,	Standard 1 - 0.1 ppb	02/08/07 09:26,	1.0,	0.096	Diluted from TLH060816-2		
2,	Standard 2 - 0.2ppb	02/08/07 09:34,	1.0,	0.192	TLH060816-1		
3,	Standard 3 - 2.0 ppb	02/08/07 09:42,	1.0,	1.971	TLH060816-2		
4,	Standard 4 - 10 ppb	02/08/07 09:50,	1.0,	9.851	TLH060816-3		
5,	Standard 5 - 20 ppb	02/08/07 09:58,	1.0,	19.829	TLH060816-4		
6,	Standard 6 - 50ppb	02/08/07 10:06,	1.0,	50.100	TLH060816-5		
7,	IPC 20	02/27/07 09:13,	1.0,	20.053			
8,	LRB	02/27/07 09:21,	1.0,	0.004			
9,	LRB BUFFER	02/27/07 09:29,	1.0,	0.006			
10,	MRL 0.1ppb	02/27/07 09:37,	1.0,	0.103		MRL 50%-150%	
11,	LCS 2.0ppb	02/27/07 09:45,	1.0,	1.983	TLH060815-2	0.05 - 0.15ppb	
12,	LCS 2.0ppb Dup	02/27/07 09:53,	1.0,	1.987		LCS 90%-110%	
13,	2702270366	02/27/07 10:47,	1.0,	n.a.		Range: 1.80 - 2.20	
14,	2702270366_MS	02/27/07 10:55,	1.0,	2.191	2.19 - 110% recovery	MS/MSD 90%-110%	
15,	2702270366_MSD	02/27/07 11:03,	1.0,	2.238	too high-rerun	True Value = 2.0	
16,	2702270367	02/27/07 11:12,	1.0,	60.579	dilute and rerun	IPC 95%-105%	
17,	2702270216	02/27/07 11:20,	1.0,	10.957		20ppb - 19-21ppb	
18,	2702270366_MSD	02/27/07 11:28,	1.0,	2.102	2.10 - 105% recovery	10ppb - 9.5-10.5 ppb	
19,	2702270367 (1:5)	02/27/07 11:36,	5.0,	62.118			
20,	LRB	02/27/07 11:44,	1.0,	0.018			
21,	IPC 20	02/27/07 11:52,	1.0,	20.573			

Kevin

Sequence: 022707-IC5-CRVI
Operator: tih

Page 1 of 2
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Title: CRVI-LOW
Datasource: Dionex_USPAS2SDIO2
Location: IC\IC5_CRVI-LOW\2007\February
Timebase: IC-#5
#Samples: 21

Created: 2/27/2007 9:07:17 AM by tih
Last Update: 2/28/2007 2:05:12 PM by tih

No.	Name	Dil. Factor	Type	Comment	Pos.	Inj. Vol.	Program
1	Standard 1 - 0.1 ppb	1.0000	Standard	Diluted from TLH060816-2	635	1.0	CRVI-LOW-loop
2	Standard 2 - 0.2ppb	1.0000	Standard	TLH060816-1	635	1.0	CRVI-LOW-loop
3	Standard 3 - 2.0 ppb	1.0000	Standard	TLH060816-2	635	1.0	CRVI-LOW-loop
4	Standard 4 - 10 ppb	1.0000	Standard	TLH060816-3	635	1.0	CRVI-LOW-loop
5	Standard 5 - 20 ppb	1.0000	Standard	TLH060816-4	635	1.0	CRVI-LOW-loop
6	Standard 6 - 50ppb	1.0000	Standard	TLH060816-5	635	1.0	CRVI-LOW-loop
7	IPC 20	1.0000	Unknown		635	1.0	CRVI-LOW-loop
8	LRB	1.0000	Unknown		635	1.0	CRVI-LOW-loop
9	LRB BUFFER	1.0000	Unknown		633	1.0	CRVI-LOW-loop
10	MRL 0.1ppb	1.0000	Unknown		632	1.0	CRVI-LOW-loop
11	LCS 2.0ppb	1.0000	Unknown	TLH060815-2	633	1.0	CRVI-LOW-loop
12	LCS 2.0ppb Dup	1.0000	Unknown		634	1.0	CRVI-LOW-loop
13	2702270366	1.0000	Unknown		635	1.0	CRVI-LOW-loop
14	2702270366_MS	1.0000	Unknown	2.19 - 110% recovery	636	1.0	CRVI-LOW-loop
15	2702270366_MSD	1.0000	Unknown	too high-rerun	637	1.0	CRVI-LOW-loop
16	2702270367	1.0000	Unknown	ditute and rerun	638	1.0	CRVI-LOW-loop
17	2702270216	1.0000	Unknown		639	1.0	CRVI-LOW-loop
18	2702270366_MSD	1.0000	Unknown	2.10 - 105% recovery	640	1.0	CRVI-LOW-loop
19	2702270367 (1:5)	5.0000	Unknown		641	1.0	CRVI-LOW-loop
20	LRB	1.0000	Unknown		642	1.0	CRVI-LOW-loop
21	IPC 20	1.0000	Unknown		641	1.0	CRVI-LOW-loop

Sequence: 022707-IC5-CRVI
Operator: tih

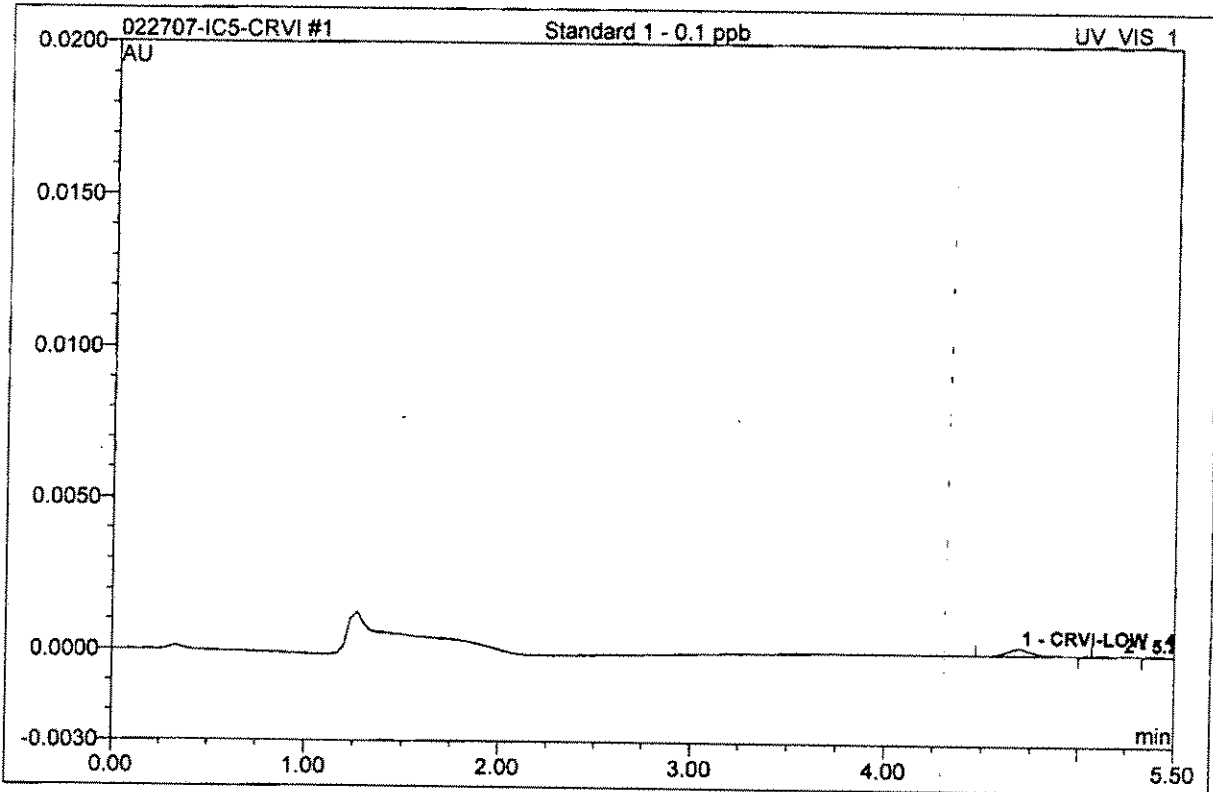
Page 2 of 2
Printed: 2/28/2007 2:05:20 PM

Title: CRVI-LOW
Datasource: Dionex_USPAS2SDIO2
Location: IC\IC5_ CRVI-LOW\2007\February
Timebase: IC-#5
#Samples: 21

Created: 2/27/2007 9:07:17 AM by tih
Last Update: 2/28/2007 2:05:12 PM by tih

No.	Method	Status	Inj. Date/Time	*Analyst	*operator
1	3-IC#5-CrVi	Finished	2/8/2007 9:26:27 AM	tih	
2	3-IC#5-CrVi	Finished	2/8/2007 9:34:34 AM	tih	
3	3-IC#5-CrVi	Finished	2/8/2007 9:42:39 AM	tih	
4	3-IC#5-CrVi	Finished	2/8/2007 9:50:46 AM	tih	
5	3-IC#5-CrVi	Finished	2/8/2007 9:58:51 AM	tih	
6	3-IC#5-CrVi	Finished	2/8/2007 10:06:58 AM	tih	
7	3-IC#5-CrVi	Finished	2/27/2007 9:13:18 AM	tih	
8	3-IC#5-CrVi	Finished	2/27/2007 9:21:24 AM	tih	
9	3-IC#5-CrVi	Finished	2/27/2007 9:29:30 AM	tih	
10	3-IC#5-CrVi	Finished	2/27/2007 9:37:36 AM	tih	
11	3-IC#5-CrVi	Finished	2/27/2007 9:45:42 AM	tih	
12	3-IC#5-CrVi	Finished	2/27/2007 9:53:48 AM	tih	
13	3-IC#5-CrVi	Finished	2/27/2007 10:47:47 AM	tih	
14	3-IC#5-CrVi	Finished	2/27/2007 10:55:52 AM	tih	
15	3-IC#5-CrVi	Finished	2/27/2007 11:03:58 AM	tih	
16	3-IC#5-CrVi	Finished	2/27/2007 11:12:04 AM	tih	
17	3-IC#5-CrVi	Finished	2/27/2007 11:20:10 AM	tih	
18	3-IC#5-CrVi	Finished	2/27/2007 11:28:16 AM	tih	
19	3-IC#5-CrVi	Finished	2/27/2007 11:36:22 AM	tih	
20	3-IC#5-CrVi	Finished	2/27/2007 11:44:28 AM	tih	
21	3-IC#5-CrVi	Finished	2/27/2007 11:52:34 AM	tih	

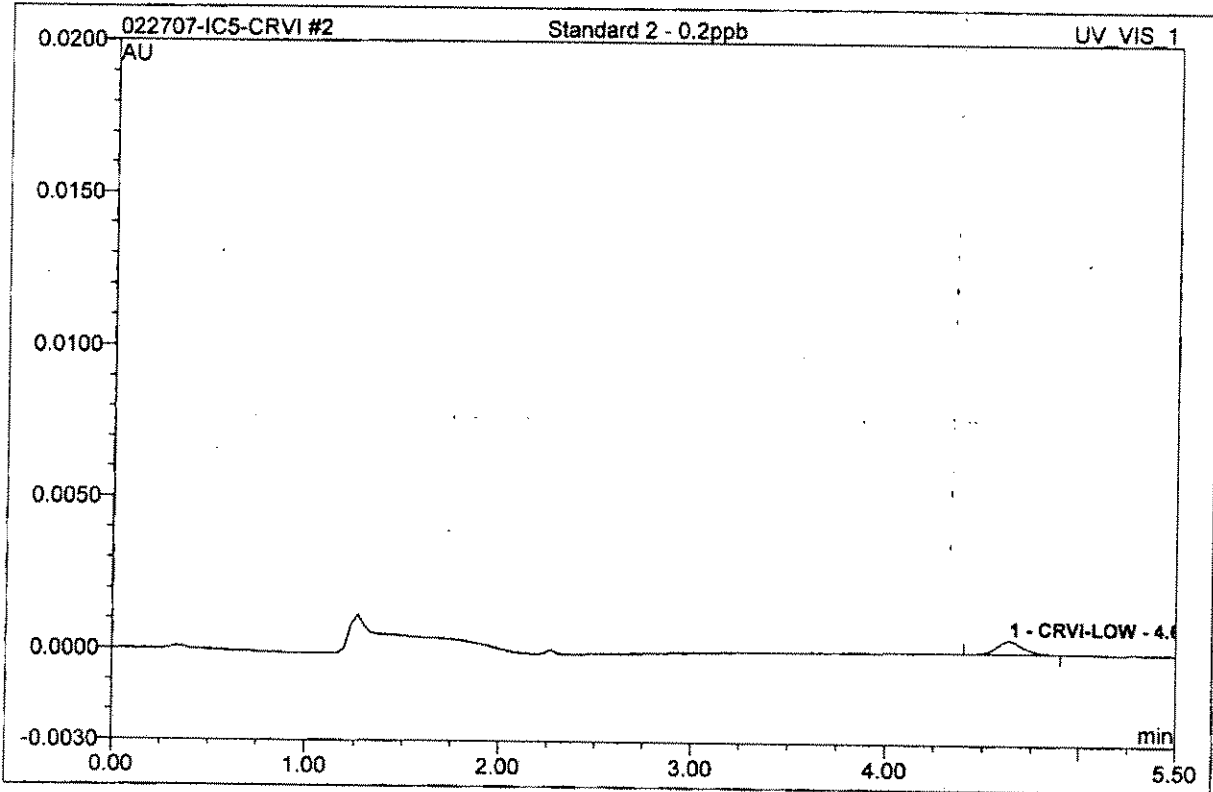
1 Standard 1 - 0.1 ppb			
Sample Name:	Standard 1 - 0.1 ppb	Control Program:	CRVI-LOW-loop
Dilution Factor:	1.0000	Quantif. Method:	3-IC#5-CrVi
Sample Type:	standard	Recording Time:	2/8/2007 9:26
Analyst:	tlh	Channel:	UV_VIS_1



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount ug/L	Type
1	4.70	CRVI-LOW	0.000	0.0000343	96.12	0.096	BMB
2	5.23	n.a.	0.000	0.0000014	3.88	n.a.	BMB
Total:			0.000	0.000	100.00	0.096	

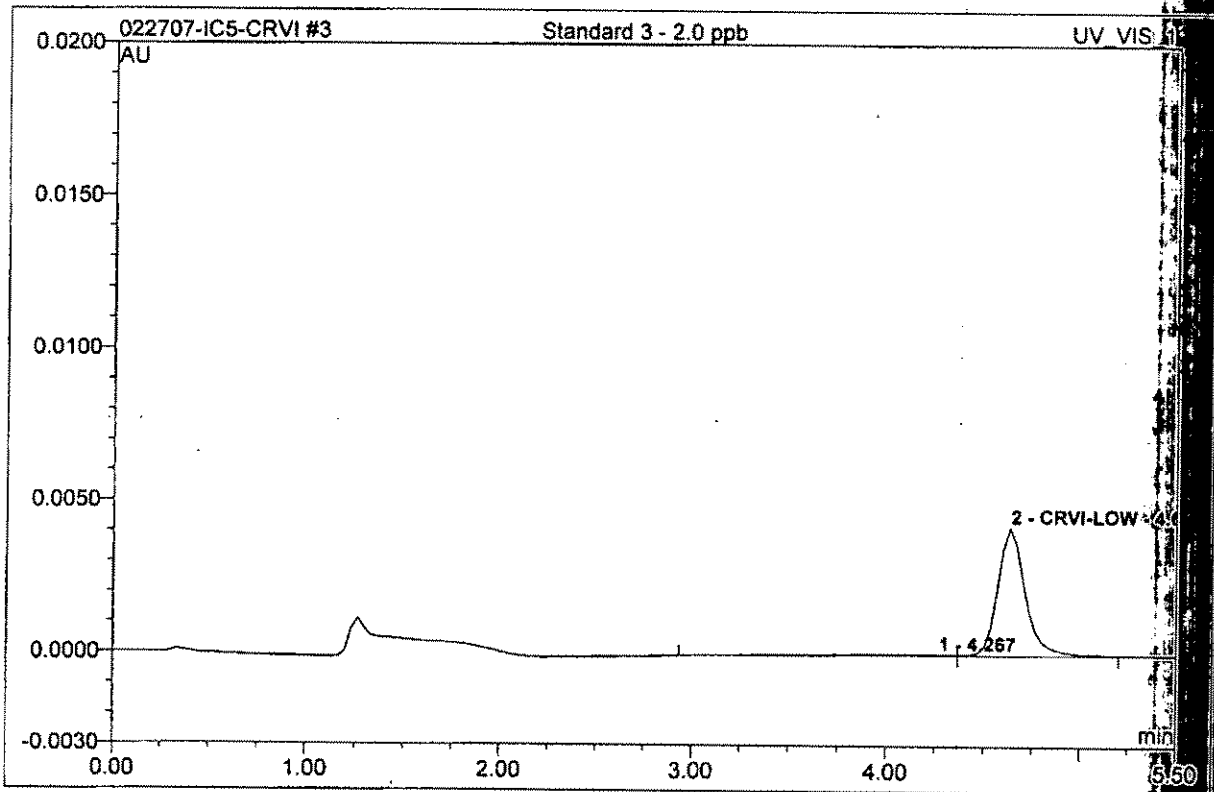
2 Standard 2 - 0.2ppb

Sample Name:	Standard 2 - 0.2ppb	Control Program:	CRVI-LOW-loop
Dilution Factor:	1.0000	Quantif. Method:	3-IC#5-CrVi
Sample Type:	standard	Recording Time:	2/8/2007 9:34
Analyst:	tlh	Channel:	UV_VIS_1



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount ug/L	Type
1	4.63	CRVI-LOW	0.000	0.0000684	100.00	0.192	BMB
Total:			0.000	0.000	100.00	0.192	

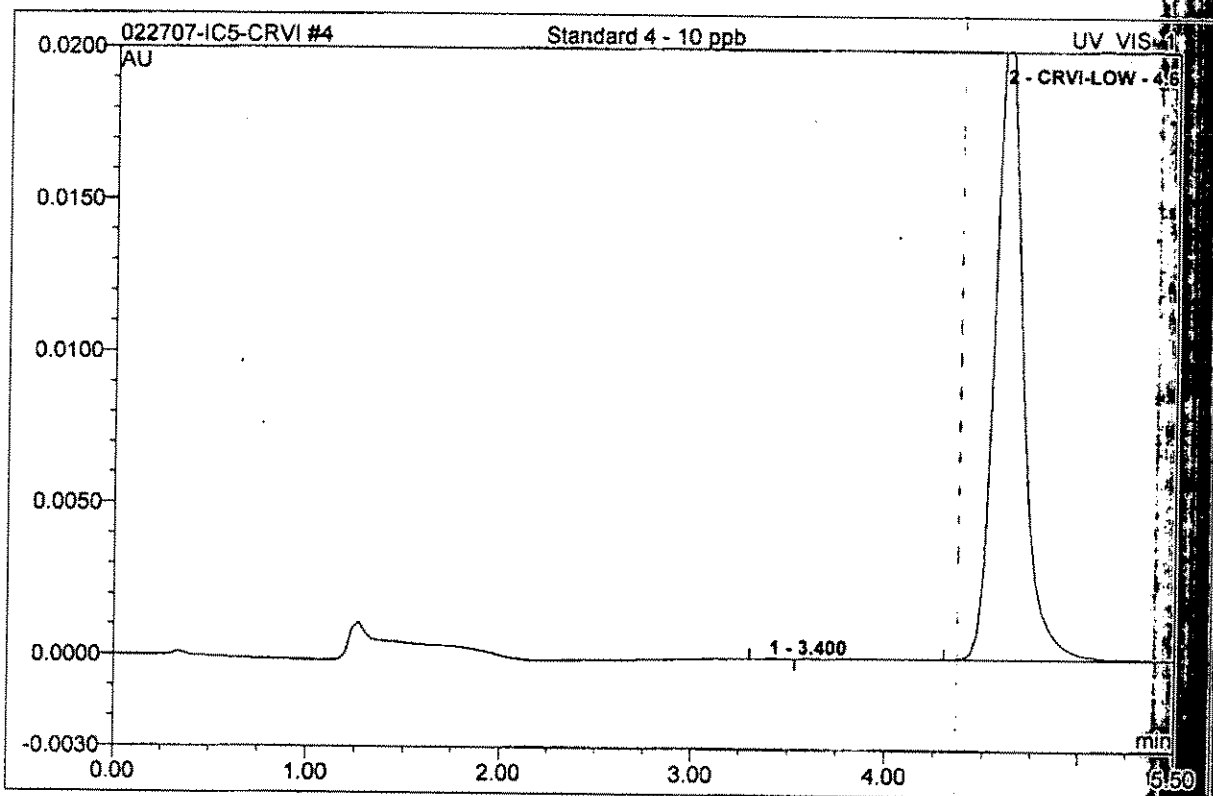
3 Standard 3 - 2.0 ppb			
Sample Name:	Standard 3 - 2.0 ppb	Control Program:	CRVI-LOW-loop
Dilution Factor:	1.0000	Quantif. Method:	3-IC#5-CrVI
Sample Type:	standard	Recording Time:	2/8/2007 9:42
Analyst:	tlh	Channel:	UV_VIS_1



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount ug/L	Type
1	4.27	n.a.	0.000	0.0000371	5.03	n.a.	BM
2	4.63	CRVI-LOW	0.004	0.0007010	94.97	1.971	MB
Total:			0.004	0.001	100.00	1.971	

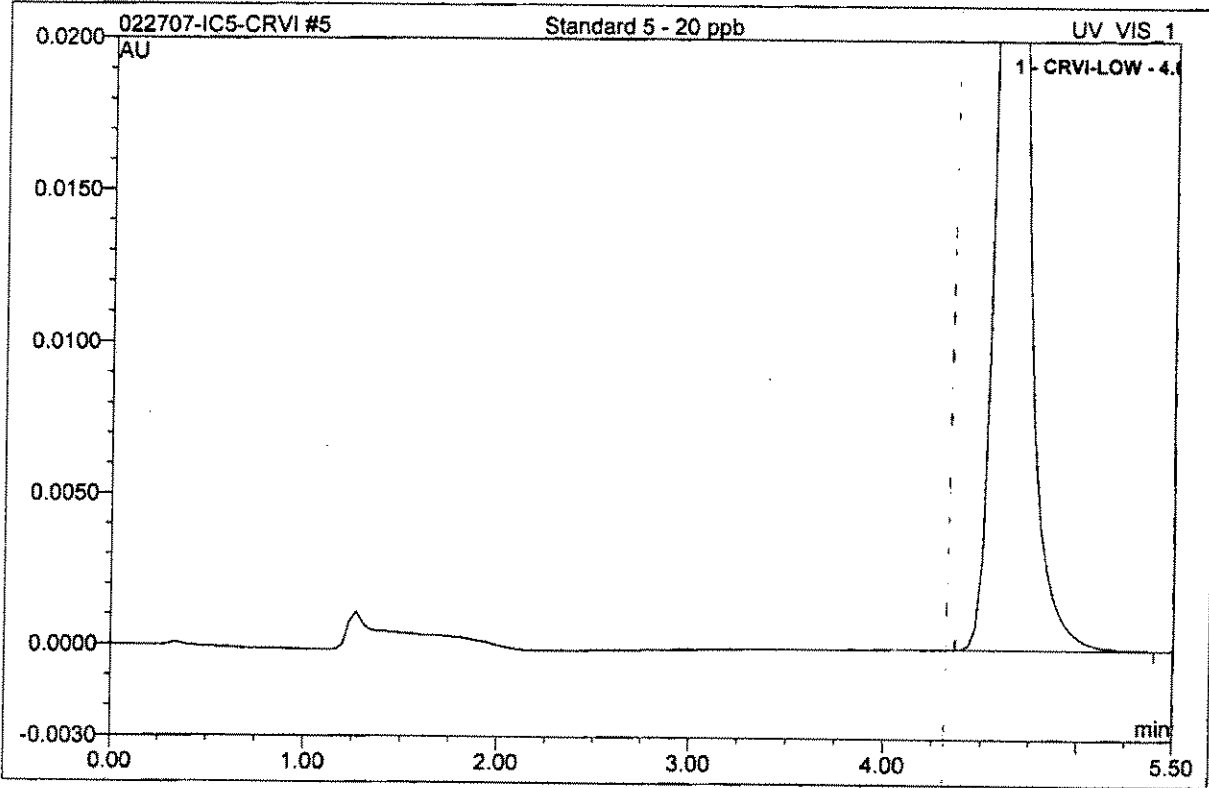
4 Standard 4 - 10 ppb

Sample Name:	Standard 4 - 10 ppb	Control Program:	CRVI-LOW#loop
Dilution Factor:	1.0000	Quantif. Method:	3-IC#5-CrVI
Sample Type:	standard	Recording Time:	2/8/2007 9:50
Analyst:	tlh	Channel:	UV_VIS_1



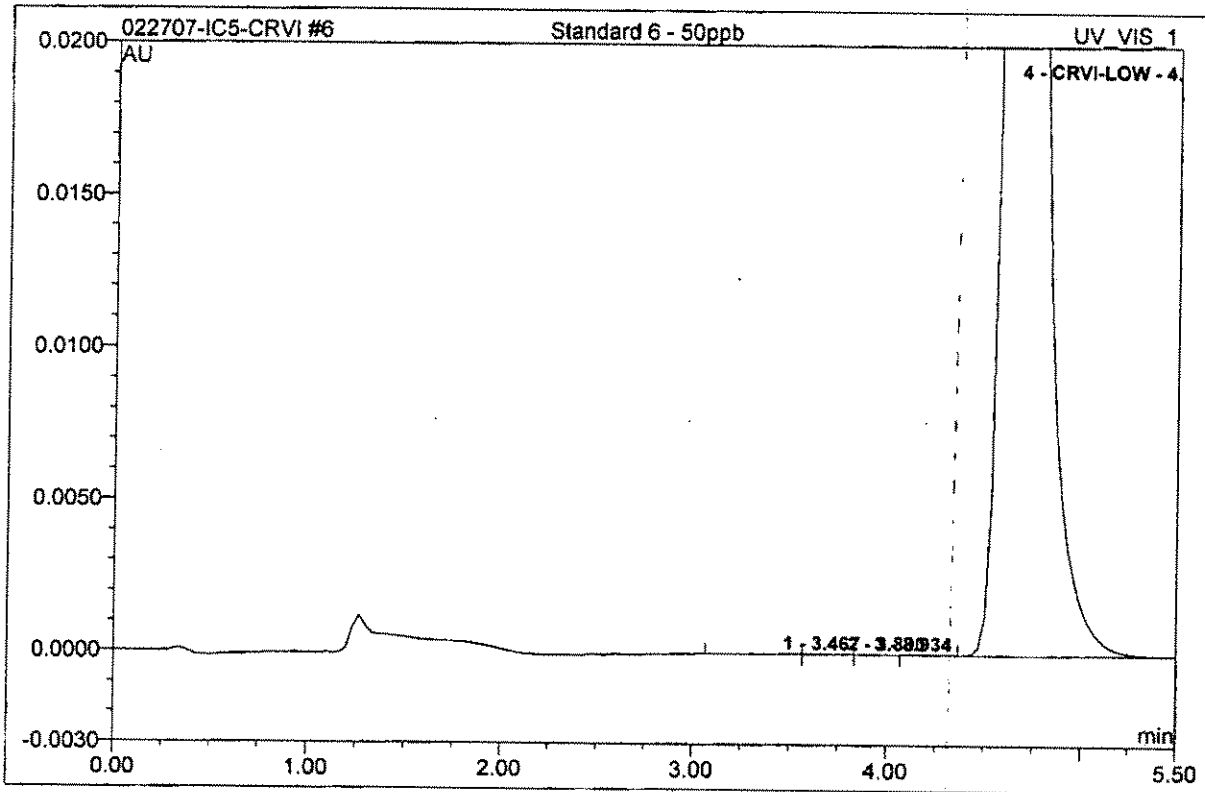
No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount ug/L	Type
1	3.40	n.a.	0.000	0.0000012	0.03	n.a.	BMB
2	4.60	CRVI-LOW	0.021	0.0035041	99.97	9.851	BMB
Total:			0.021	0.004	100.00	9.851	

5 Standard 5 - 20 ppb			
Sample Name:	Standard 5 - 20 ppb	Control Program:	CRVI-LOW-loop
Dilution Factor:	1.0000	Quantif. Method:	3-IC#5-CrVI
Sample Type:	standard	Recording Time:	2/8/2007 9:58
Analyst:	tlh	Channel:	UV_VIS_1



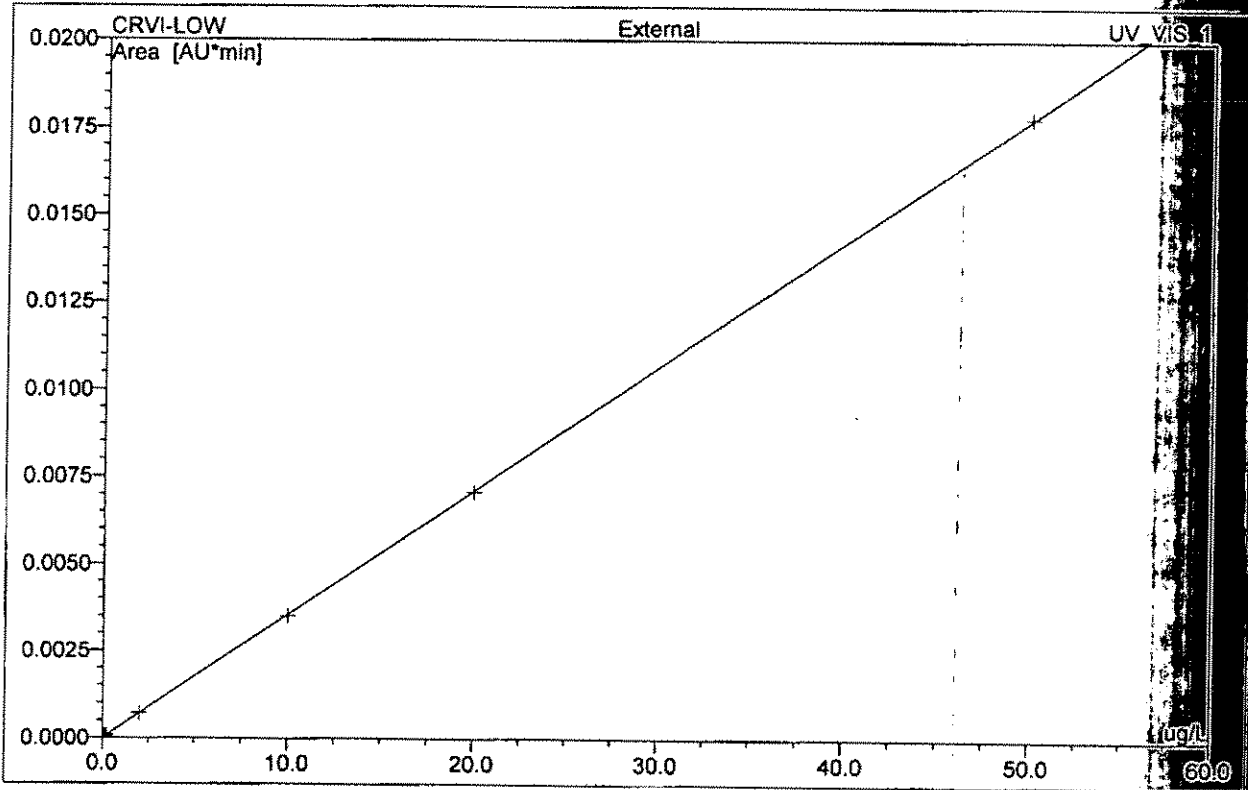
No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount ug/L	Type
1	4.63	CRVI-LOW	0.044	0.0070535	100.00	19.829	BMB
Total:			0.044	0.007	100.00	19.829	

6 Standard 6 - 50ppb			
Sample Name:	Standard 6 - 50ppb	Control Program:	CRVI-LOW-loop
Dilution Factor:	1.0000	Quantif. Method:	3-IC#5-CrVi
Sample Type:	standard	Recording Time:	2/8/2007 10:06
Analyst:	tlh	Channel:	UV_VIS_1



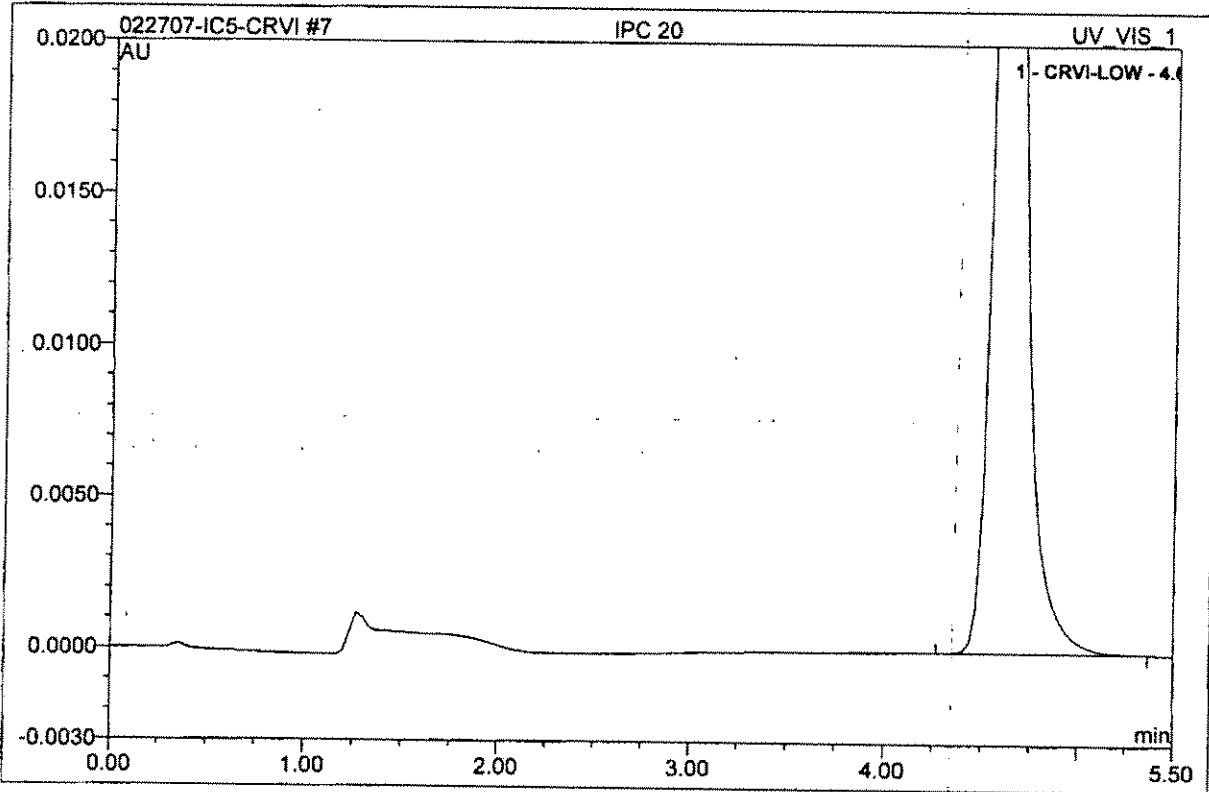
No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount ug/L	Type
1	3.47	n.a.	0.000	0.0000060	0.03	n.a.	BM
2	3.80	n.a.	0.000	0.0000034	0.02	n.a.	M
3	3.93	n.a.	0.000	0.0000014	0.01	n.a.	MB
4	4.67	CRVI-LOW	0.108	0.0178216	99.94	50.100	BMB
Total:			0.108	0.018	100.00	50.100	

6 Standard 6 - 50ppb			
Sample Name:	Standard 6 - 50ppb	Control Program:	CRVI-LOW-loop
Sample Type:	standard	Quantif. Method:	3-IC#5-CrVI
Recording Time:	2/8/2007 10:06	Channel:	UV_VIS_1



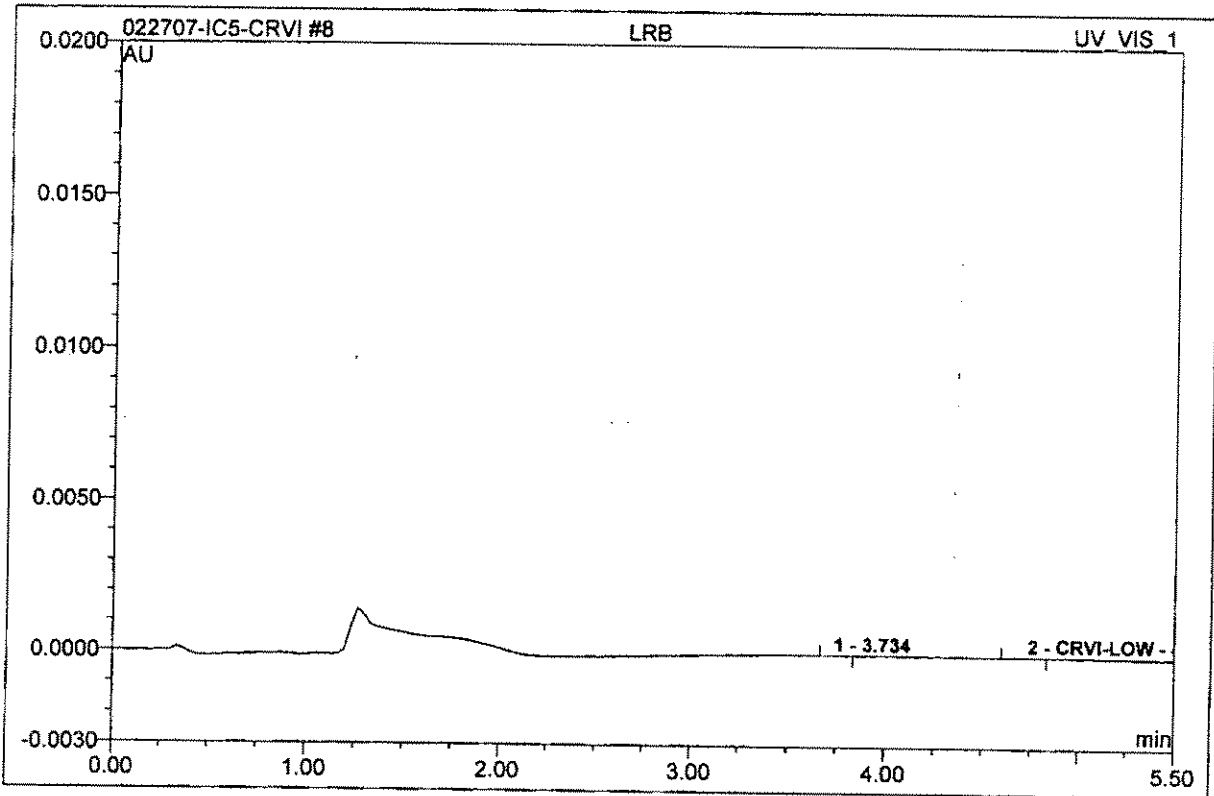
No.	Ret.Time min	Peak Name	Cal.Type	Points	Corr.Coeff. %	Offset	Slope	Curve
1	3.47	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
2	3.80	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
3	3.93	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
4	4.67	CRVI-LOW	Lin	6	99.9988	0.0000	0.0003557	0.0000
Average:					99.9988	0.0000	0.0004	0.0000

7 IPC 20			
Sample Name:	IPC 20	Control Program:	CRVI-LOW-loop
Dilution Factor:	1.0000	Quantif. Method:	3-IC#5-CrVI
Sample Type:	unknown	Recording Time:	2/27/2007 9:13
Analyst:	tlh	Channel:	UV_VIS_1



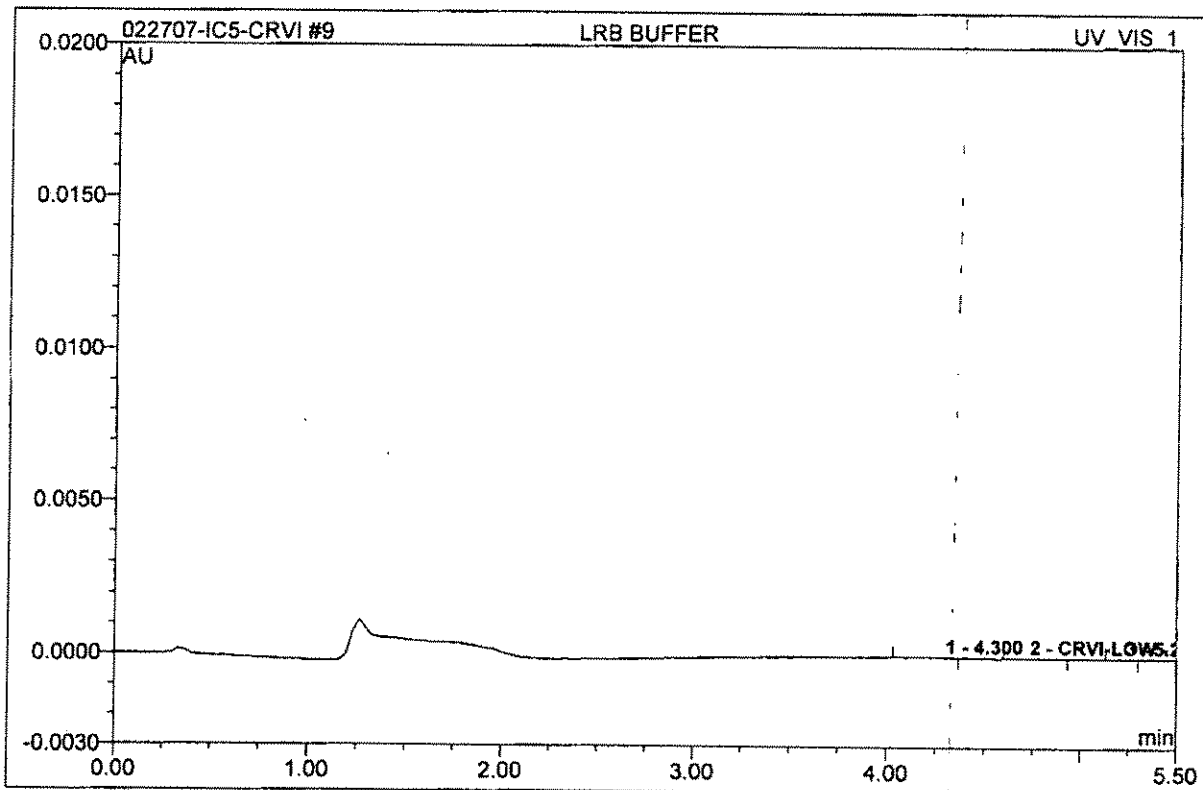
No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount ug/L	Type
1	4.63	CRVI-LOW	0.042	0.0071334	100.00	20.053	BMB
Total:			0.042	0.007	100.00	20.053	

8 LRB			
Sample Name:	LRB	Control Program:	CRVI-LOW-loop
Dilution Factor:	1.0000	Quantif. Method:	3-IC#5-CrVI
Sample Type:	unknown	Recording Time:	2/27/2007 9:21
Analyst:	tlh	Channel:	UV_VIS_1



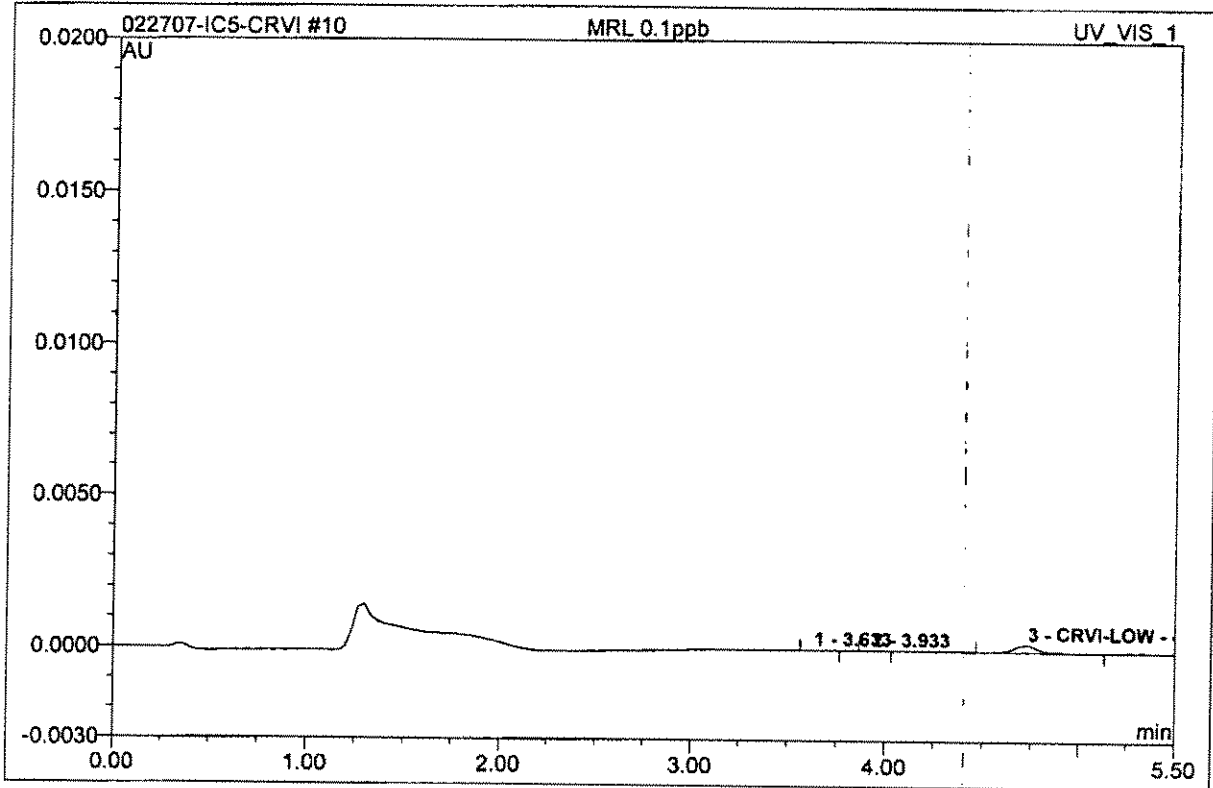
No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount ug/L	Type
1	3.73	n.a.	0.000	0.0000004	21.31	n.a.	BMB
2	4.73	CRVI-LOW	0.000	0.0000016	78.69	0.004	BMB
Total:			0.000	0.000	100.00	0.004	

9 LRB BUFFER			
Sample Name:	LRB BUFFER	Control Program:	CRVI-LOW-loop
Dilution Factor:	1.0000	Quantif. Method:	3-IC#5-CrVI
Sample Type:	unknown	Recording Time:	2/27/2007 9:29
Analyst:	tlh	Channel:	UV_VIS_1



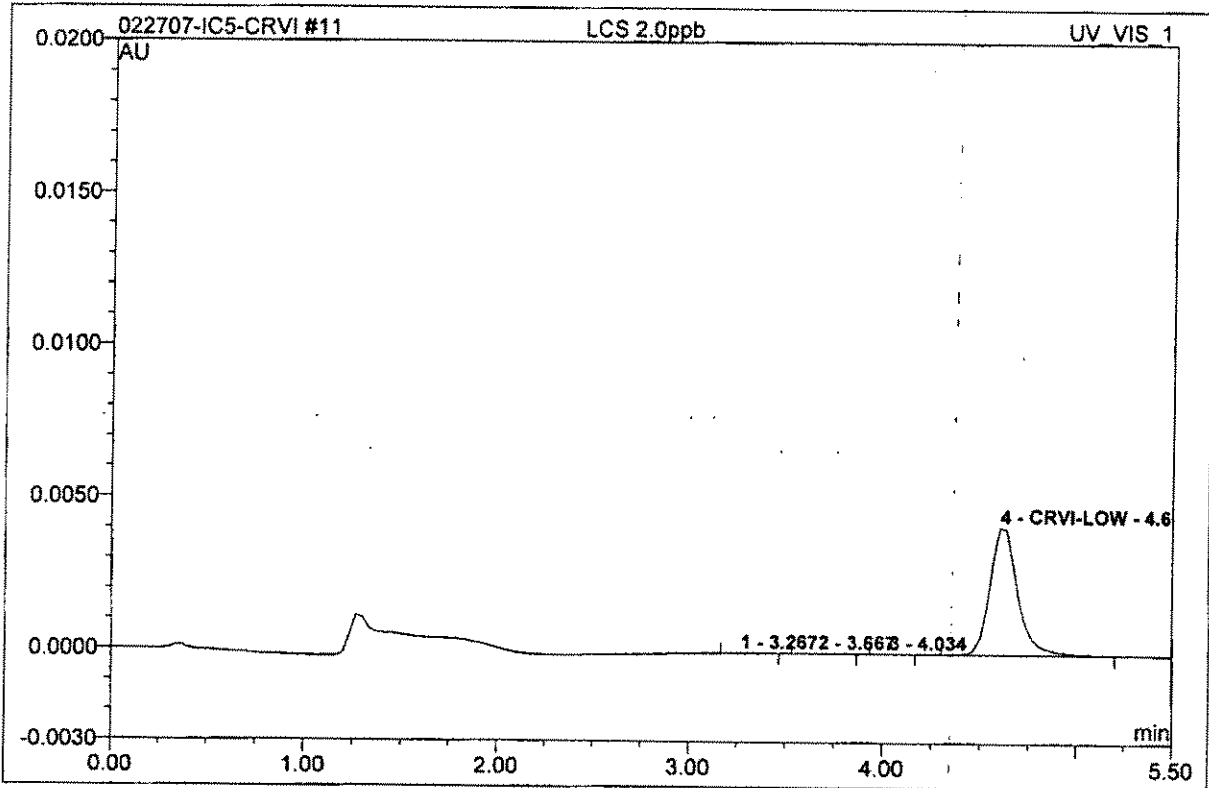
No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount ug/L	Type
1	4.30	n.a.	0.000	0.0000015	34.98	n.a.	BMB
2	4.73	CRVI-LOW	0.000	0.0000023	52.09	0.006	BMB
3	5.23	n.a.	0.000	0.0000006	12.93	n.a.	BMB
Total:			0.000	0.000	100.00	0.006	

10 MRL 0.1ppb			
Sample Name:	MRL 0.1ppb	Control Program:	CRVI-LOW-loop
Dilution Factor:	1.0000	Quantif. Method:	3-IC#5-CrVI
Sample Type:	unknown	Recording Time:	2/27/2007 9:37
Analyst:	tlh	Channel:	UV_VIS_1



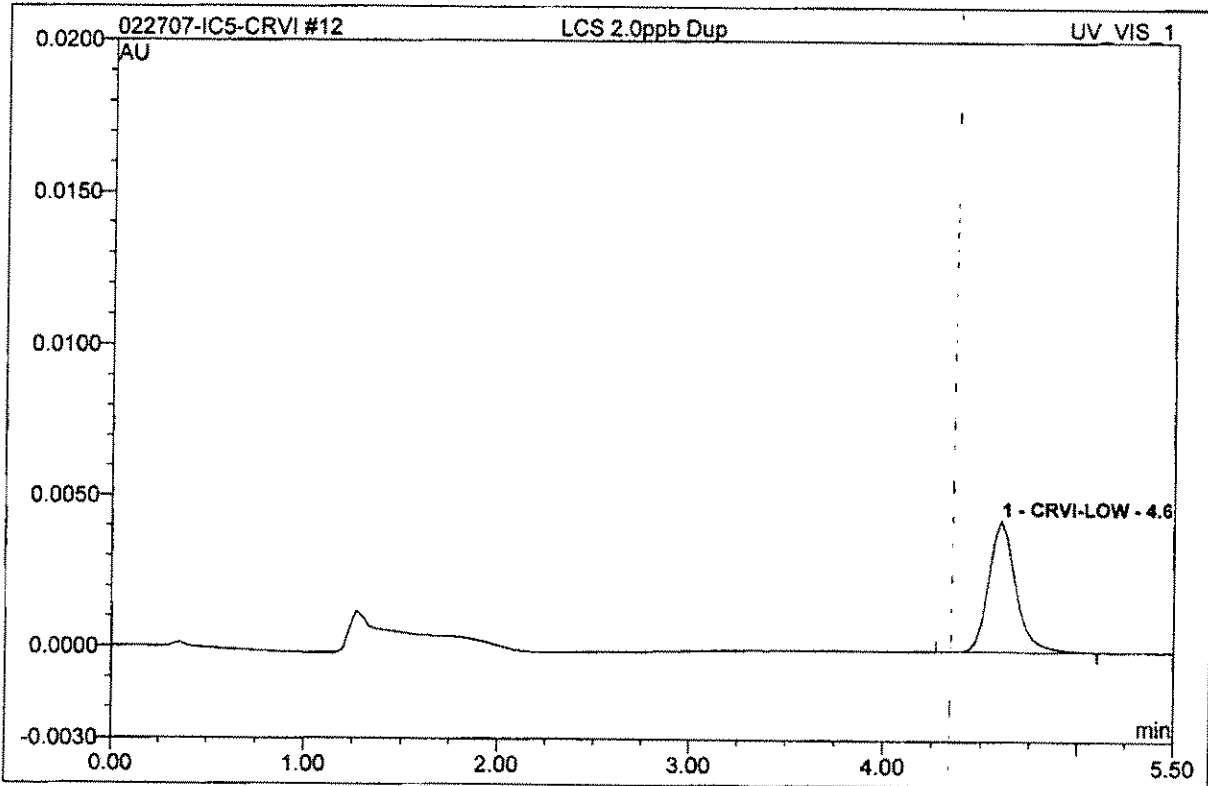
No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount ug/L	Type
1	3.63	n.a.	0.000	0.0000007	1.99	n.a.	BMB
2	3.93	n.a.	0.000	0.0000003	0.80	n.a.	BMB
3	4.73	CRVI-LOW	0.000	0.0000366	97.21	0.103	BMB
Total:			0.000	0.000	100.00	0.103	

11 LCS 2.0ppb			
Sample Name:	LCS 2.0ppb	Control Program:	CRVI-LOW-loop
Dilution Factor:	1.0000	Quantif. Method:	3-IC#5-CrVI
Sample Type:	unknown	Recording Time:	2/27/2007 9:45
Analyst:	tlh	Channel:	UV_VIS_1



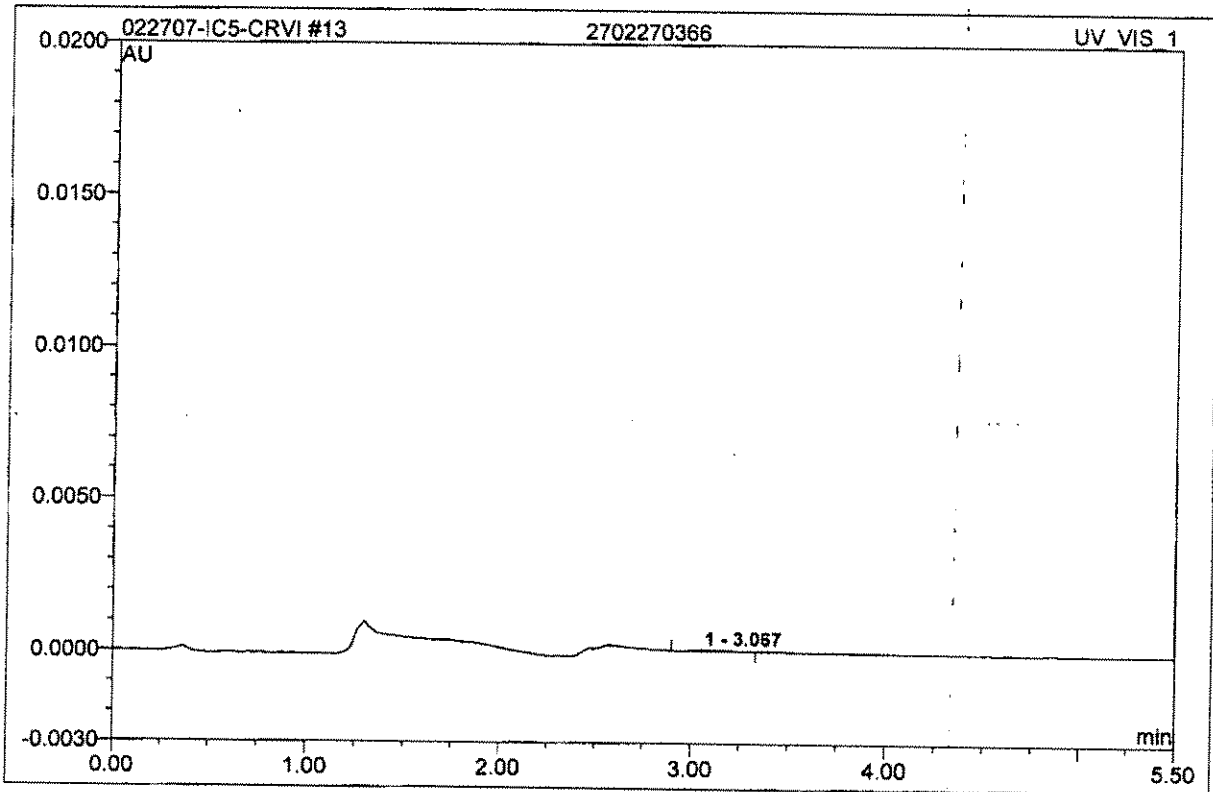
No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount ug/L	Type
1	3.27	n.a.	0.000	0.0000016	0.23	n.a.	BMB
2	3.67	n.a.	0.000	0.0000021	0.30	n.a.	BMB
3	4.03	n.a.	0.000	0.0000009	0.13	n.a.	BMB
4	4.60	CRVI-LOW	0.004	0.0007055	99.35	1.983	BMB
Total:			0.004	0.001	100.00	1.983	

12 LCS 2.0ppb Dup			
Sample Name:	LCS 2.0ppb Dup	Control Program:	CRVI-LOW-loop
Dilution Factor:	1.0000	Quantif. Method:	3-IC#5-CrVI
Sample Type:	unknown	Recording Time:	2/27/2007 9:53
Analyst:	tlh	Channel:	UV_VIS_1



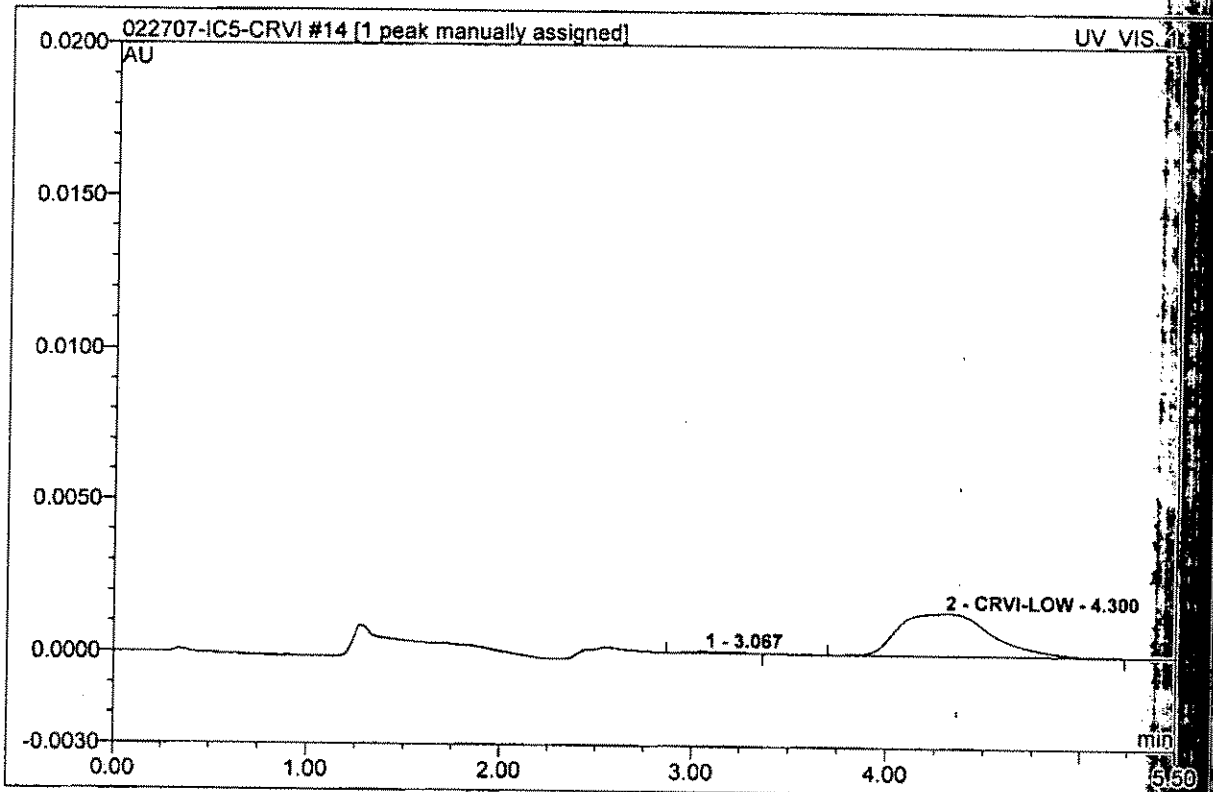
No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount ug/L	Type
1	4.60	CRVI-LOW	0.004	0.0007068	100.00	1.987	BMB
Total:			0.004	0.001	100.00	1.987	

13 2702270366			
Sample Name:	2702270366	Control Program:	CRVI-LOW-loop
Dilution Factor:	1.0000	Quantif. Method:	3-IC#5-CrVI
Sample Type:	unknown	Recording Time:	2/27/2007 10:47
Analyst:	tlh	Channel:	UV_VIS_1



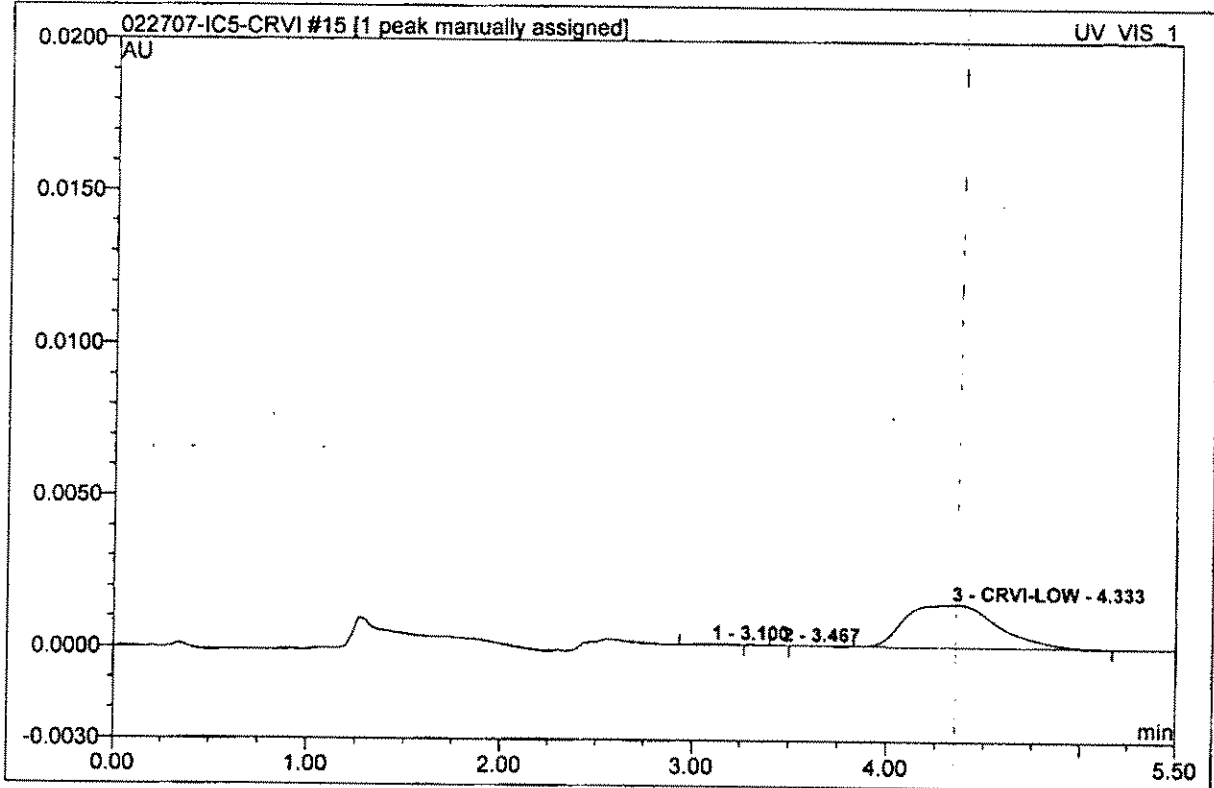
No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount ug/L	Type
1	3.07	n.a.	0.000	0.0000070	100.00	n.a.	BMB
Total:			0.000	0.000	100.00	0.000	

14 2702270366_MS			
Sample Name:	2702270366_MS	Control Program:	CRVI-LOW:loop
Dilution Factor:	1.0000	Quantif. Method:	3-IC#5-CrVI
Sample Type:	unknown	Recording Time:	2/27/2007 10:55
Analyst:	tlh	Channel:	UV_VIS_1



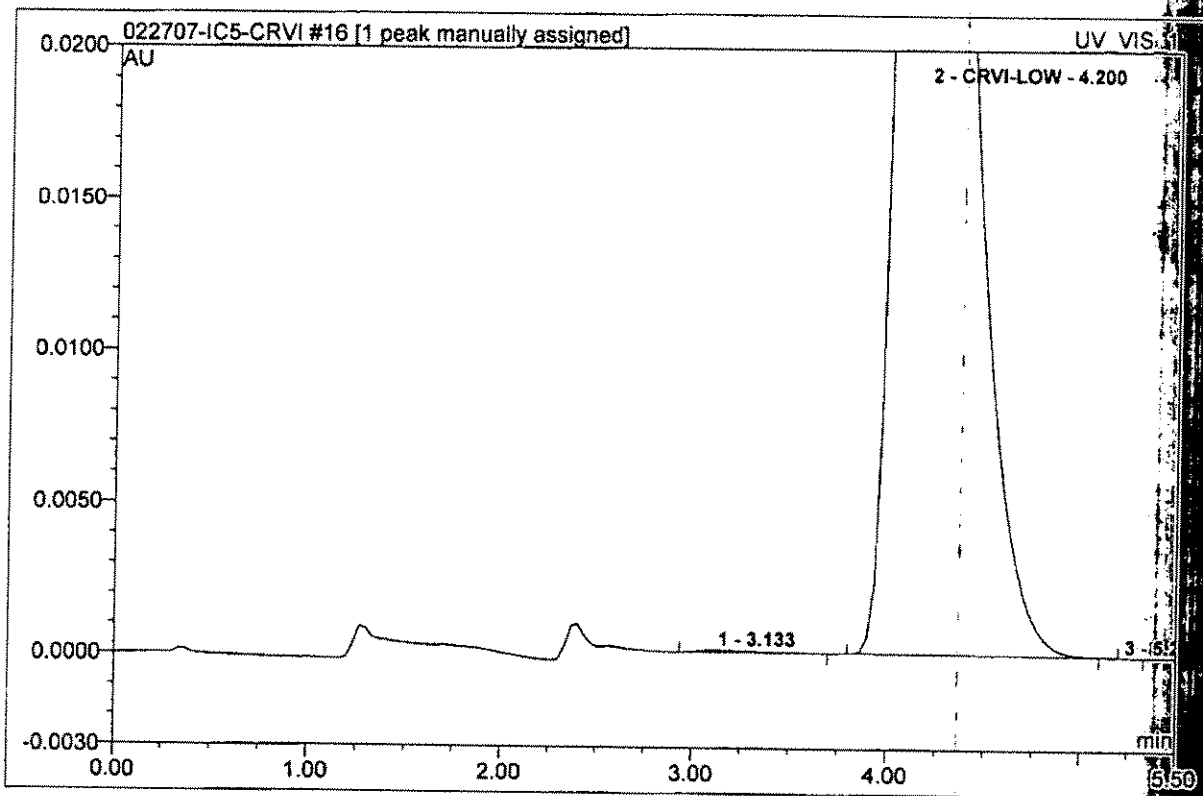
No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount ug/L	Type
1	3.07	n.a.	0.000	0.0000100	1.27	n.a.	BMB
2	4.30	CRVI-LOW	0.001	0.0007793	98.73	2.191	BMB^
Total:			0.001	0.001	100.00	2.191	

15 2702270366_MSD			
Sample Name:	2702270366_MSD	Control Program:	CRVI-LOW-loop
Dilution Factor:	1.0000	Quantif. Method:	3-IC#5-CrVI
Sample Type:	unknown	Recording Time:	2/27/2007 11:03
Analyst:	tlh	Channel:	UV_VIS_1



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount ug/L	Type
1	3.10	n.a.	0.000	0.0000057	0.72	n.a.	BMB
2	3.47	n.a.	0.000	0.0000002	0.02	n.a.	BMB
3	4.33	CRVI-LOW	0.001	0.0007960	99.26	2.238	BMB^
Total:			0.001	0.001	100.00	2.238	

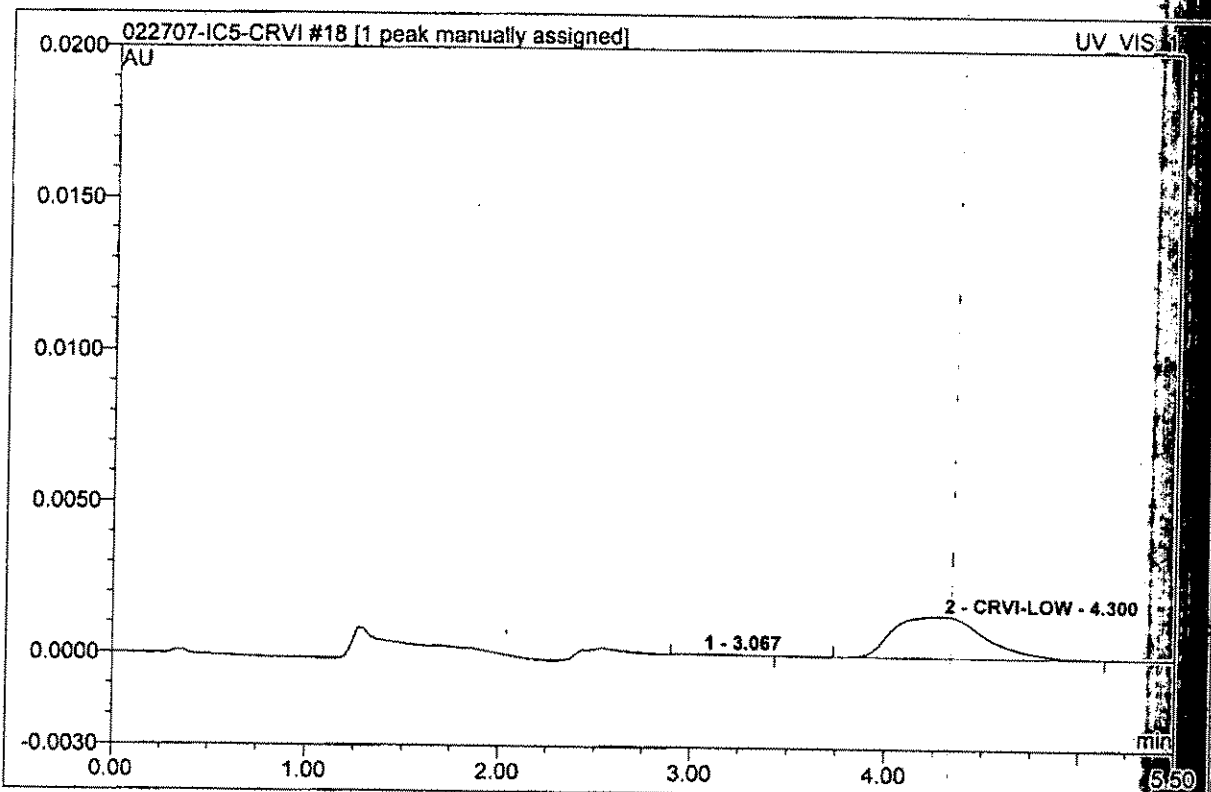
16 2702270367			
Sample Name:	2702270367	Control Program:	CRVI-LOW-loop
Dilution Factor:	1.0000	Quantif. Method:	3-IC#5-CrVI
Sample Type:	unknown	Recording Time:	2/27/2007 11:12
Analyst:	tlh	Channel:	UV_VIS_1



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount ug/L	Type
1	3.13	n.a.	0.000	0.0000278	0.13	n.a.	BMB
2	4.20	CRVI-LOW	0.055	0.0215494	99.87	60.579	BMB^
3	5.23	n.a.	0.000	0.0000003	0.00	n.a.	BMB
Total:			0.055	0.022	100.00	60.579	

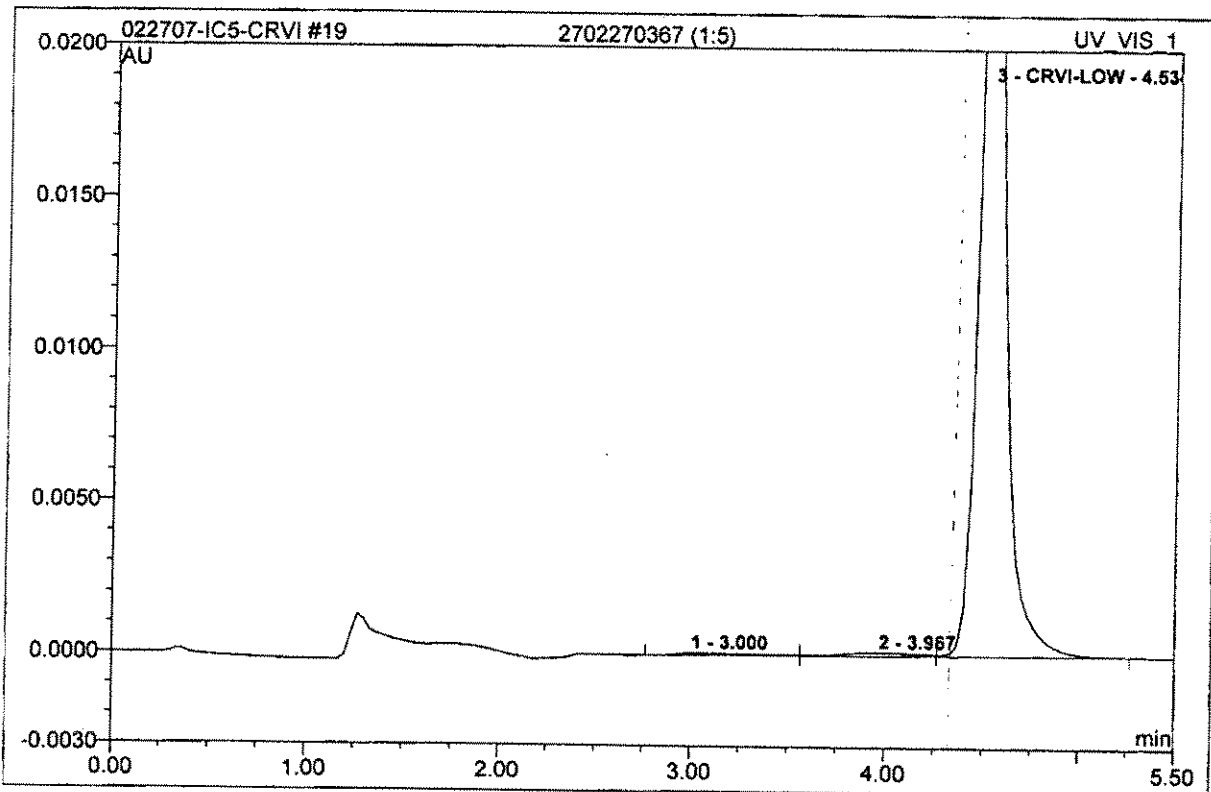
18 2702270366_MSD

Sample Name:	2702270366_MSD	Control Program:	CRVI-LOW#loop
Dilution Factor:	1.0000	Quantif. Method:	3-IC#5-CrVI
Sample Type:	unknown	Recording Time:	2/27/2007 11:23
Analyst:	tlh	Channel:	UV_VIS_1



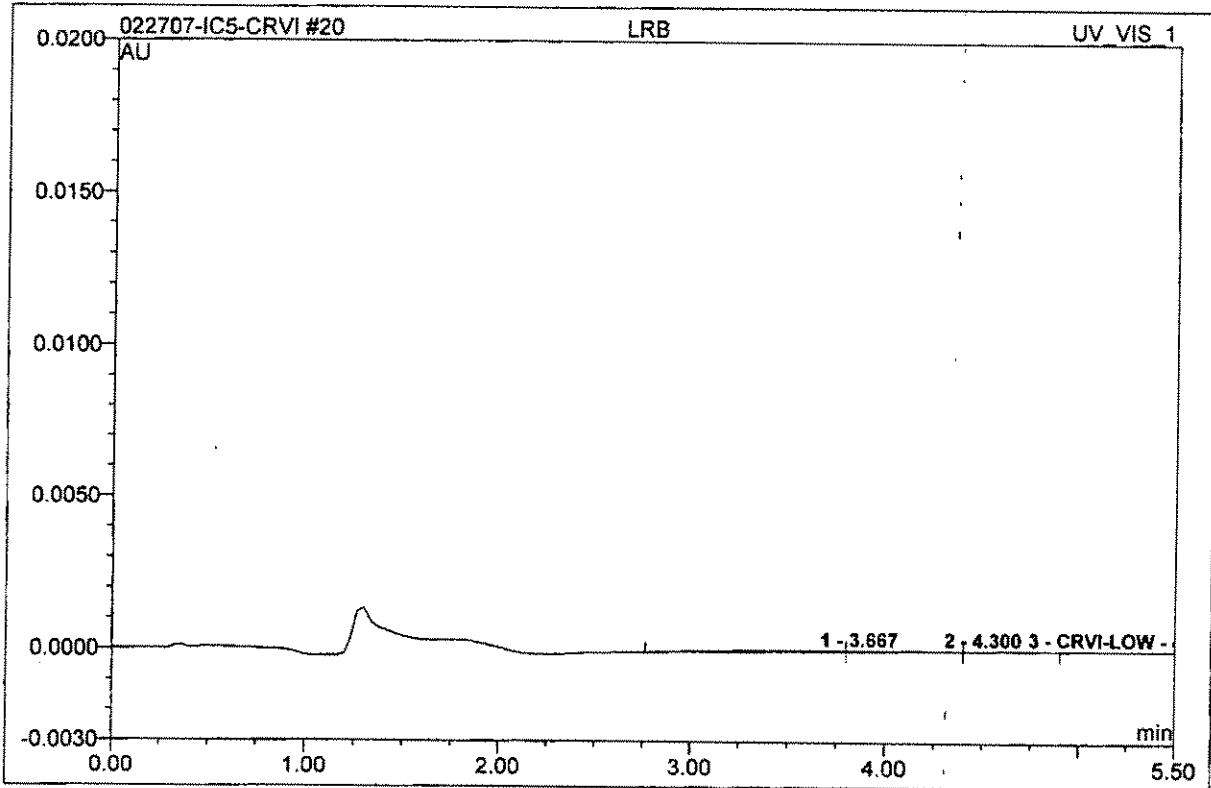
No.	Ret. Time min	Peak Name	Height AU	Area AU*min	Rel. Area %	Amount ug/L	Type
1	3.07	n.a.	0.000	0.0000113	1.50	n.a.	BMB
2	4.30	CRVI-LOW	0.001	0.0007476	98.50	2.102	BMB
Total:			0.001	0.001	100.00	2.102	

19 2702270367 (1:5)			
Sample Name:	2702270367 (1:5)	Control Program:	CRVI-LOW-loop
Dilution Factor:	5.0000	Quantif. Method:	3-IC#5-CrVI
Sample Type:	unknown	Recording Time:	2/27/2007 11:36
Analyst:	tlh	Channel:	UV_VIS_1



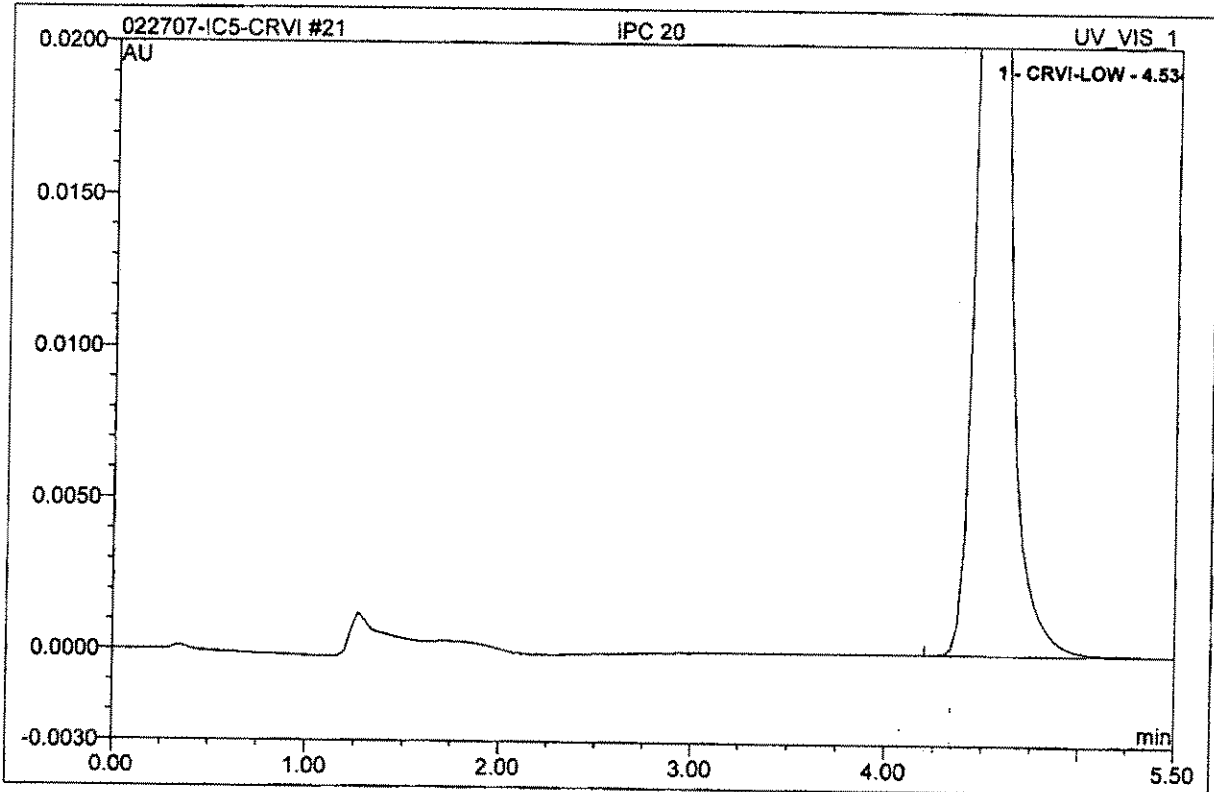
No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount ug/L	Type
1	3.00	n.a.	0.000	0.0000401	0.89	n.a.	BM
2	3.97	n.a.	0.000	0.0000555	1.23	n.a.	M
3	4.53	CRVI-LOW	0.030	0.0044193	97.88	62.118	MB
Total:			0.031	0.005	100.00	62.118	

20 LRB			
Sample Name:	LRB	Control Program:	CRVI-LOW-loop
Dilution Factor:	1.0000	Quantif. Method:	3-IC#5-CrVI
Sample Type:	unknown	Recording Time:	2/27/2007 11:44
Analyst:	tlh	Channel:	UV_VIS_1



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount ug/L	Type
1	3.67	n.a.	0.000	0.0000349	61.15	n.a.	BM
2	4.30	n.a.	0.000	0.0000159	27.90	n.a.	M
3	4.73	CRVI-LOW	0.000	0.0000062	10.95	0.018	MB
Total:			0.000	0.000	100.00	0.018	

21 IPC 20			
Sample Name:	IPC 20	Control Program:	CRVI-LOW-loop
Dilution Factor:	1.0000	Quantif. Method:	3-IC#5-CrVi
Sample Type:	unknown	Recording Time:	2/27/2007 11:52
Analyst:	tlh	Channel:	UV_VIS_1



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount ug/L	Type
1	4.53	CRVI-LOW	0.045	0.0073185	100.00	20.573	BMB
Total:			0.045	0.007	100.00	20.573	

**Standard
Preparation
Worksheet
&
Certificate of
Analysis**

Reagent Preparation Documentation

Reagent: Cr⁺⁶ - Low LCS Stock Solution - 1ppm
 Date Received/Prepped: 8/15/06 9/22/06 11/30/06 1 1
 Date Expired: 9/15/06 11/22/06 1 1 1
 Manufacturer: _____
 Storage Condition: room temperature

MW #: TLH060815-1
 By: TLH
 Matrix: aq
 Amount: 100ml
 Lot #: _____

Component	Comment	Standard	Concentration
Absolute Standards 1000ppm	100uL in 100ml DI H ₂ O	R201081	1ppm

Comment: _____

Reagent: Cr⁺⁶ - Low LCS Std. - 2ppb
 Date Received/Prepped: 8/15/06 8/24/06 8/31/06 9/11/06 10/2/06 10/22/06
 Date Expired: 8/22/06 8/31/06 10/2/06 10/18/06 10/28/06 10/29/06
 Manufacturer: _____
 Storage Condition: room temperature

MW #: TLH060815-2
 By: TLH
 Matrix: aq
 Amount: 100ml
 Lot #: _____

Component	Comment	Standard	Concentration
Cr ⁺⁶ Low LCS Stock (TLH060815-1)	200uL into ~90ml DI H ₂ O Bring to 100ml final volume w/ DI H ₂ O in 100ml vol. flask	TLH060815-1	2ppb
Cr ⁺⁶ Buffer Soln.	1ml added AFTER soln. at final volume		

Comment: 10/2/06 10/12/06 10/20/06 11/1/06 11/30/06 12/11/06 1/5/07 2/5/07 2/19/07 3/5/07 3/14/07

Reagent: Cr⁺⁶ - Low Calibration Stock Soln. - 1000ppb
 Date Received/Prepped: 8/15/06 9/22/06 11/30/06 3/23/07 1
 Date Expired: 8/22/06 10/22/06 1 1 1
 Manufacturer: _____
 Storage Condition: room temperature

MW #: TLH060815-3
 By: TLH
 Matrix: aq
 Amount: 100ml
 Lot #: _____

Component	Comment	Standard	Concentration
Inorganic Ventures 1000ppm exp 1 May 2007	100uL diluted to 100ml w/ DI H ₂ O	ME0604003	1000ppb

Comment: _____

Reagent Preparation Documentation

Reagent: Cr⁶⁺ Buffer Solution
 Date Received/Prepped: 8/15/06 11/1/06 1.5/11/07 1 1
 Date Expired: 9/15/06 12/1/06 1 1 1
 Manufacturer: _____
 Storage Condition: room temperature

MW #: TLH060815-4
 By: TLH
 Matrix: ag
 Amount: 100mL
 Lot #: _____

Component	Comment	Standard	Concentration
Ammonium Sulfate	33g dissolved in ~60ml DI H ₂ O	R201208	
Ammonium Hydroxide	6.5ml added bring to volume w/ DI H ₂ O	R201423	

Comment: _____

Reagent: Cr⁶⁺ Calibration Std. - 0.2 ppb
 Date Received/Prepped: 8/16/06 9/22/06 10/31/06 11/28/06 11/30/06 1/24/07
 Date Expired: 8/23/06 9/23/06 1 1 1
 Manufacturer: _____
 Storage Condition: room temperature

MW #: TLH060816-1
 By: TLH
 Matrix: ag
 Amount: 100mL
 Lot #: _____

Component	Comment	Standard	Concentration
Cr ⁶⁺ Calibration Stock	200ul diluted to 100ml w/ DI H ₂ O	TLH060815-3	0.2ppb
Buffer Solution	1ml added AFTER diluted to final volume.	TLH060815-4	

Comment: 3/9/07 3/23/07 4/6/07

Reagent: Cr⁶⁺ Calibration Std. - 2.0 ppb
 Date Received/Prepped: 8/16/06 8/25/06 9/5/06 9/13/06 9/21/06 9/22/06
 Date Expired: 8/23/06 9/1/06 9/12/06 9/20/06 9/28/06 9/29/06
 Manufacturer: _____
 Storage Condition: room temperature

MW #: TLH060816-2
 By: TLH
 Matrix: ag
 Amount: 100mL
 Lot #: _____

Component	Comment	Standard	Concentration
Cr ⁶⁺ Calibration Stock	200ul diluted to 100ml w/ DI H ₂ O	TLH060815-3	2.0ppb
Buffer Solution	1ml added AFTER diluted to final volume.	TLH060815-4	

Comment: 10/2/06 10/20/06 10/31/06 11/28/06 11/30/06 1/24/07 3/9/07 3/23/07 4/6/07

Reagent Preparation Documentation

Reagent: Cr⁶⁺ Calibration Std. - 10ppb
 Date Received/Prepped: 8/16/06 8/23/06 9/5/06 9/13/06 9/21/06 9/22/06
 Date Expired: 8/23/06 9/11/06 9/12/06 9/20/06 9/28/06 9/29/06
 Manufacturer: _____
 Storage Condition: room temperature

MW #: TLH060816-3
 By: TLH
 Matrix: ag
 Amount: 100mL
 Lot #: _____

Component	Comment	Standard	Concentration
Cr ⁶⁺ Calibration Stock	1.0 mL diluted to 100mL w/ DI H ₂ O	TLH060815-3	10.0ppb
Buffer Solution	1mL added AFTER diluted to final volume	TLH060815-4	

Comment: 10/2/06 10/20/06 11/30/06 12/18/06 1/25/07 3/9/07 3/23/07 3/27/07 3/29/07
4/6/07

Reagent: Cr⁶⁺ Calibration Std. - 20ppb
 Date Received/Prepped: 8/16/06 8/23/06 8/31/06 9/11/06 9/19/06 9/22/06
 Date Expired: 8/23/06 8/30/06 9/7/06 9/17/06 9/23/06 9/29/06
 Manufacturer: _____
 Storage Condition: room temperature

MW #: TLH060816-4
 By: TLH
 Matrix: ag
 Amount: 100mL
 Lot #: _____

Component	Comment	Standard	Concentration
Cr ⁶⁺ Calibration Stock	2.0 mL diluted to 100mL w/ DI H ₂ O	TLH060815-3	20.0ppb
Buffer Solution	1mL added AFTER diluted to final volume	TLH060815-4	

Comment: 10/2/06 10/20/06 10/20/06 11/9/06 11/21/06 11/30/06 12/18/06 1/21/07 1/19/07 1/23/07
1/31/07 2/20/07 3/7/07 3/16/07 3/25/07 3/23/07 4/3/07 4/5/07 4/12/07 5/10/07

Reagent: Cr⁶⁺ Calibration Std. - 50ppb
 Date Received/Prepped: 8/16/06 9/22/06 10/3/06 11/28/06 11/30/06 1/24/07
 Date Expired: 8/23/06 9/29/06 1 1 1
 Manufacturer: _____
 Storage Condition: room temperature

MW #: TLH060816-5
 By: TLH
 Matrix: ag
 Amount: 100mL
 Lot #: _____

Component	Comment	Standard	Concentration
Cr ⁶⁺ Calibration Stock	5mL diluted to 100mL w/ DI H ₂ O	TLH060815-3	50ppb
Buffer Solution	1mL added AFTER diluted to final volume	TLH060815-4	

Comment: 3/9/07 3/23/07 4/6/07 30

CERTIFIED WEIGHT REPORT:

Part Number: **54161** Lot # **011405** Solvent(s):
 Lot Number: **011405** ASTM Type **1 Water**
 Description: **Hexavalent Chromium (Cr 6+)**

Expiration Date: **011408**

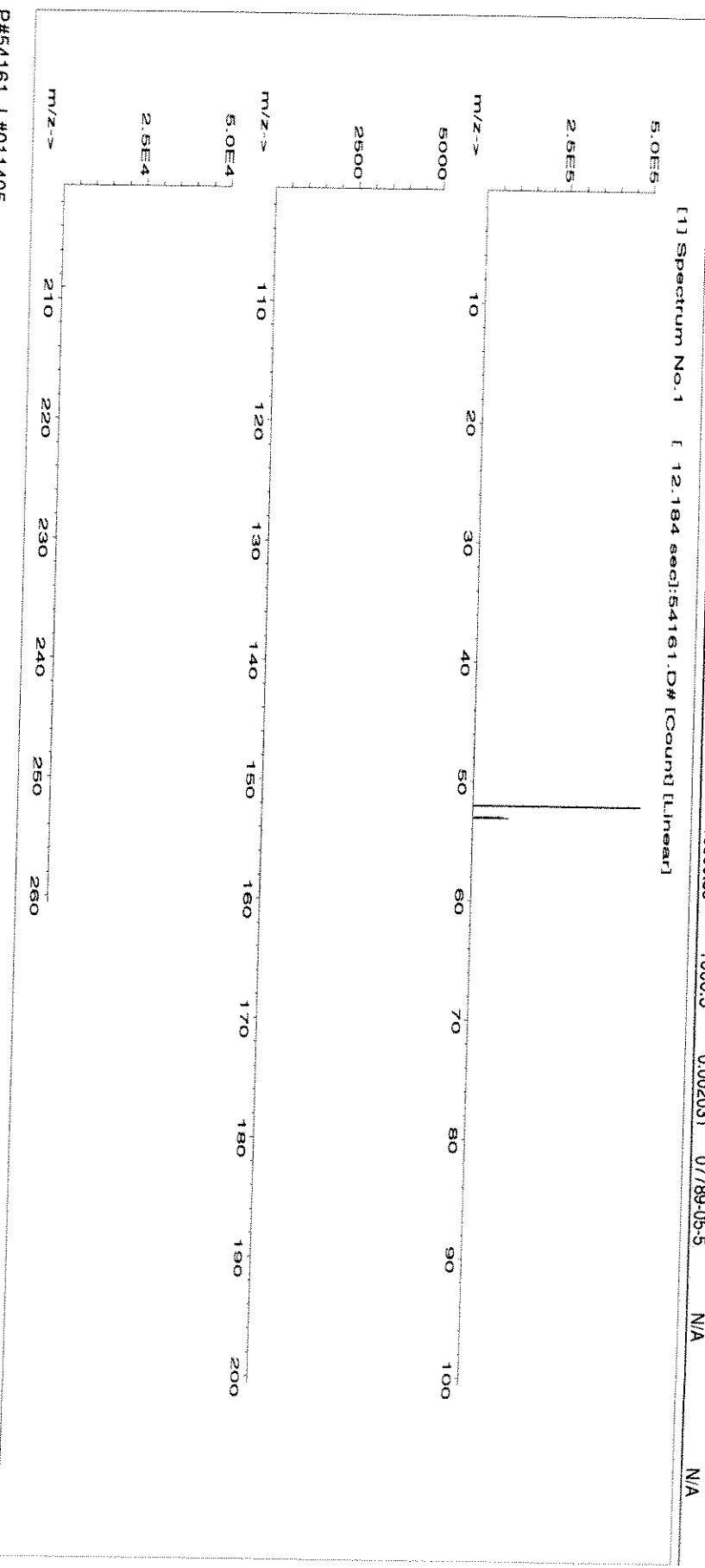
Nominal Concentration (µg/mL): **1000**

R201081

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

Formulated By:	<i>Lawrence Barry</i>	011405
Reviewed By:	<i>Pedro L. Rentas</i>	011405

Compound	Part Number	Lot Number	Dilution Factor	Initial Volume	Uncertainty	Initial Conc. (µg/mL)	Final Conc. (µg/mL)	Expanded Uncertainty (+/-) (µg/mL)	MSDS Information (Solvent Safety Info. On Attached pg.)
1. Ammonium Dichromate	54176	111203	0.1000	100.10	0.013	10000.83	1000.5	0.002031	07789-05-5 N/A N/A



Absolute Grade™ Solution

Certified Concentration (µg/mL)

Lot# 011405

The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise specified.

TRACEABILITY DOCUMENTATION:

A) Classical Chemical Analysis:

- Method**
EDTA Titration
Gravimetric Analysis
Redox Titration
Volhard Titration

- Traceability**
NIST SRM 928 Lead Nitrate
NIST Weights
NIST SRM 136e Potassium Dichromate
NIST SRM 999 Potassium Chloride

- Concentration (µg/mL)**
N/A
N/A
N/A
N/A

B) Instrumental Analysis by Inductively Coupled Plasma Mass Spectroscopy (ICP-MS):

This analytical solution was tested against the appropriate NIST SRM's: SRM 3179-I, SRM 3179-II, SRM 3179-III, SRM 3171a, SRM 3172a, or single element SRM's.

Trace Metals Verification by ICP-MS (µg/mL)																			
Al	<0.02	Ca	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pt	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	*	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Cb	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pb	<0.02	Sn	<0.02	S	<0.02	Tl	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Tl	<0.02	Zr	<0.02

(*) = Target Element

C) Physical Characterization:

Analyzed Density of Solution (g/mL):

1.001

Temperature (°C):

18.8

Homogeneity: No heterogeneity was observed in the preparation of this standard.

Certified by:

Guillermo

We use purified acids, 18 megohm double deionized water, calibrated Class A glassware and the highest purity raw materials available, (typically 99.9999%). We meticulously clean our bottles by acid leaching and then triple rinsing with ASTM Type I water prior to use. Our standards are made gravimetrically using balances that are calibrated with weights traceable to NIST. (NIST Test #: 732/245790). We certify that all our standards are (+/-) 0.5% of the stated value unless otherwise stated, assuming that the bottle is kept tightly capped and stored under normal laboratory conditions.

Reference: Taylor, B.N. and Kuyath, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. government Printing Office, Washington DC, (1994).