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Level IV Data Package

MWH Group 245247

Method: EPA 218.6

2806240538
2806240540

No.	Sample Name	Time	Dil.Fac.	Amount	Comment	Analyst:	tlh
				CRVI-LOW			
				UV VIS 1		Criteria	
1.	Standard 1 - 0.1 ppb	06/10/08 09:47,	1.0,	0.093	Diluted from Std. 3		
2.	Standard 2 - 0.2ppb	06/10/08 09:55,	1.0,	0.209	TLH071231-1		
3.	Standard 3 - 2.0 ppb	06/10/08 10:03,	1.0,	1.993	TLH071231-2		
4.	Standard 4 - 10 ppb	06/10/08 10:11,	1.0,	10.165	TLH071231-3		
5.	Standard 5 - 20 ppb	06/10/08 10:19,	1.0,	20.161	TLH071231-4		
6.	Standard 6 - 50ppb	06/10/08 10:28,	1.0,	49.903	TLH071231-5		
7.	IPC 20	06/24/08 08:30,	1.0,	20.513			
8.	LRB	06/24/08 08:38,	1.0,	n.a.			
9.	LRB BUFFER	06/24/08 08:47,	1.0,	n.a.			
10.	MRL 0.1ppb	06/24/08 08:55,	1.0,	0.105			
11.	LCS 2.0ppb	06/24/08 09:03,	1.0,	2.064	TLH0710180-2		
12.	LCS 2.0ppb Dup	06/24/08 09:11,	1.0,	2.061			
13.	2806230098 ✓	06/24/08 09:20,	1.0,	3.063			
14.	2806230098_MS ✓	06/24/08 09:28,	1.0,	5.030	1.97 - 98.4% recovery		
15.	2806230098_MSD ✓	06/24/08 09:37,	1.0,	5.035	1.97 - 98.6% recovery		
16.	2806230217 ✓	06/24/08 09:45,	1.0,	1.665			
17.	2806230218 ✓	06/24/08 09:53,	1.0,	331.588	dilute and rerun		
18.	2806240023 ✓	06/24/08 10:01,	1.0,	0.189			
19.	2806240026 ✓	06/24/08 10:09,	1.0,	0.414			
20.	2806230233 ✓	06/24/08 10:17,	1.0,	n.a.			
21.	2806230229 ✓	06/24/08 10:25,	1.0,	n.a.			
22.	2806230232 ✓	06/24/08 10:33,	1.0,	n.a.		MRL 50%-150%	
23.	2806230218 (1.25) ✓	06/24/08 10:41,	25.0,	339.705		0.05 - 0.15ppb	
24.	IPC 20	06/24/08 10:49,	1.0,	20.697		LCS 90%-110%	
25.	LRB	06/24/08 10:58,	1.0,	0.003		Range: 1.80 - 2.20	
26.	2806240538 ✓	06/24/08 15:49,	1.0,	n.a.		MS/MSD 90%-110%	
27.	2806240538_MS ✓	06/24/08 15:57,	1.0,	1.923	1.92 - 96.1% recovery	True Value = 2.0	
28.	2806240540 ✓	06/24/08 16:05,	1.0,	17.664		IPC 95%-105%	
29.	2806240565 (1:5) ✓	06/24/08 16:13,	5.0,	51.333		20ppb - 19-21ppb	
30.	2806240568 ✓	06/24/08 16:21,	1.0,	13.525		10ppb - 9.5-10.5 ppb	
31.	2806240194 ✓	06/24/08 16:29,	1.0,	7.494			
32.	IPC 20	06/24/08 16:37,	1.0,	20.753			
33.	LRB	06/24/08 16:46,	1.0,	n.a.			

Sequence: 062408-IC5-CRVI
Operator: tih

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Printed: 6/25/2008 2:03:37 PM

Title: CRVI-LOW

Datasource: Dionex_USPAS2SDIO2
Location: IC\IC5_CRVI-LOW\2008\June
Timebase: IC-#5
#Samples: 33

Created: 6/24/2008 8:30:13 AM by tih
(Modified, not saved)

No.	Name	Dil. Factor	Type	Comment	Program	Method	Status
1	Standard 1 - 0.1 ppb	1.0000	Standard	Diluted from Std. 3	CRVI-LOW-loop	1-IC#5-CRVI	Finished
2	Standard 2 - 0.2ppb	1.0000	Standard	TLH071231-1	CRVI-LOW-loop	1-IC#5-CRVI	Finished
3	Standard 3 - 2.0 ppb	1.0000	Standard	TLH071231-2	CRVI-LOW-loop	1-IC#5-CRVI	Finished
4	Standard 4 - 10 ppb	1.0000	Standard	TLH071231-3	CRVI-LOW-loop	1-IC#5-CRVI	Finished
5	Standard 5 - 20 ppb	1.0000	Standard	TLH071231-4	CRVI-LOW-loop	1-IC#5-CRVI	Finished
6	Standard 6 - 50ppb	1.0000	Standard	TLH071231-5	CRVI-LOW-loop	1-IC#5-CRVI	Finished
7	IPC 20	1.0000	Unknown		CRVI-LOW-loop	1-IC#5-CRVI	Finished
8	LRB	1.0000	Unknown		CRVI-LOW-loop	1-IC#5-CRVI	Finished
9	LRB BUFFER	1.0000	Unknown		CRVI-LOW-loop	1-IC#5-CRVI	Finished
10	MRL 0.1ppb	1.0000	Unknown		CRVI-LOW-loop	1-IC#5-CRVI	Finished
11	LCS 2.0ppb	1.0000	Unknown	TLH0710180-2	CRVI-LOW-loop	1-IC#5-CRVI	Finished
12	LCS 2.0ppb Dup	1.0000	Unknown		CRVI-LOW-loop	1-IC#5-CRVI	Finished
13	2806230098	1.0000	Unknown		CRVI-LOW-loop	1-IC#5-CRVI	Finished
14	2806230098_MS	1.0000	Unknown	1.97 - 98.4% recovery	CRVI-LOW-loop	1-IC#5-CRVI	Finished
15	2806230098_MSD	1.0000	Unknown	1.97 - 98.6% recovery	CRVI-LOW-loop	1-IC#5-CRVI	Finished
16	2806230217	1.0000	Unknown		CRVI-LOW-loop	1-IC#5-CRVI	Finished
17	2806230218	1.0000	Unknown	dilute and rerun	CRVI-LOW-loop	1-IC#5-CRVI	Finished
18	2806240023	1.0000	Unknown		CRVI-LOW-loop	1-IC#5-CRVI	Finished
19	2806240026	1.0000	Unknown		CRVI-LOW-loop	1-IC#5-CRVI	Finished
20	2806230233	1.0000	Unknown		CRVI-LOW-loop	1-IC#5-CRVI	Finished
21	2806230229	1.0000	Unknown		CRVI-LOW-loop	1-IC#5-CRVI	Finished
22	2806230232	1.0000	Unknown		CRVI-LOW-loop	1-IC#5-CRVI	Finished
23	2806230218 (1:25)	25.0000	Unknown		CRVI-LOW-loop	1-IC#5-CRVI	Finished
24	IPC 20	1.0000	Unknown		CRVI-LOW-loop	1-IC#5-CRVI	Finished
25	LRB	1.0000	Unknown		CRVI-LOW-loop	1-IC#5-CRVI	Finished
26	2806240538	1.0000	Unknown		CRVI-LOW-loop	1-IC#5-CRVI	Finished
27	2806240538_MS	1.0000	Unknown	1.92 - 96.1% recovery	CRVI-LOW-loop	1-IC#5-CRVI	Finished
28	2806240540	1.0000	Unknown		CRVI-LOW-loop	1-IC#5-CRVI	Finished
29	2806240565 (1:5)	5.0000	Unknown		CRVI-LOW-loop	1-IC#5-CRVI	Finished
30	2806240568	1.0000	Unknown		CRVI-LOW-loop	1-IC#5-CRVI	Finished
31	2806240194	1.0000	Unknown		CRVI-LOW-loop	1-IC#5-CRVI	Finished
32	IPC 20	1.0000	Unknown		CRVI-LOW-loop	1-IC#5-CRVI	Finished
33	LRB	1.0000	Unknown		CRVI-LOW-loop	1-IC#5-CRVI	Finished

Sequence: 062408-IC5-CRVI
Operator: tih

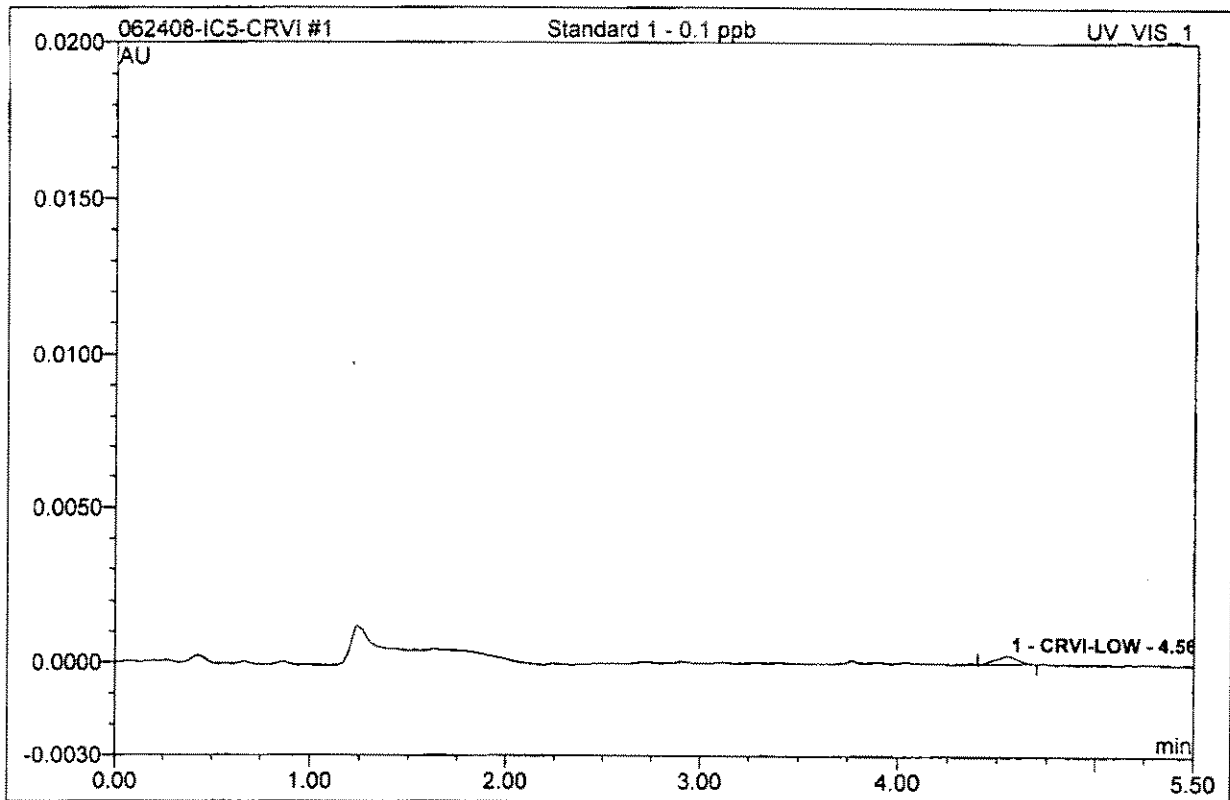
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Title: CRVI-LOW
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Timebase: IC-#5
#Samples: 33

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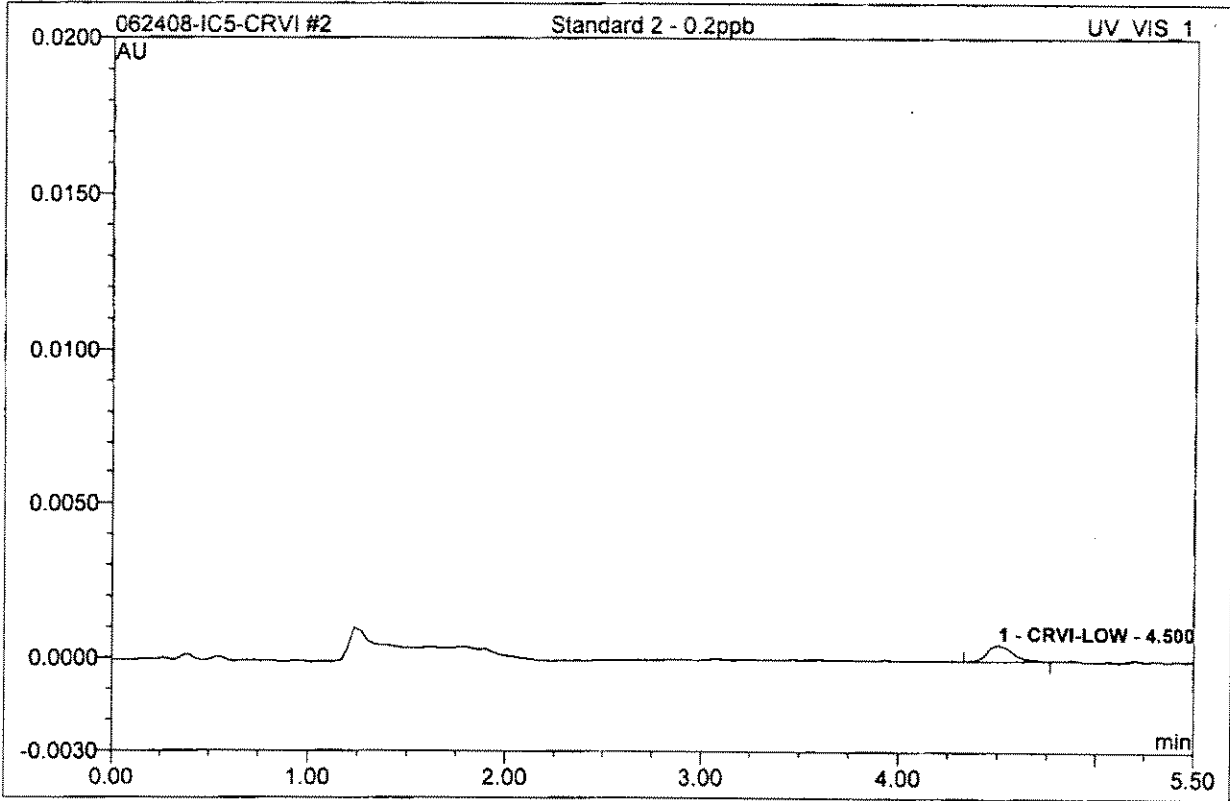
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2	6/10/2008 9:55:37 AM	tih
3	6/10/2008 10:03:43 AM	tih
4	6/10/2008 10:11:49 AM	tih
5	6/10/2008 10:19:55 AM	tih
6	6/10/2008 10:28:01 AM	tih
7	6/24/2008 8:30:49 AM	tih
8	6/24/2008 8:38:55 AM	tih
9	6/24/2008 8:47:01 AM	tih
10	6/24/2008 8:55:07 AM	tih
11	6/24/2008 9:03:13 AM	tih
12	6/24/2008 9:11:19 AM	tih
13	6/24/2008 9:20:54 AM	tih
14	6/24/2008 9:28:59 AM	tih
15	6/24/2008 9:37:05 AM	tih
16	6/24/2008 9:45:11 AM	tih
17	6/24/2008 9:53:17 AM	tih
18	6/24/2008 10:01:23 AM	tih
19	6/24/2008 10:09:29 AM	tih
20	6/24/2008 10:17:35 AM	tih
21	6/24/2008 10:25:41 AM	tih
22	6/24/2008 10:33:47 AM	tih
23	6/24/2008 10:41:53 AM	tih
24	6/24/2008 10:49:59 AM	tih
25	6/24/2008 10:58:04 AM	tih
26	6/24/2008 3:49:20 PM	tih
27	6/24/2008 3:57:24 PM	tih
28	6/24/2008 4:05:30 PM	tih
29	6/24/2008 4:13:36 PM	tih
30	6/24/2008 4:21:43 PM	tih
31	6/24/2008 4:29:49 PM	tih
32	6/24/2008 4:37:55 PM	tih
33	6/24/2008 4:46:00 PM	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:	1-IC#5-CRVI
Sample Type:	standard	Recording Time:	6/10/2008 9:47
Analyst:	tlh	Channel:	UV_VIS_1



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
1	4.57	CRVI-LOW	0.000	0.0000362	100.00	0.093	BMB
Total:			0.000	0.000	100.00	0.093	

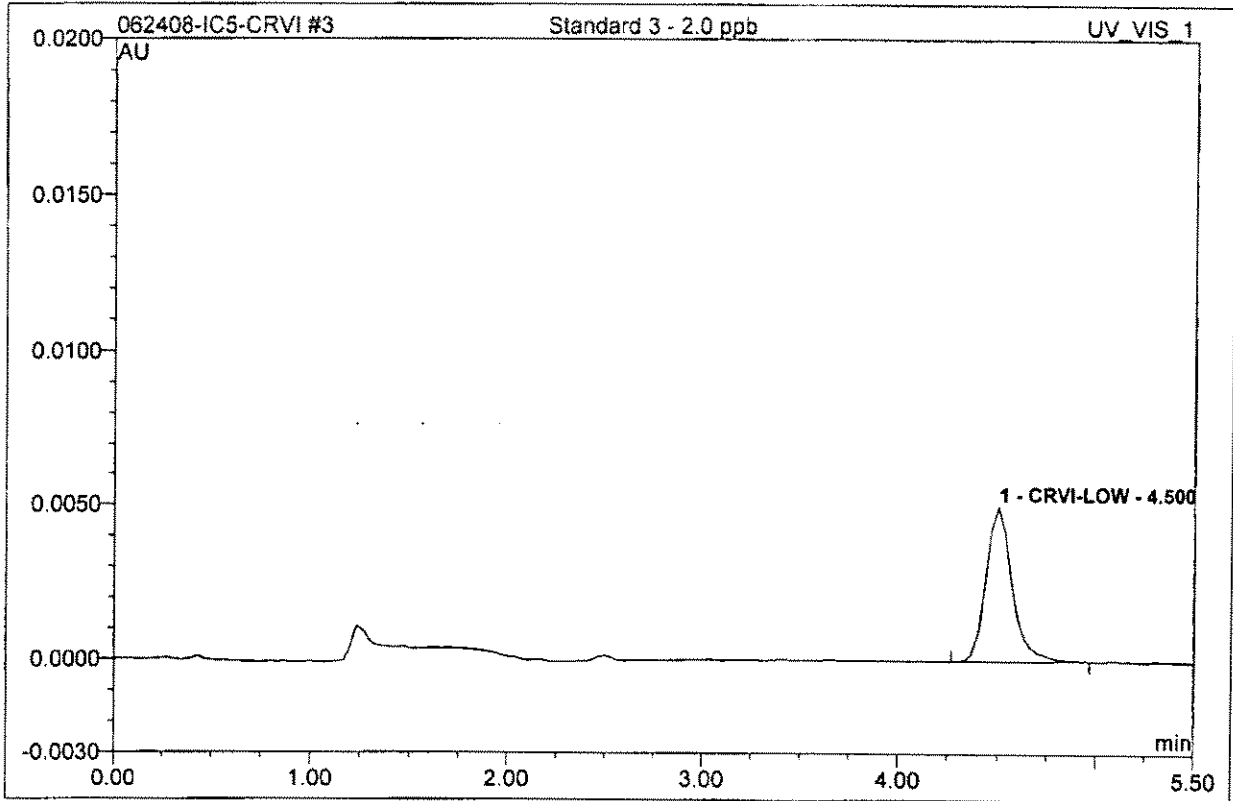
2 Standard 2 - 0.2ppb			
Sample Name:	Standard 2 - 0.2ppb	Control Program:	CRVI-LOW-loop
Dilution Factor:	1.0000	Quantif. Method:	1-IC#5-CRVI
Sample Type:	standard	Recording Time:	6/10/2008 9:55
Analyst:	tlh	Channel:	UV_VIS_1



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
1	4.50	CRVI-LOW	0.001	0.0000812	100.00	0.209	BMB
Total:			0.001	0.000	100.00	0.209	

3 Standard 3 - 2.0 ppb

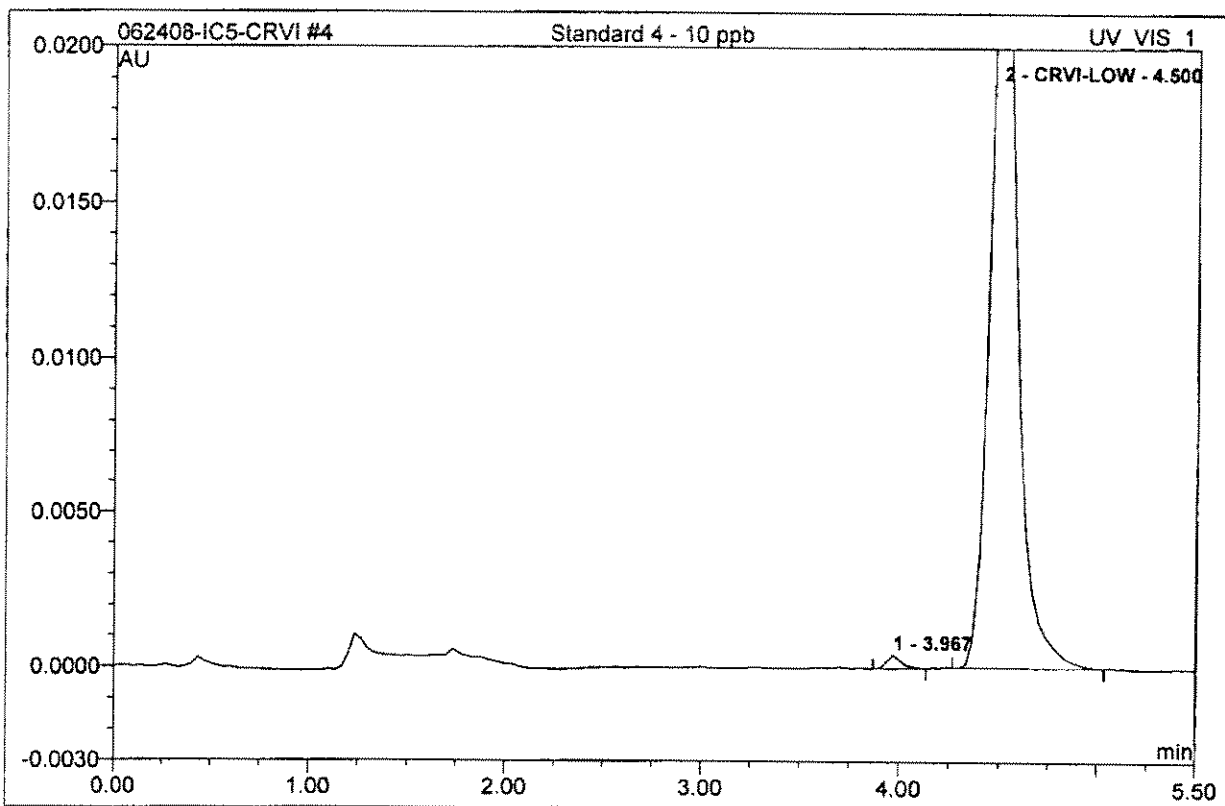
Sample Name:	Standard 3 - 2.0 ppb	Control Program:	CRVI-LOW-loop
Dilution Factor:	1.0000	Quantif. Method:	1-IC#5-CRVI
Sample Type:	standard	Recording Time:	6/10/2008 10:03
Analyst:	tlh	Channel:	UV_VIS_1



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
1	4.50	CRVI-LOW	0.005	0.0007749	100.00	1.993	BMB
Total:			0.005	0.001	100.00	1.993	

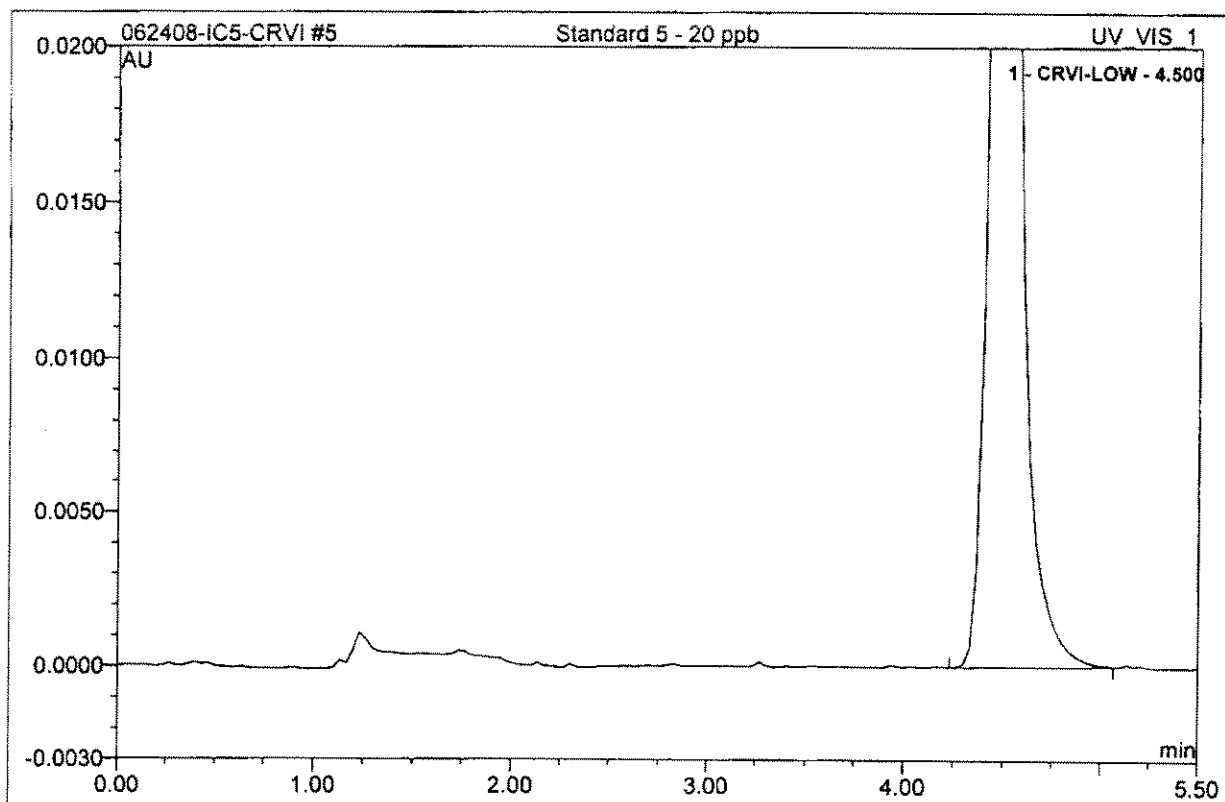
4 Standard 4 - 10 ppb

Sample Name:	Standard 4 - 10 ppb	Control Program:	CRVI-LOW-loop
Dilution Factor:	1.0000	Quantif. Method:	1-IC#5-CRVI
Sample Type:	standard	Recording Time:	6/10/2008 10:11
Analyst:	tlh	Channel:	UV_VIS_1



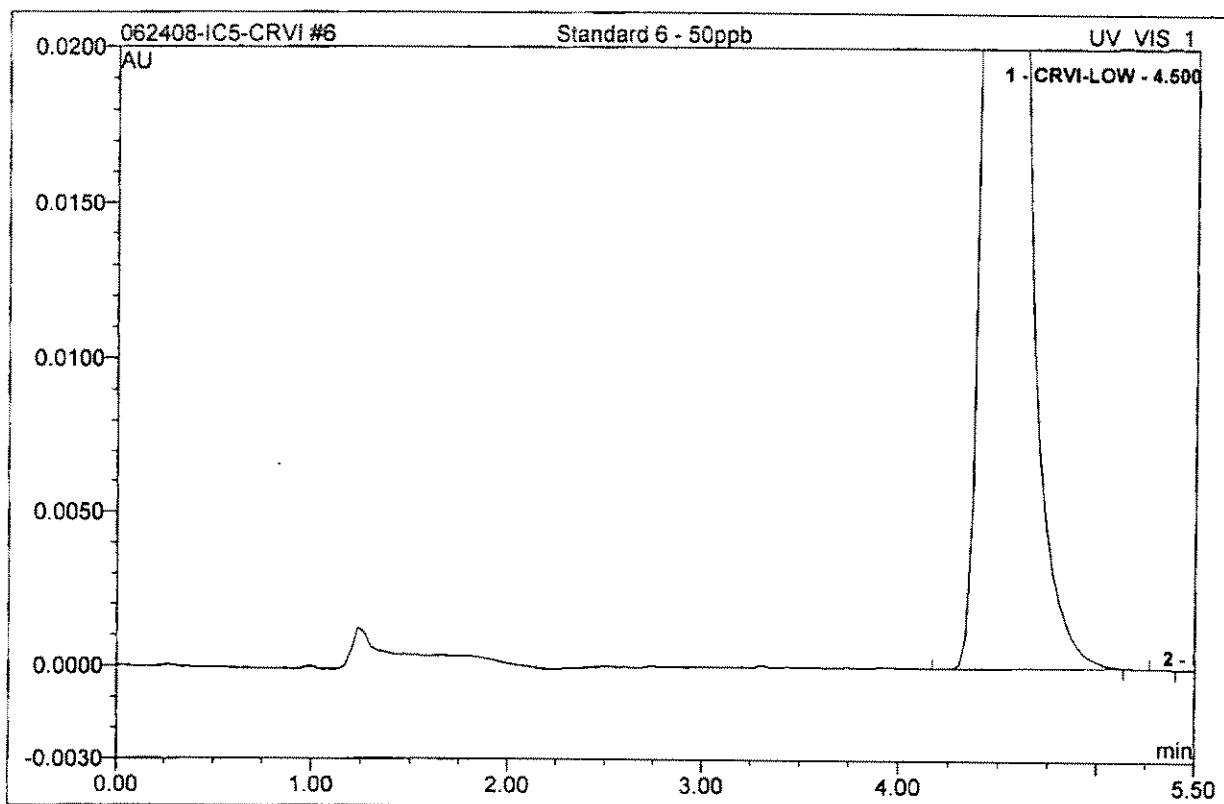
No.	Ret. Time min	Peak Name	Height AU	Area AU*min	Rel. Area %	Amount	Type
1	3.97	n.a.	0.000	0.0000386	0.97	n.a.	BMB
2	4.50	CRVI-LOW	0.026	0.0039512	99.03	10.165	BMB
Total:			0.026	0.004	100.00	10.165	

5 Standard 5 - 20 ppb			
Sample Name:	Standard 5 - 20 ppb	Control Program:	CRVI-LOW-loop
Dilution Factor:	1.0000	Quantif. Method:	1-IC#5-CRVI
Sample Type:	standard	Recording Time:	6/10/2008 10:19
Analyst:	tlh	Channel:	UV_VIS_1



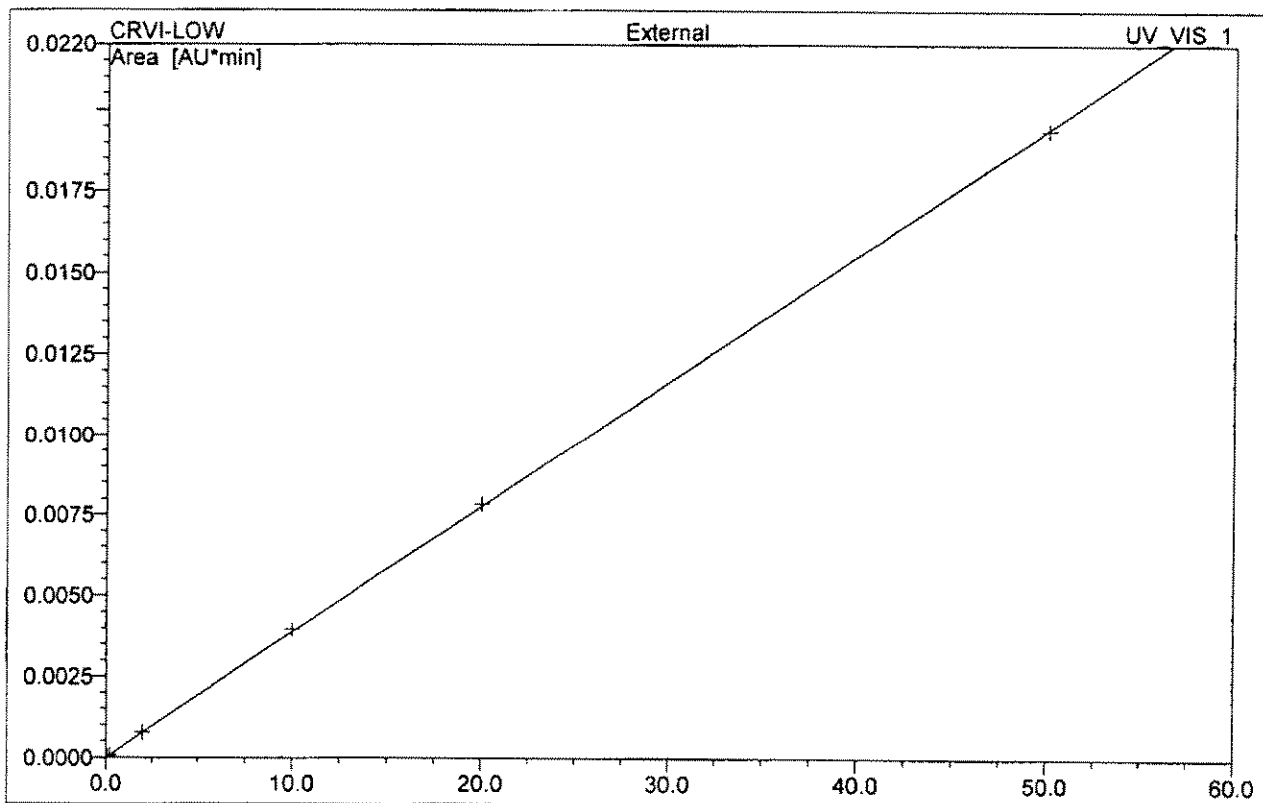
No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
1	4.50	CRVI-LOW	0.050	0.0078370	100.00	20.161	BMB
Total:			0.050	0.008	100.00	20.161	

6 Standard 6 - 50ppb			
Sample Name:	Standard 6 - 50ppb	Control Program:	CRVI-LOW-loop
Dilution Factor:	1.0000	Quantif. Method:	1-IC#5-CRVI
Sample Type:	standard	Recording Time:	6/10/2008 10:28
Analyst:	tlh	Channel:	UV_VIS_1



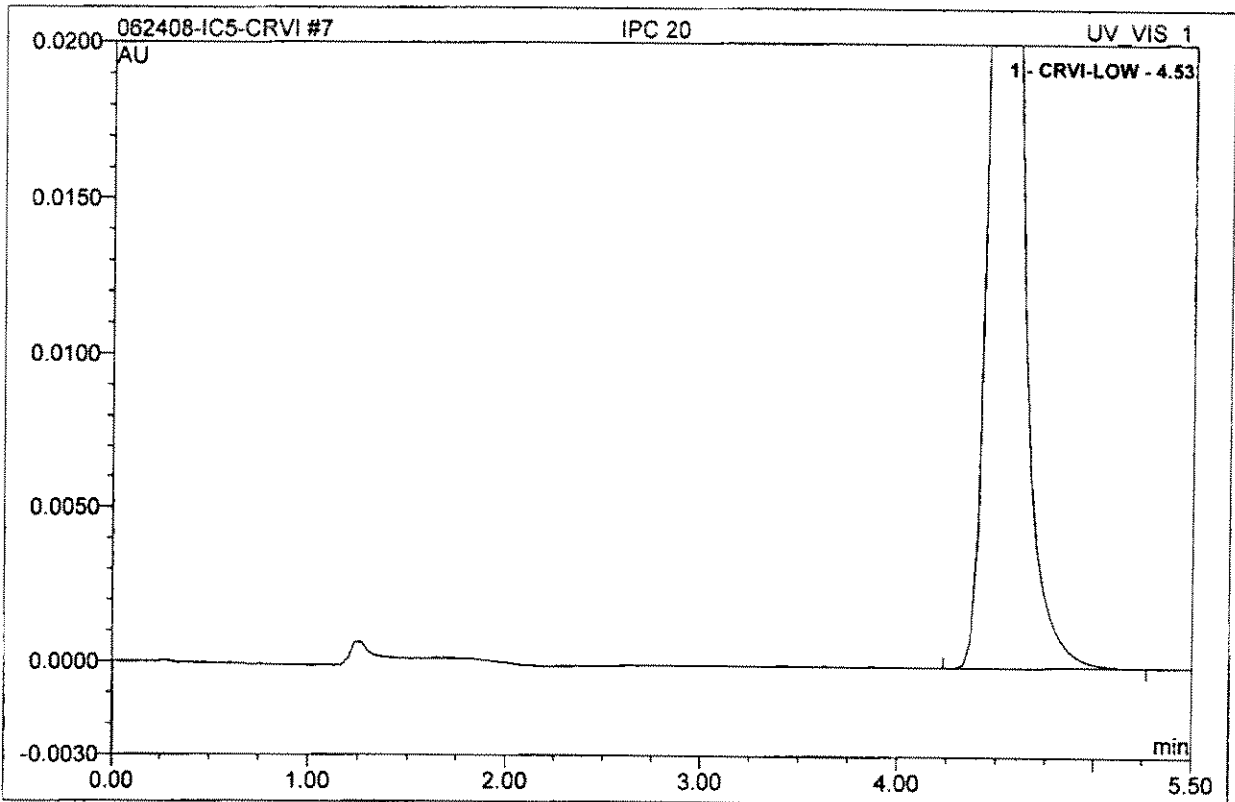
No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
1	4.50	CRVI-LOW	0.126	0.0193981	99.99	49.903	BMB
2	5.33	n.a.	0.000	0.0000017	0.01	n.a.	BMB
Total:			0.126	0.019	100.00	49.903	

6 Standard 6 - 50ppb			
Sample Name:	Standard 6 - 50ppb	Control Program:	CRVI-LOW-loop
Sample Type:	standard	Quantif. Method:	1-IC#5-CRVI
Recording Time:	6/10/2008 10:28	Channel:	UV_VIS_1



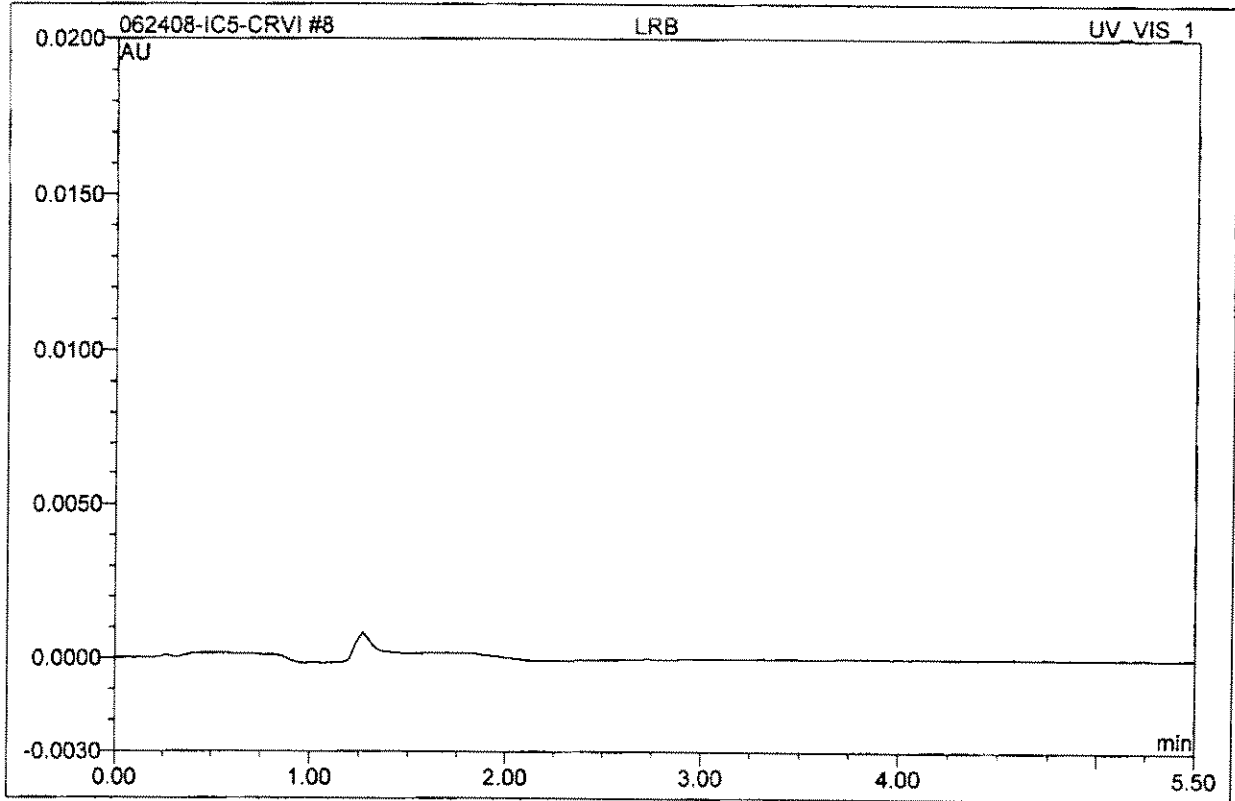
No.	Ret.Time min	Peak Name	Cal.Type	Points	Corr.Coeff. %	Offset	Slope	Curve
1	4.50	CRVI-LOW	Lin	6	99.9987	0.0000	0.0003887	0.0000
2	5.33	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Average:					99.9987	0.0000	0.0004	0.0000

7 IPC 20			
Sample Name:	IPC 20	Control Program:	CRVI-LOW-loop
Dilution Factor:	1.0000	Quantif. Method:	1-IC#5-CRVI
Sample Type:	unknown	Recording Time:	6/24/2008 8:30
Analyst:	tlh	Channel:	UV_VIS_1



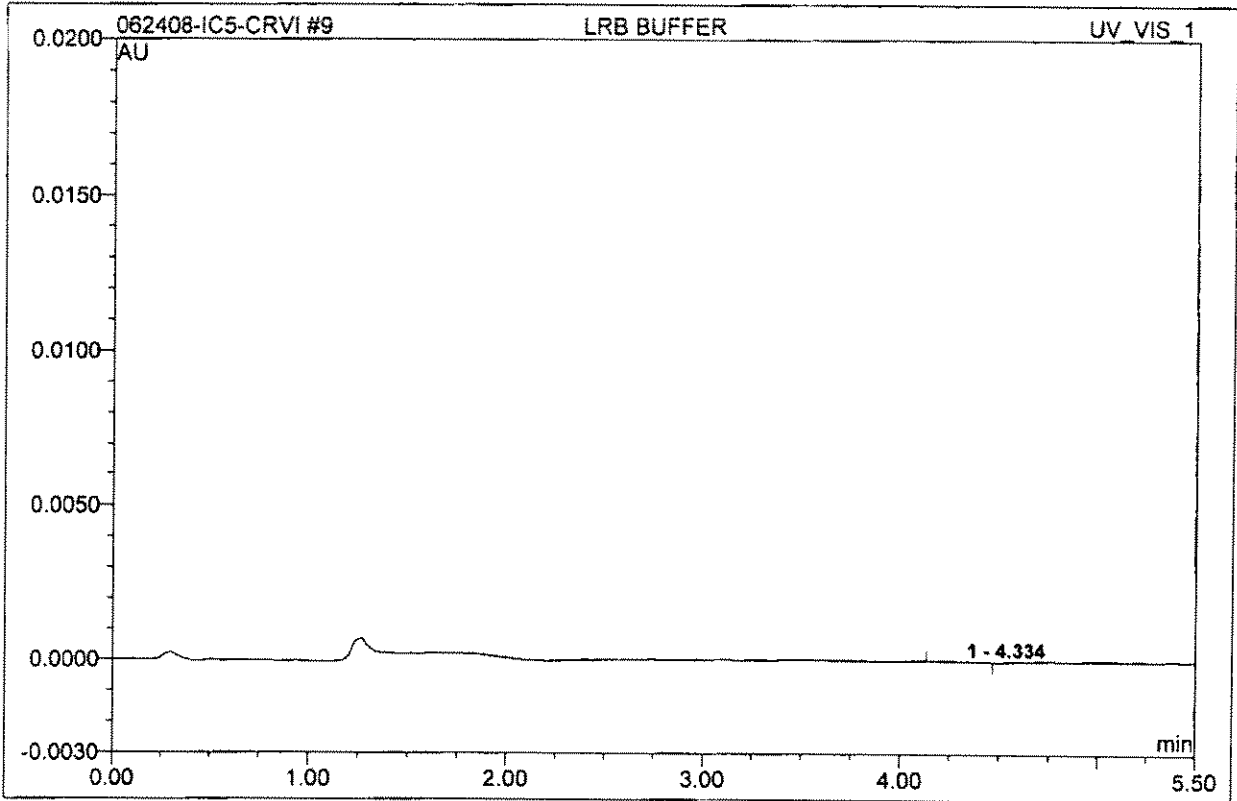
No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
1	4.53	CRVI-LOW	0.049	0.0079738	100.00	20.513	BMB
Total:			0.049	0.008	100.00	20.513	

8 LRB			
Sample Name:	LRB	Control Program:	CRVI-LOW-loop
Dilution Factor:	1.0000	Quantif. Method:	1-IC#5-CRVI
Sample Type:	unknown	Recording Time:	6/24/2008 8:38
Analyst:	tlh	Channel:	UV_VIS_1



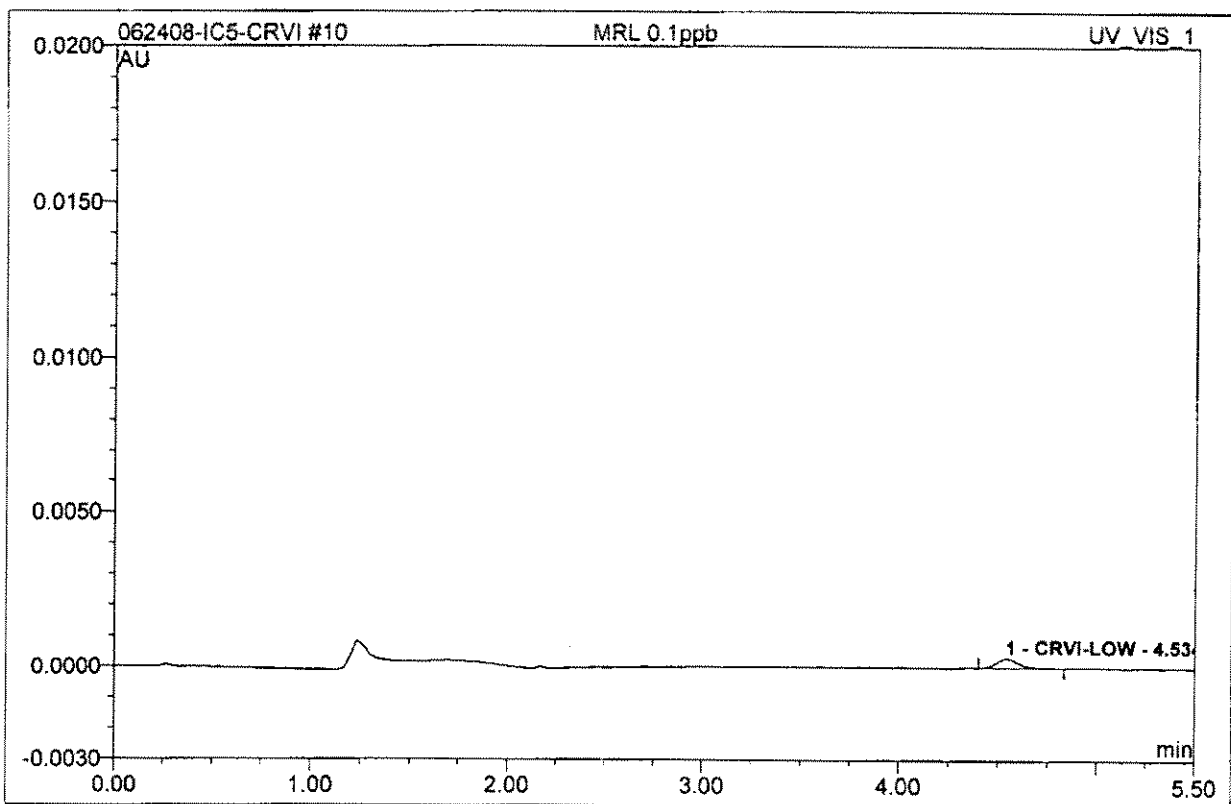
No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
Total:			0.000	0.000	0.00	0.000	

9 LRB BUFFER			
Sample Name:	LRB BUFFER	Control Program:	CRVI-LOW-loop
Dilution Factor:	1.0000	Quantif. Method:	1-IC#5-CRVI
Sample Type:	unknown	Recording Time:	6/24/2008 8:47
Analyst:	tlh	Channel:	UV_VIS_1



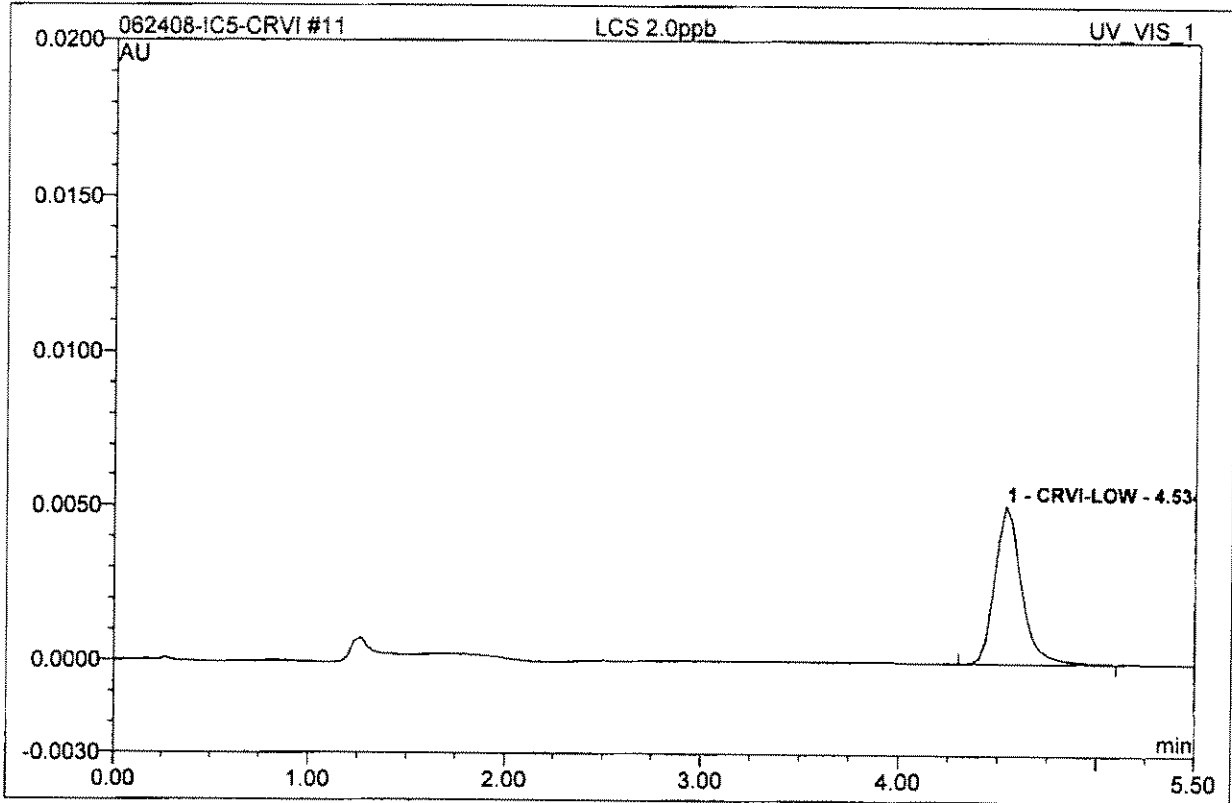
No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
1	4.33	n.a.	0.000	0.0000040	100.00	n.a.	BMB
Total:			0.000	0.000	100.00	0.000	

10 MRL 0.1ppb			
Sample Name:	MRL 0.1ppb	Control Program:	CRVI-LOW-loop
Dilution Factor:	1.0000	Quantif. Method:	1-IC#5-CRVI
Sample Type:	unknown	Recording Time:	6/24/2008 8:55
Analyst:	tlh	Channel:	UV_VIS_1



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
1	4.53	CRVI-LOW	0.000	0.0000407	100.00	0.105	BMB
Total:			0.000	0.000	100.00	0.105	

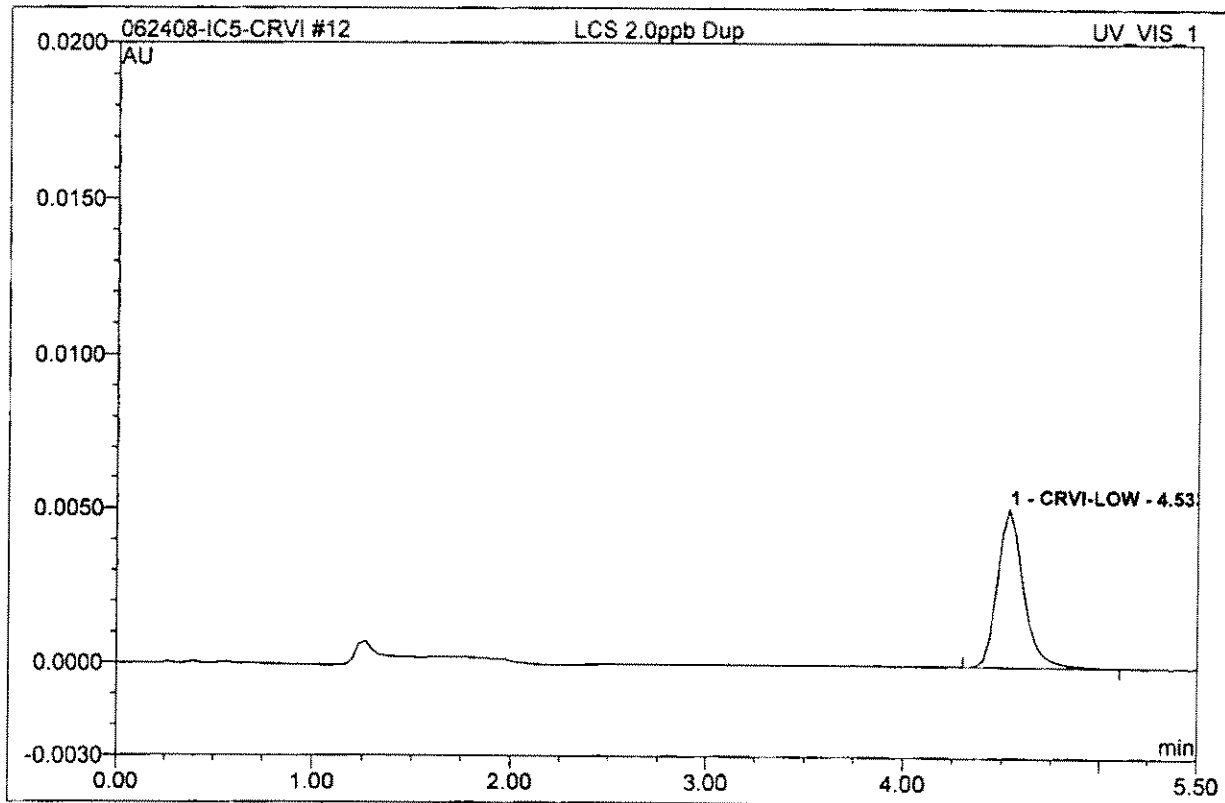
11 LCS 2.0ppb			
Sample Name:	LCS 2.0ppb	Control Program:	CRVI-LOW-loop
Dilution Factor:	1.0000	Quantif. Method:	1-IC#5-CRVI
Sample Type:	unknown	Recording Time:	6/24/2008 9:03
Analyst:	tlh	Channel:	UV_VIS_1



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
1	4.53	CRVI-LOW	0.005	0.0008021	100.00	2.064	BMB
Total:			0.005	0.001	100.00	2.064	

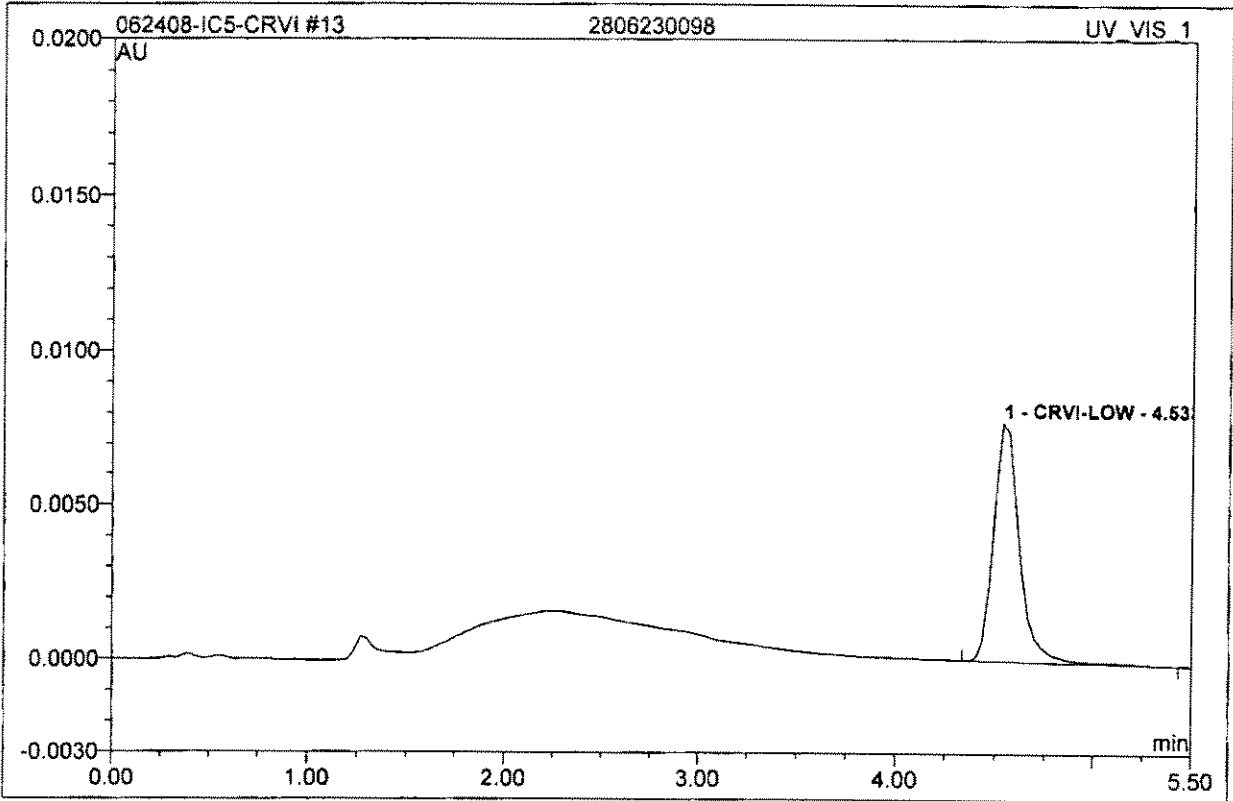
12 LCS 2.0ppb Dup

Sample Name:	LCS 2.0ppb Dup	Control Program:	CRVI-LOW-loop
Dilution Factor:	1.0000	Quantif. Method:	1-IC#5-CRVI
Sample Type:	unknown	Recording Time:	6/24/2008 9:11
Analyst:	tlh	Channel:	UV_VIS_1



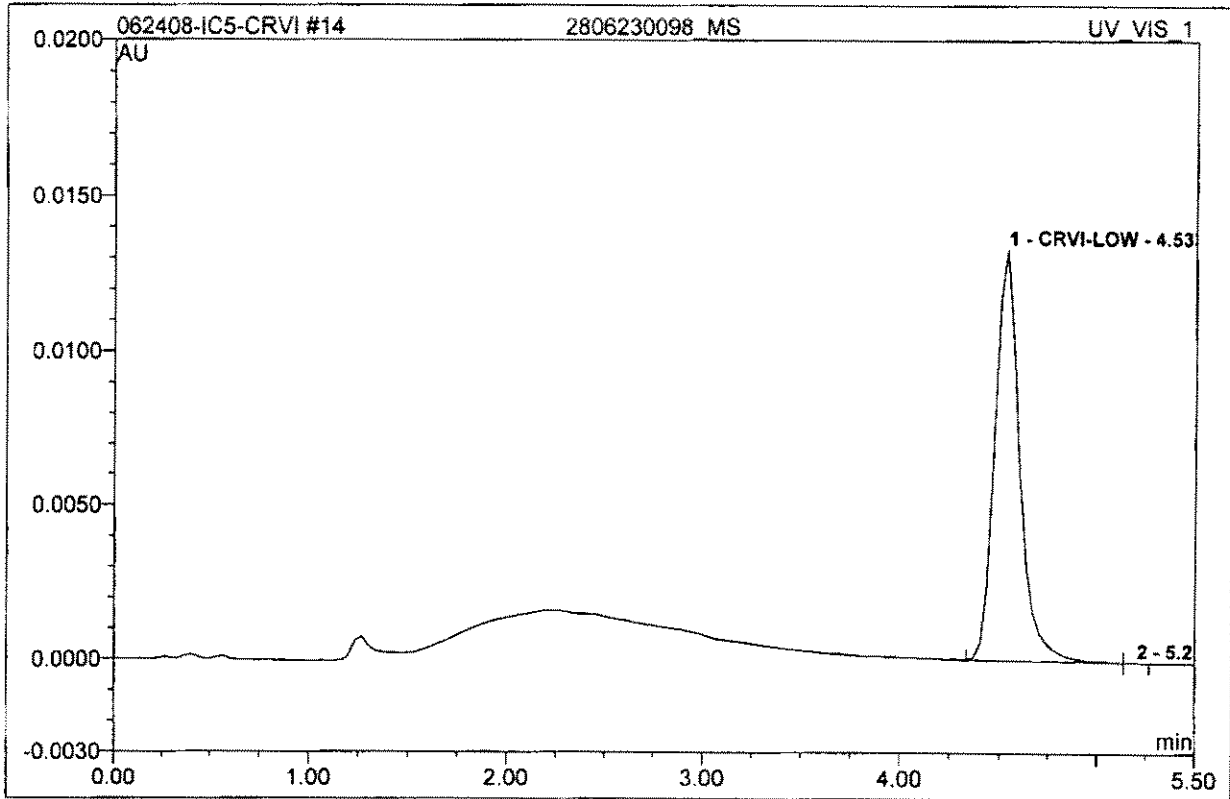
No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
1	4.53	CRVI-LOW	0.005	0.0008013	100.00	2.061	BMB
Total:			0.005	0.001	100.00	2.061	

13 2806230098			
Sample Name:	2806230098	Control Program:	CRVI-LOW-loop
Dilution Factor:	1.0000	Quantif. Method:	1-IC#5-CRVI
Sample Type:	unknown	Recording Time:	6/24/2008 9:20
Analyst:	tlh	Channel:	UV_VIS_1



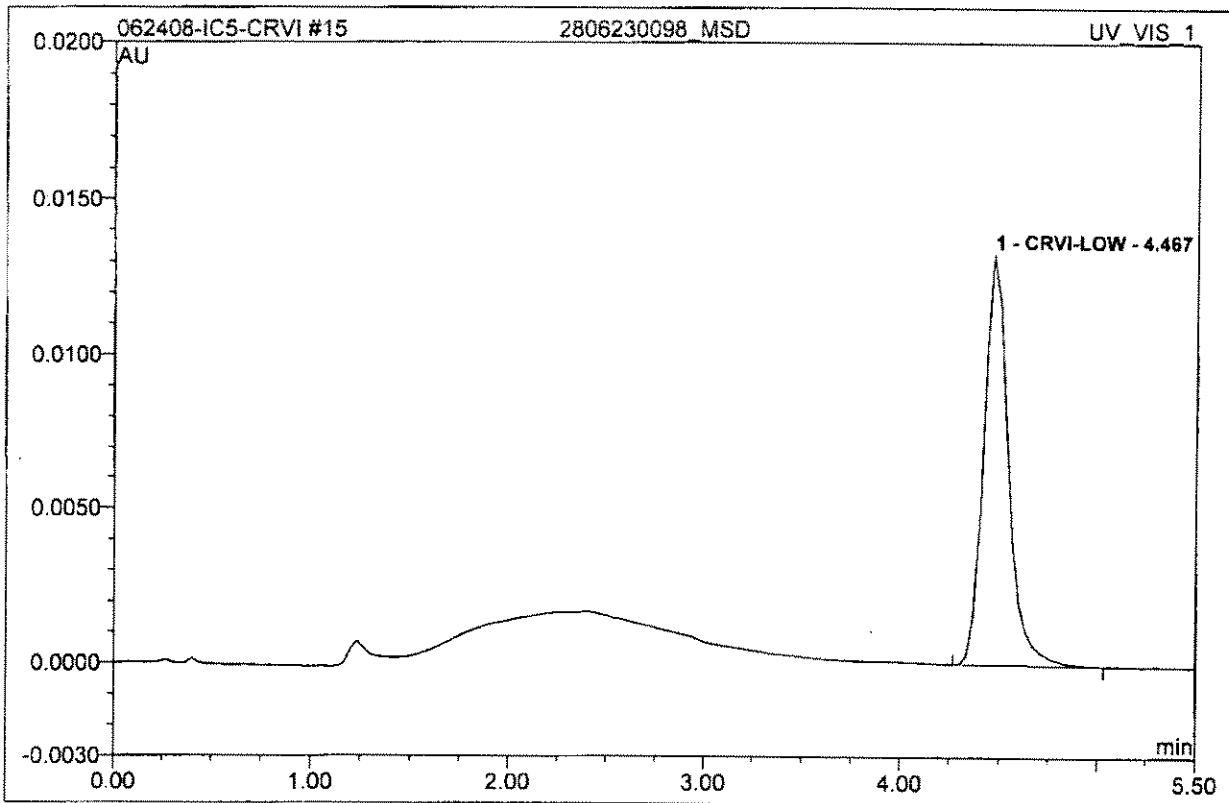
No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
1	4.53	CRVI-LOW	0.008	0.0011907	100.00	3.063	BMB
Total:			0.008	0.001	100.00	3.063	

14 2806230098_MS			
Sample Name:	2806230098_MS	Control Program:	CRVI-LOW-loop
Dilution Factor:	1.0000	Quantif. Method:	1-IC#5-CRVI
Sample Type:	unknown	Recording Time:	6/24/2008 9:28
Analyst:	tlh	Channel:	UV_VIS_1



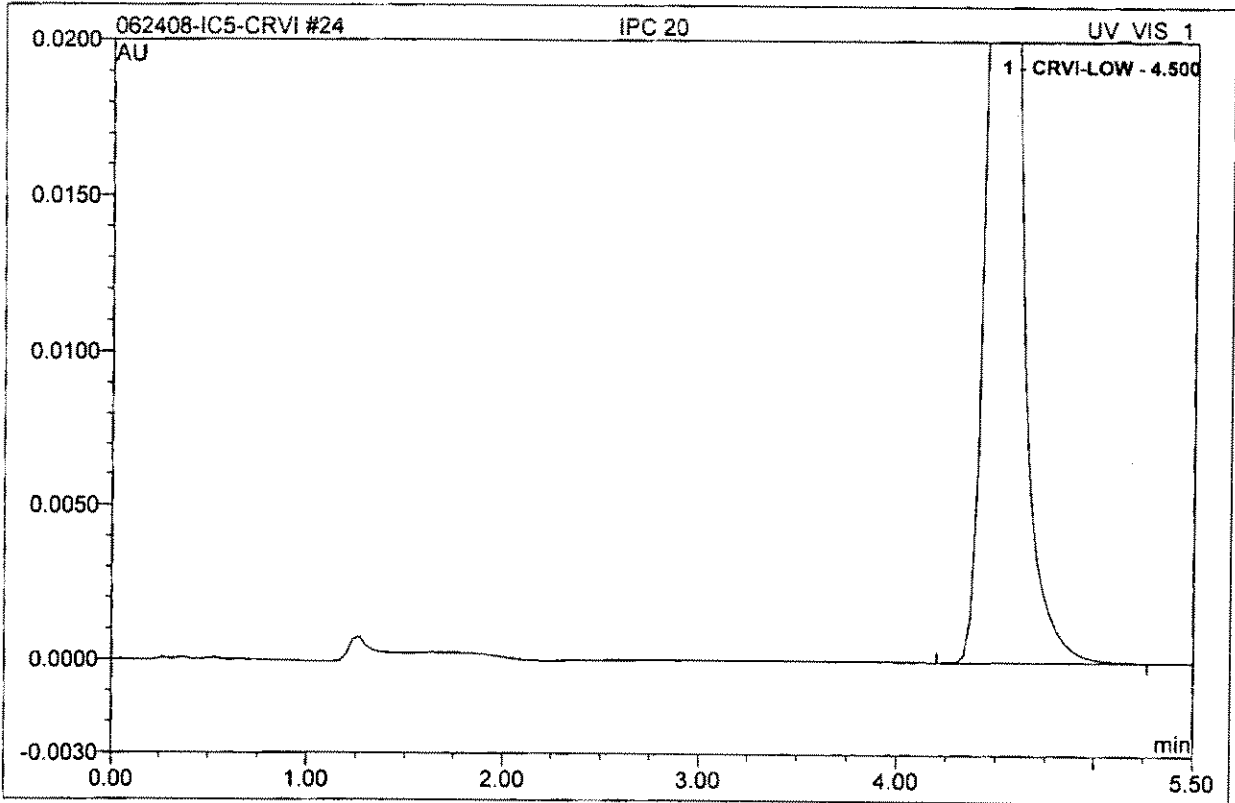
No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
1	4.53	CRVI-LOW	0.013	0.0019553	99.96	5.030	BMB
2	5.20	n.a.	0.000	0.0000007	0.04	n.a.	bMB
Total:			0.013	0.002	100.00	5.030	

15 2806230098_MSD			
Sample Name:	2806230098_MSD	Control Program:	CRVI-LOW-loop
Dilution Factor:	1.0000	Quantif. Method:	1-IC#5-CRVI
Sample Type:	unknown	Recording Time:	6/24/2008 9:37
Analyst:	tlh	Channel:	UV_VIS_1



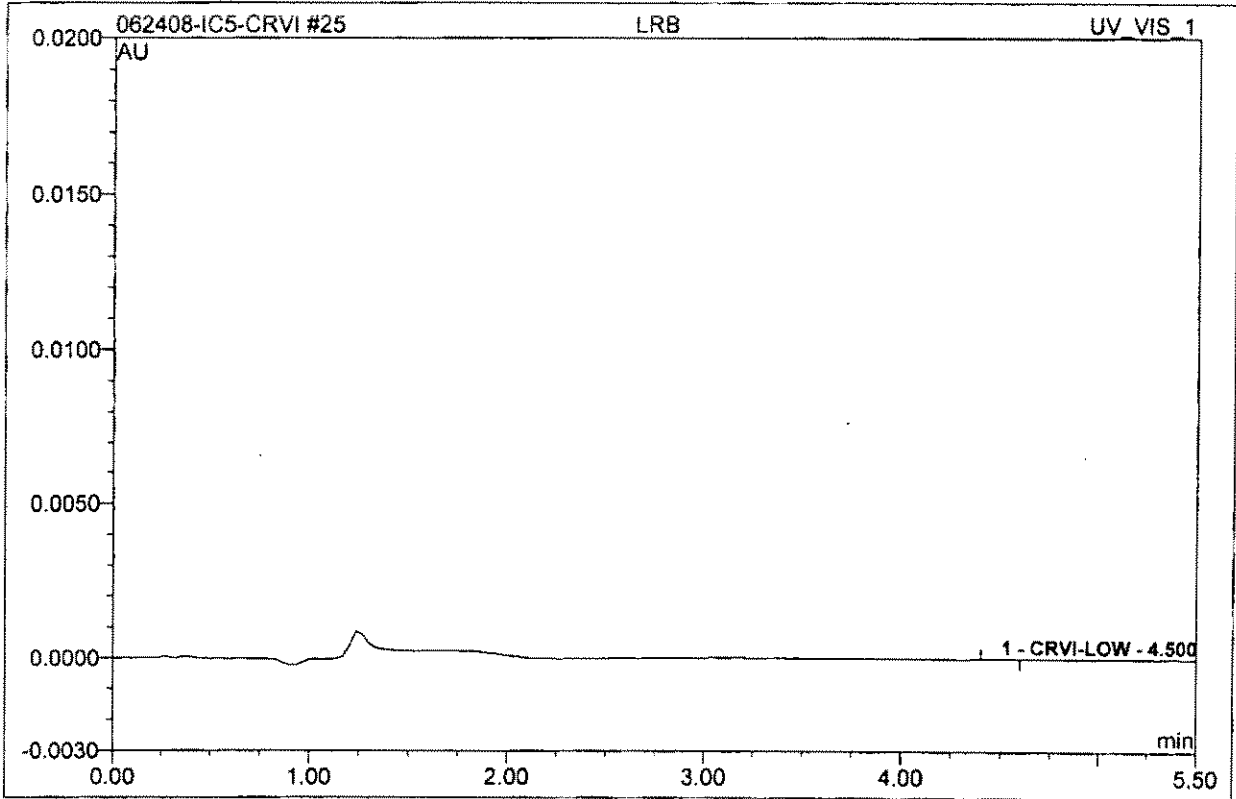
No.	Ret. Time min	Peak Name	Height AU	Area AU*min	Rel. Area %	Amount	Type
1	4.47	CRVI-LOW	0.013	0.0019571	100.00	5.035	BMB
Total:			0.013	0.002	100.00	5.035	

24 IPC 20			
Sample Name:	IPC 20	Control Program:	CRVI-LOW-loop
Dilution Factor:	1.0000	Quantif. Method:	1-IC#5-CRVI
Sample Type:	unknown	Recording Time:	6/24/2008 10:49
Analyst:	tlh	Channel:	UV_VIS_1



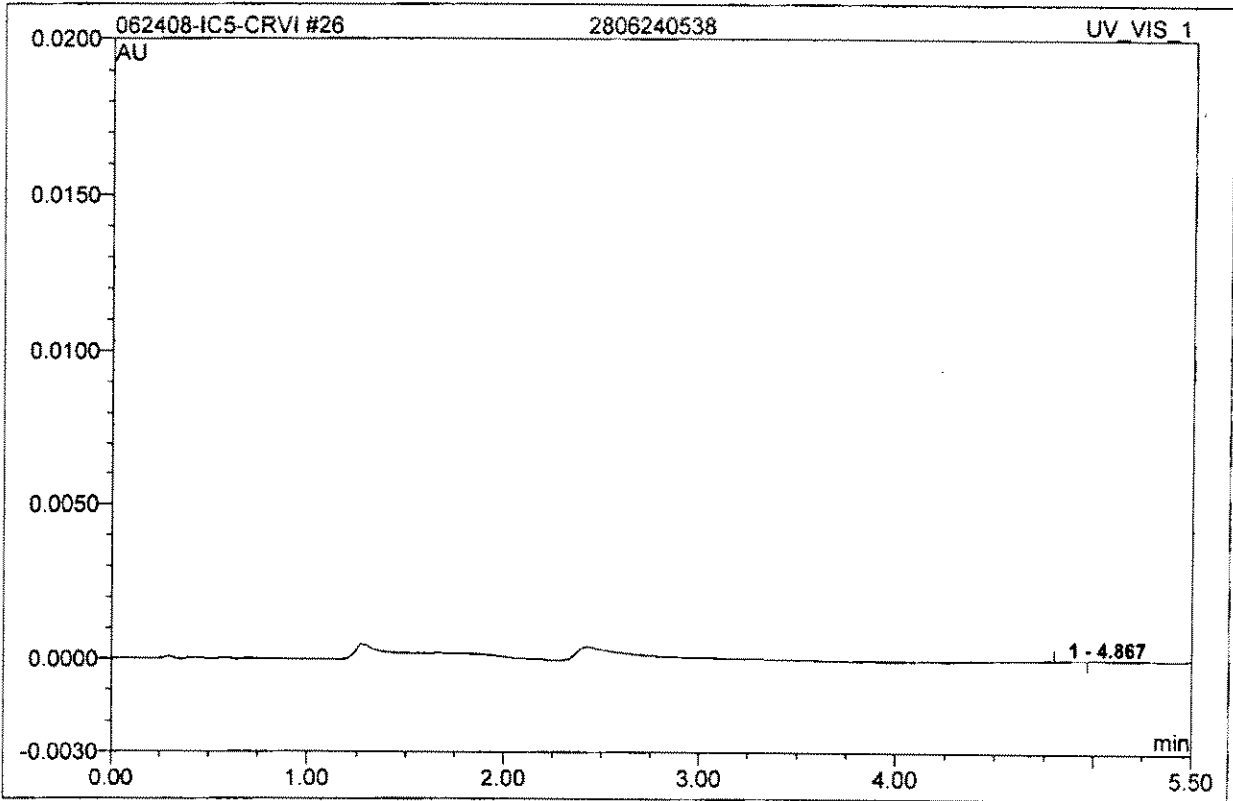
No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
1	4.50	CRVI-LOW	0.051	0.0080451	100.00	20.697	BMB
Total:			0.051	0.008	100.00	20.697	

25 LRB			
Sample Name:	LRB	Control Program:	CRVI-LOW-loop
Dilution Factor:	1.0000	Quantif. Method:	1-IC#5-CRVI
Sample Type:	unknown	Recording Time:	6/24/2008 10:58
Analyst:	tlh	Channel:	UV_VIS_1



No.	Ret. Time min	Peak Name	Height AU	Area AU*min	Rel. Area %	Amount	Type
1	4.50	CRVI-LOW	0.000	0.0000010	100.00	0.003	BMB
Total:			0.000	0.000	100.00	0.003	

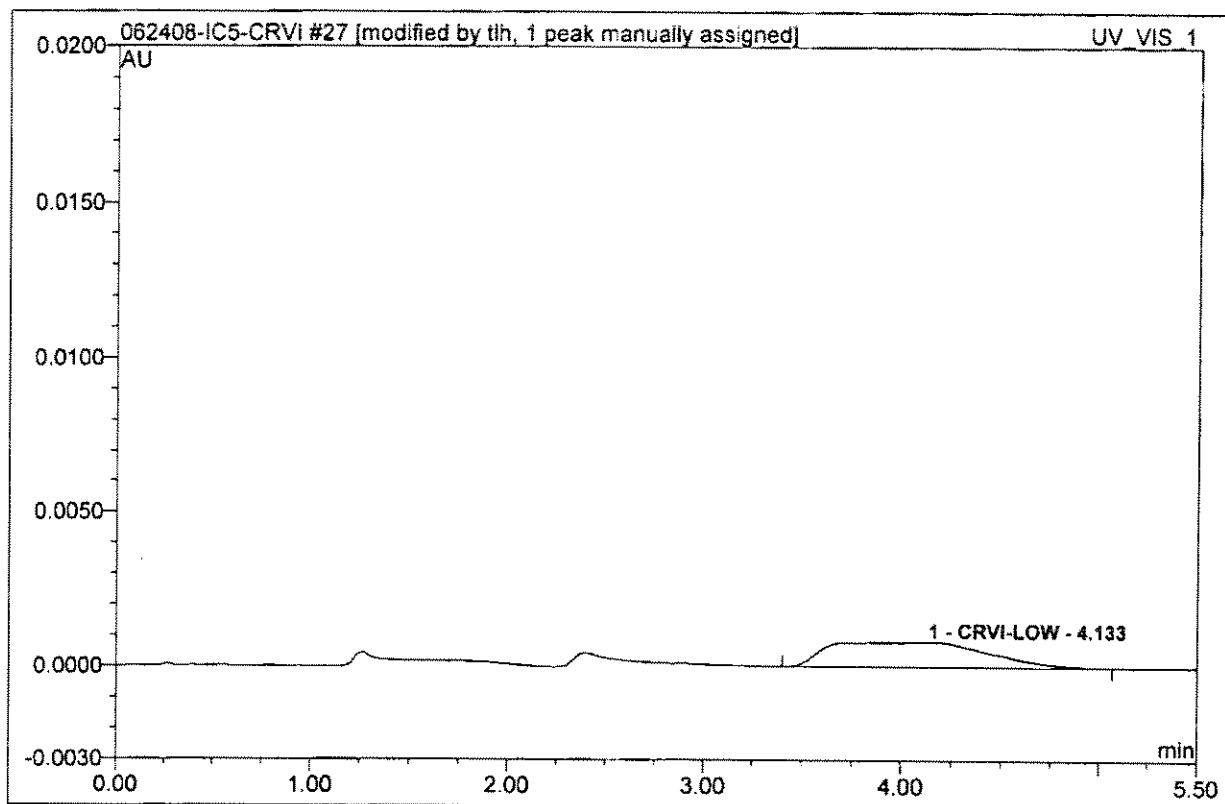
26 2806240538			
Sample Name:	2806240538	Control Program:	CRVI-LOW-loop
Dilution Factor:	1.0000	Quantif. Method:	1-IC#5-CRVI
Sample Type:	unknown	Recording Time:	6/24/2008 15:49
Analyst:	tlh	Channel:	UV_VIS_1



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
1	4.87	n.a.	0.000	0.0000008	100.00	n.a.	BMB
Total:			0.000	0.000	100.00	0.000	

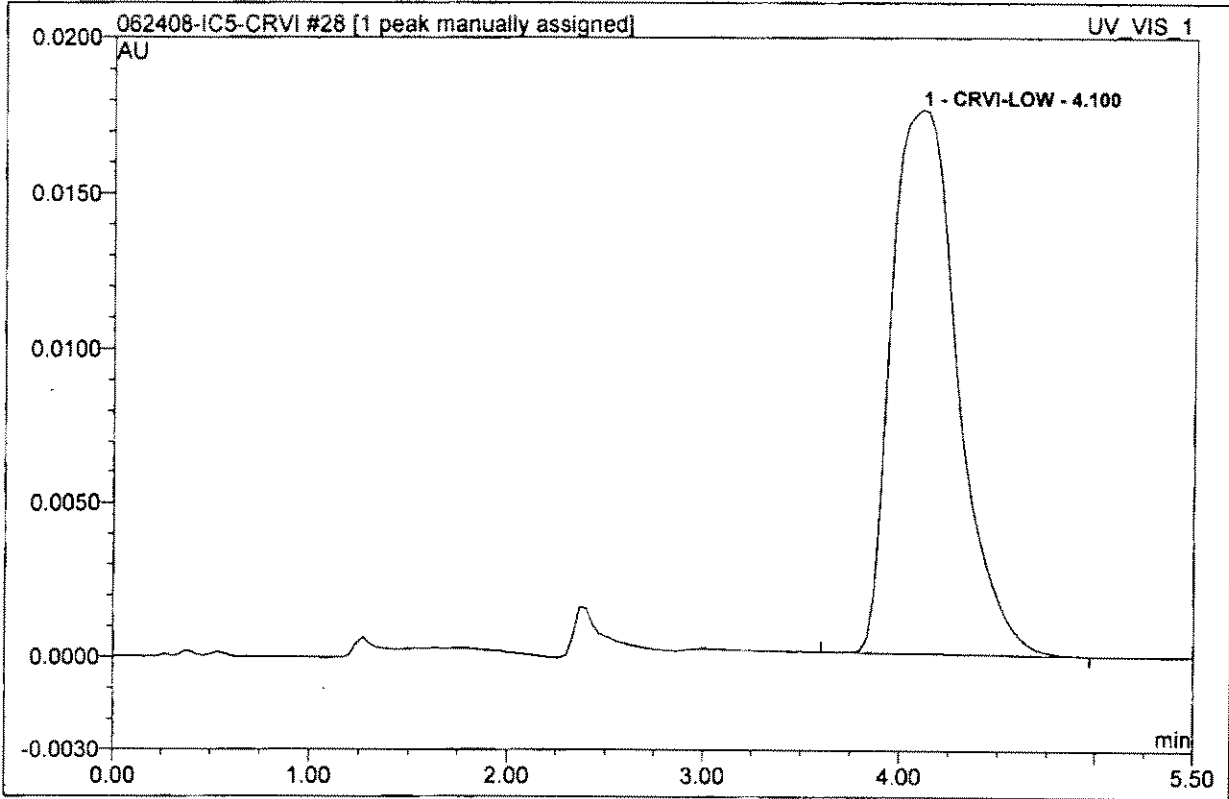
27 2806240538_MS

Sample Name:	2806240538_MS	Control Program:	CRVI-LOW-loop
Dilution Factor:	1.0000	Quantif. Method:	1-IC#5-CRVI
Sample Type:	unknown	Recording Time:	6/24/2008 15:57
Analyst:	tlh	Channel:	UV_VIS_1



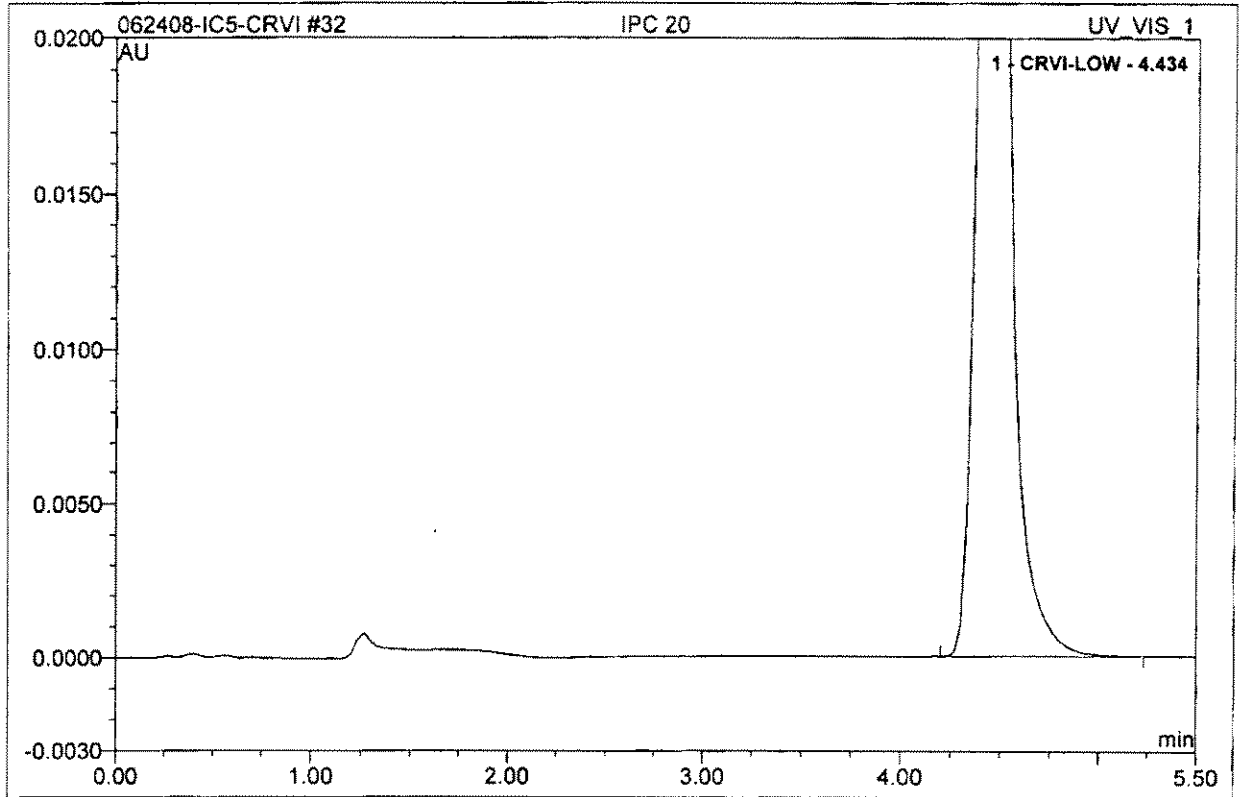
No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
1	4.13	CRVI-LOW	0.001	0.0007473	100.00	1.923	BMB*^
Total:			0.001	0.001	100.00	1.923	

28 2806240540			
Sample Name:	2806240540	Control Program:	CRVI-LOW-loop
Dilution Factor:	1.0000	Quantif. Method:	1-IC#5-CRVI
Sample Type:	unknown	Recording Time:	6/24/2008 16:05
Analyst:	tlh	Channel:	UV_VIS_1



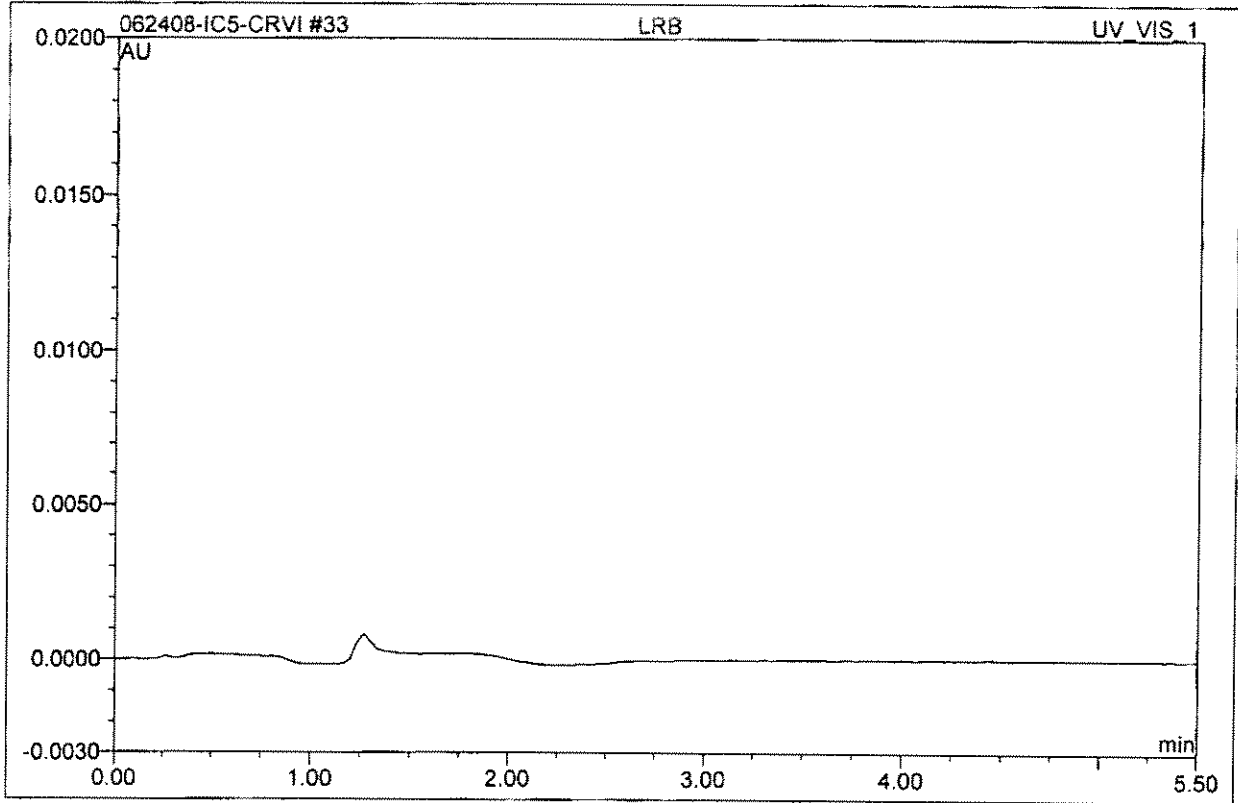
No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
1	4.10	CRVI-LOW	0.018	0.0068662	100.00	17.664	BMB^
Total:			0.018	0.007	100.00	17.664	

32 IPC 20			
Sample Name:	IPC 20	Control Program:	CRVI-LOW-loop
Dilution Factor:	1.0000	Quantif. Method:	1-IC#5-CRVI
Sample Type:	unknown	Recording Time:	6/24/2008 16:37
Analyst:	tlh	Channel:	UV_VIS_1



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
1	4.43	CRVI-LOW	0.051	0.0080669	100.00	20.753	BMB
Total:			0.051	0.008	100.00	20.753	

33 LRB			
Sample Name:	LRB	Control Program:	CRVI-LOW-loop
Dilution Factor:	1.0000	Quantif. Method:	1-IC#5-CRVI
Sample Type:	unknown	Recording Time:	6/24/2008 16:46
Analyst:	tlh	Channel:	UV_VIS_1



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

**Standard
Preparation
Worksheet
&
Certificate of
Analysis**

Reagent Preparation Documentation

Reagent: Cr⁶⁺ Low Calibration Std. - 2.0 ppb
Date Received/Prepped: 12/3/07 2/7/08 3/7/08 4/7/08 5/15/08
Date Expired: _____
Manufacturer: _____
Storage Condition: room temperature

MW #: 92H071231-2
By: 92H
Matrix: aq
Amount: 100ml
Lot #: _____

Component	Comment	Standard	Concentration
<u>Cr⁶⁺ Low Calibration Stock</u>	<u>200µl diluted to 100ml w/ NH₂O</u>	<u>92H071018-3</u>	<u>2.0 ppb</u>
<u>Cr⁶⁺ Low Buffer Soln</u>	<u>1.0ml added AFTER diluted to final volume</u>	<u>92H071228-1</u>	

Comment: _____

Reagent: Cr⁶⁺ Low Calibration Std. - 10ppb
Date Received/Prepped: 12/31/07 3/17/08 4/7/08 | |
Date Expired: * | | | | |
Manufacturer: _____
Storage Condition: room temperature

MW #: 92H071231-3
By: 92H
Matrix: aq
Amount: 100ml
Lot #: _____

Component	Comment	Standard	Concentration
<u>Cr⁶⁺ Low Calibration Stock</u>	<u>1.0ml diluted to 100ml w/ NH₂O</u>	<u>92H071018-3</u>	<u>10ppb</u>
<u>Cr⁶⁺ Low Buffer Soln</u>	<u>1.0ml added AFTER diluted to final volume</u>	<u>92H071228-1</u>	

Comment: * make fresh for each calibration.

Reagent: Cr⁶⁺ Low Calibration Std. - 20ppb
Date Received/Prepped: 12/31/07 1/18/08 1/30/08 2/7/08 2/15/08 2/22/08
~~**Date Expired:**~~ 2/29/08 3/17/08 3/25/08 4/3/08 4/7/08 4/16/08
Manufacturer: _____
Storage Condition: room temperature

MW #: 92H071231-4
By: 92H
Matrix: aq
Amount: 100ml
Lot #: _____

Component	Comment	Standard	Concentration
<u>Cr⁶⁺ Low Calibration Stock</u>	<u>2.0ml diluted to 100ml w/ NH₂O</u>	<u>92H071018-3</u>	<u>20ppb</u>
<u>Cr⁶⁺ Low Buffer Soln</u>	<u>1.0ml added AFTER diluted to final volume</u>	<u>92H071228-1</u>	

Comment: 4/24/08 5/4/08 5/15/08 5/30/08

Reagent Preparation Documentation

Reagent: Cr¹⁶ Low LCS Stock Solution - 1ppm
 Date Received/Prepped: 10/18/07 3/17/08 7/10/08 10/20/08 |
 Date Expired: | | | | |
 Manufacturer: _____
 Storage Condition: room temperature

MW #: TUH071018-1
 By: 92H
 Matrix: ag
 Amount: 100mL
 Lot #: _____

Component	Comment	Standard	Concentration
<u>High 100ppm exp. pin 210</u>	<u>100ul diluted to 100ml w/ DI H₂O</u>	<u>R201090</u>	<u>1ppm</u>

Comment: _____

Reagent: Cr¹⁶ Low LCS Working Std. - 2ppb
 Date Received/Prepped: 10/18/07 11/12/07 11/24/07 12/10/07 12/18/07 1/15/08
~~Date Expired:~~ 1/30/08 2/13/08 2/24/08 3/17/08 3/28/08 4/7/08
 Manufacturer: _____
 Storage Condition: room temperature

MW #: TUH071018-2
 By: 92H
 Matrix: ag
 Amount: 100mL
 Lot #: _____

Component	Comment	Standard	Concentration
<u>Cr¹⁶ Low LCS Stock (TUH071018-1)</u>	<u>200ul diluted to 100ml w/ DI H₂O</u>	<u>TUH071018-1</u>	<u>2ppb</u>
<u>Cr¹⁶ Buffer Soln</u>	<u>1.0ml added AFTER soln @ final volume</u>	<u>TUH0608-15-1</u>	

Comment: 4/21/08 5/2/08 5/15/08 5/28/08 6/11/08 6/23/08 7/8/08 7/21/08 7/30/08
8/12/08 8/25/08 9/8/08 9/23/08 10/7/08 10/20/08 10/31/08

Reagent: Cr¹⁶ Low Calibration Stock Soln - 1ppm
 Date Received/Prepped: 10/18/07 3/17/08 | | |
 Date Expired: | | | | |
 Manufacturer: _____
 Storage Condition: room temperature

MW #: TUH071018-3
 By: 92H
 Matrix: ag
 Amount: 100mL
 Lot #: _____

Component	Comment	Standard	Concentration
<u>Inorganic Ventures 100ppm exp. date 08 rec'd & opened 5-11-07 Lot # Z-CRC215-2</u>	<u>100ul diluted to 100ml w/ DI H₂O</u>	<u>R201632</u>	<u>1ppm</u>

Comment: _____

Reagent Documentation

Reagent: Antifoam B Silicone Emulsion
 Date Received: 08 May 07
 Date Expired: May 2010
 Manufacturer: IT Baker
 Storage Condition: room temp

Reagent #: 201630
 By: GH
 Matrix: ag
 Amount: 125 mL
 Lot #: C47613

Component	Comment	Standard	Concentration
	IT Baker # B531-05		

Comment:

Reagent: Cyanide 1000ug/mL
 Date Received: 09 May 07
 Date Expired: 30 April 08
 Manufacturer: High Purity Standards
 Storage Condition: room temp

Reagent #: 201631
 By: GH
 Matrix: ag
 Amount: 125 mL
 Lot #: 629323

Component	Comment	Standard	Concentration
	HP # 1C-CN-M		

Comment:

Reagent: Chromium +6 (Cr+6) 1000ppm
 Date Received: 5/11/07
 Date Expired: 6/1/08
 Manufacturer: Inorganic Ventures
 Storage Condition:

Reagent #: 201632
 By: WSH
 Matrix: AR
 Amount: 125 mL
 Lot #: Z-CR02152

Component	Comment	Standard	Concentration
Cr+6	PN = CGCR(6)1-1		

Comment:

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 Chromium (+6) in H2O**

RF# 201632

Catalog Number: CGCR(6)1-1, CGCR(6)1-2, and CGCR(6)1-5
 Lot Number: **Z-CR02152**
 Starting Material: (NH₄)₂Cr₂O₇
 Starting Material Purity (%): 99.989259
 Starting Material Lot No: F04N14
 Matrix: H₂O

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:

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

(\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, 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.

4.1 Assay Method #1 **1000 ± 3 µg/mL**
 Redox NIST SRM 136e Lot Number: 980702

Assay Method #2 **1001 ± 4 µg/mL**
 ICP Assay NIST SRM 3112a Lot Number: 990607