UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III
Environmental Sciences Center
701 Mapes Road
Fort Meade, Maryland 20755-5350

DATE: 3/4/2019

SUBJECT: Region III Data QA Review

FROM: Brandon McDonald
Region III ESAT RPO (3EA22)

TO: CONNOR O'LOUGHLIN
Hazardous Site Cleanup Division (HSCD)

Attached is the data validation report for the BLADES GROUNDWATER site for DAS# R35470; SDG# MC0AG5 completed by the Region III Environmental Services Assistance Team (ESAT) contractor, ICF International, under the direction of Region III EAID.

If you have any questions regarding this review, please call Brandon McDonald at (410) 305-2607 or you can call Eric Graybill at (410)-305-2665.

Attachment

cc: Ex. 4 CBI VESTON SOLUTIONS)
/ESTON SOLUTIONS)

TO: #0002 TDF: #1218023

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ICF
ESAT Region 3
US Environmental Protection Agency Environmental Science Center
701 Mapes Road Ft. Meade, MD 20755-5350
Phone 410-305-3012

Date: February 8, 2019

To: Brandon McDonald
ESAT Region 3 Project Officer

From: Ex. 4 CBI
Validator

Ex. 4 CBI
Reviewer

Subject: Inorganic Data Validation (S4VM)
Blades Groundwater
R35470 MC0AG5

Overview

This data package consisted of thirteen (13) ground water samples, including a field duplicate pair, analyzed for hexavalent chromium.

Analyses were performed by ALS Environmental (ALS). The samples were submitted to the laboratory directly by the sampling contractor. The laboratory indicated analyses were performed based on EPA Method 218.7.

Data were validated according to the National Functional Guidelines for Inorganic Superfund Methods Data Review and applicable USEPA Region 3 modifications. The validation report has been assigned the Superfund Data Validation Level Stage_4_Validation_Manual (S4VM).

The following validation narrative is an evaluation of laboratory reported data based on the electronic data package received by Region 3 on November 30, 2018.

Summary

No significant data quality outliers or technical deficiencies were identified that would require rejection or estimation of sample results.

Notes

Concentrations detected below the Reporting Detection Limit (RDL) are estimated and have been qualified "J".

Accuracy and precision criteria were met by the laboratory in the initial and continuing calibration verification standard analyses associated with the samples in this SDG.

Laboratory blanks associated with the samples in this SDG were free from contamination.

Laboratory Control Sample analyses were within control limits.

Percent recoveries and Relative Percent Differences (RPDs) in Matrix Spike/Matrix Spike Duplicate (MS/MSD) analysis for sample MC0AG6 and MC0AN9 were within control limits.

The samples in this SDG were found to be free of residual chlorine at the time of sample preparation by the laboratory. Sample pH data provided by the laboratory support proper preservation for all samples. No data were qualified based on these findings.

The sampling time of 11:19 listed on the Analytical Results for sample MC0AG8 does not match the sampling time of 13:17 listed on Chain of Custody Record No: 3-110718-150352-0033. No data were qualified based on this finding.

No detected concentrations for hexavalent chromium were reported in field duplicate pair MC0AH0/MC0AL2. No data were qualified based on field duplicate precision.

Glossary of Inorganic Data Qualifier Codes

Validation Qualifiers	In order of descending precedence. Only one of these qualifiers may apply to any result.
R	The data are unusable. The sample results are rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the sample.
UJ	The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.
U	The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit
B	The result is presumed a blank contaminant. This qualifier is used for drinking water samples only.
J	The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
J+	The result is an estimated quantity, but the result may be biased high.
J-	The result is an estimated quantity, but the result may be biased low.

ALS Environmental

34 Dogwood Lane ▪ Middletown, PA 17057 ▪ Phone: 717-944-5541 ▪ Fax: 717-944-1430 ▪ www.alsglobal.com

NELAP Certifications: NJ PA010 , NY 11759 , PA 22-293 DoD ELAP: A2LA 0818.01
State Certifications: DE ID 11 , MA PA0102 , MD 128 , VA 460157 , WV 343

ANALYTICAL RESULTS

Workorder: 2349318 WSI024|CASE R35470 30250.016.0

Lab ID: **2349318001** Date Collected: 11/7/2018 09:17 Matrix: Ground Water

Sample ID: **MC0AG5** Date Received: 11/8/2018 09:13

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	Cntr
WET CHEMISTRY										
Hexavalent Chromium	0.021J	J	ug/L	0.030	0.0061	EPA 218.7		11/17/18 08:26	MBW	A

Ex. 4 CBI

Project Coordinator

ALS Environmental

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ANALYTICAL RESULTS

Workorder: 2349318 WSI024|CASE R35470 30250.016.0

Lab ID: **2349318002** Date Collected: 11/7/2018 09:23 Matrix: Ground Water
Sample ID: **MC0AG6** Date Received: 11/8/2018 09:13

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	Cntr
WET CHEMISTRY										
Hexavalent Chromium	0.011J	J	ug/L	0.030	0.0061	EPA 218.7		11/17/18 09:11	MBW	A

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ANALYTICAL RESULTS

Workorder: 2349318 WSI024|CASE R35470 30250.016.0

Lab ID: **2349318003** Date Collected: 11/7/2018 12:48 Matrix: Ground Water
Sample ID: **MC0AG7** Date Received: 11/8/2018 09:13

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	Cntr
WET CHEMISTRY										
Hexavalent Chromium	0.051		ug/L	0.030	0.0061	EPA 218.7		11/17/18 09:37	MBW	A

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ANALYTICAL RESULTS

Workorder: 2349318 WSI024|CASE R35470 30250.016.0

Lab ID: **2349318004** Date Collected: 11/7/2018 11:19 Matrix: Ground Water
Sample ID: **MC0AG8** Date Received: 11/8/2018 09:13

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	Cntr
WET CHEMISTRY										
Hexavalent Chromium	0.030 U	U	ug/L	0.030	0.0061	EPA 218.7		11/17/18 09:46	MBW	A

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ANALYTICAL RESULTS

Workorder: 2349318 WSI024|CASE R35470 30250.016.0

Lab ID: **2349318005** Date Collected: 11/7/2018 11:17 Matrix: Ground Water

Sample ID: **MC0AH0** Date Received: 11/8/2018 09:13

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	Cntr
WET CHEMISTRY										
Hexavalent Chromium	0.030 U	U	ug/L	0.030	0.0061	EPA 218.7		11/17/18 09:55	MBW	A

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ANALYTICAL RESULTS

Workorder: 2349318 WSI024|CASE R35470 30250.016.0

Lab ID: **2349318006** Date Collected: 11/7/2018 08:45 Matrix: Ground Water

Sample ID: **MC0AH6** Date Received: 11/8/2018 09:13

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	Cntr
WET CHEMISTRY										
Hexavalent Chromium	0.019J	J	ug/L	0.030	0.0061	EPA 218.7		11/17/18 10:04	MBW	A

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ANALYTICAL RESULTS

Workorder: 2349318 WSI024|CASE R35470 30250.016.0

Lab ID: **2349318007** Date Collected: 11/7/2018 14:30 Matrix: Ground Water
Sample ID: **MC0AH8** Date Received: 11/8/2018 09:13

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	Cntr
WET CHEMISTRY										
Hexavalent Chromium	2.3		ug/L	0.030	0.0061	EPA 218.7		11/17/18 10:13	MBW	A

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ANALYTICAL RESULTS

Workorder: 2349318 WSI024|CASE R35470 30250.016.0

Lab ID: **2349318008** Date Collected: 11/7/2018 14:32 Matrix: Ground Water
Sample ID: **MC0AH9** Date Received: 11/8/2018 09:13

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	Cntr
WET CHEMISTRY										
Hexavalent Chromium	0.030 U	U	ug/L	0.030	0.0061	EPA 218.7		11/17/18 10:22	MBW	A

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State Certifications: DE ID 11, MA PA0102, MD 128, VA 460157, WV 343

ANALYTICAL RESULTS

Workorder: 2349318 WSI024|CASE R35470 30250.016.0

Lab ID: **2349318009** Date Collected: 11/7/2018 12:20 Matrix: Ground Water
Sample ID: **MC0AJ0** Date Received: 11/8/2018 09:13

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	Cntr
WET CHEMISTRY										
Hexavalent Chromium	0.068		ug/L	0.030	0.0061	EPA 218.7		11/17/18 10:31	MBW	A

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ANALYTICAL RESULTS

Workorder: 2349318 WSI024|CASE R35470 30250.016.0

Lab ID: **2349318010** Date Collected: 11/7/2018 10:25 Matrix: Ground Water
Sample ID: **MC0AK7** Date Received: 11/8/2018 09:13

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	Cntr
WET CHEMISTRY										
Hexavalent Chromium	0.063		ug/L	0.030	0.0061	EPA 218.7		11/17/18 10:39	MBW	A

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State Certifications: DE ID 11, MA PA0102, MD 128, VA 460157, WV 343

ANALYTICAL RESULTS

Workorder: 2349318 WSI024|CASE R35470 30250.016.0

Lab ID: **2349318011** Date Collected: 11/7/2018 11:18 Matrix: Ground Water
Sample ID: **MC0AL2** Date Received: 11/8/2018 09:13

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	Cntr
WET CHEMISTRY										
Hexavalent Chromium	0.030 U	U	ug/L	0.030	0.0061	EPA 218.7		11/17/18 10:48	MBW	A

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State Certifications: DE ID 11, MA PA0102, MD 128, VA 460157, WV 343

ANALYTICAL RESULTS

Workorder: 2349318 WSI024|CASE R35470 30250.016.0

Lab ID: **2349318012** Date Collected: 11/7/2018 14:15 Matrix: Ground Water

Sample ID: **MC0AN9** Date Received: 11/8/2018 09:13

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	Cntr
WET CHEMISTRY										
Hexavalent Chromium	0.073		ug/L	0.030	0.0061	EPA 218.7		11/17/18 11:15	MBW	A

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State Certifications: DE ID 11, MA PA0102, MD 128, VA 460157, WV 343

ANALYTICAL RESULTS

Workorder: 2349318 WSI024|CASE R35470 30250.016.0

Lab ID: **2349318013** Date Collected: 11/7/2018 11:19 Matrix: Ground Water

Sample ID: **MC0AG9** Date Received: 11/8/2018 09:13

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	Cntr
WET CHEMISTRY										
Hexavalent Chromium	0.25		ug/L	0.030	0.0061	EPA 218.7		11/17/18 11:42	MBW	A

Ex. 4 CBI
Project Coordinator

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State Certifications: DE ID 11 , MA PA0102 , MD 128 , VA 460157 , WV 343

November 27, 2018

Work Order: 2349318
SDG: WSI024

Ex. 4 CBI
Weston Solutions Inc. - Wst Chstr
1400 Weston Way
West Chester, PA 19380

Laboratory Results for: CASE R35470 30250.016.003.0207.00

Dear Ms. Ex. 4 CBI

Enclosed are the analytical results for samples received by the laboratory starting on November 08, 2018.

The ALS Environmental laboratory in Middletown, Pennsylvania is a National Environmental Laboratory Accreditation Program (NELAP) accredited laboratory and as such, certifies that all applicable test results meet the requirements of NELAP. Analyses were performed according to our laboratory's NELAP-approved quality assurance program and any applicable state requirements. The test results meet requirements of the current NELAP standards or state requirements, where applicable. For a specific list of accredited analytes, refer to the certifications section of the ALS website at www.alsglobal.com/en/Our-Services/Life-Sciences/Environmental/Downloads. This laboratory report may not be reproduced, except infull, without the written approval of ALS Environmental. Any events, such as QC failures, are explained in the report narrative.

If you have any questions regarding this certificate of analysis, please contact Ms. Ex. 4 CBI Ex. 4 CBI (Reporting Manager) at (717) 944- Ex. 4 Personal Privacy (PP). You may also contact me via email at Ex. 4 CBI @ALSglobal.com.

Respectfully submitted,

ALS Group USA Corp. dba ALS Environmental

Ex. 4 CBI
Reporting Manager

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Case Narrative

Weston Solutions Inc.
Case R35470
ALS-Middletown
Case Narrative

Sample Management

This report contains the results of the analysis of thirteen (13) ground water samples collected on November 7, 2018. Analytical results and quality control information are summarized in this data package.

Sample Receipt

Samples arrived at ALS via courier on November 8, 2018. Upon receipt, the samples were inspected and compared to the Chain of Custody. Sample temperature was documented on the enclosed Chain of Custody. Samples were received intact and properly preserved, unless noted on the enclosed Certificate of Analysis and/or Chain of Custody.

Data Certification Statement

I certify that this data package is in compliance with the terms and conditions of the contract both technically and for completeness, for other than the conditions detailed above. In addition, I certify, that to the best of my knowledge and belief, the data as reported are true and accurate. Release of the data contained in this data package has been authorized by the Laboratory Manager or his designee, as verified by the following signature.

Ex. 4 CBI

Reporting Manager

11/27/2018
Date

Hexavalent Chromium by EPA Method 218.7

Sample handling. Thirteen (13) ground water samples were analyzed for hexavalent chromium by EPA Method 218.7. The samples were analyzed within the 14 day holding period established for the method.

Calibration. A monthly calibration was properly established on IC4 on 11/17/2018. Continuing calibration verification standards were analyzed to verify the calibration. The standards recovered within the QC limits of 85-115%

Blanks. Method blanks were analyzed with the samples. Hexavalent chromium was not detected above the reporting limit in the blanks.

Laboratory Control Samples. Laboratory control samples identified as 2845989 and 2845999 were analyzed initially and every 20 samples. The recoveries were within the QC limits of 85-115%.

Laboratory control samples identified as 2845987 and 2845997 were analyzed initially and every 20 samples. Recoveries were within the QC limits of 50-150%.

Spikes. A matrix spike and matrix spike duplicates identified as 2846000 and 2846001 were performed on sample 2349318002 (MC0AG6). The spike recoveries were within the QC limits. The relative percent difference between the spikes was within the QC limit of 15%.

A matrix spike and matrix spike duplicates identified as 2846004 and 2846005 were performed on sample 2349318012 (MC0AN9). The spike recoveries were within the QC limits. The relative percent difference between the spikes was within the QC limit of 15%.

Certificate of Analysis

ALS Environmental

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NELAP Certifications: NJ PA010 , NY 11759 , PA 22-293 DoD ELAP: A2LA 0818.01
State Certifications: DE ID 11 , MA PA0102 , MD 128 , VA 460157 , WV 343

November 17, 2018

Ex. 4 CBI
Weston Solutions Inc. - Wst Chstr
1400 Weston Way
West Chester, PA 19380

Certificate of Analysis

Project Name:	**WSI024|CASE R35470 30250.016.0**	Workorder:	**2349318**
Purchase Order:	**0098241**	Workorder ID:	**WSI024|CASE R35470 30250.016.0**

Dear Ms. Ex. 4 CBI

Enclosed are the analytical results for samples received by the laboratory on Thursday, November 8, 2018.

The ALS Environmental laboratory in Middletown, Pennsylvania is a National Environmental Laboratory Accreditation Program (NELAP) accredited laboratory and as such, certifies that all applicable test results meet the requirements of NELAP.

If you have any questions regarding this certificate of analysis, please contact Ms. Ex. 4 CBI (Project Coordinator) at (717) 944- Ex. 6 Personal Privacy (PP)

Analyses were performed according to our laboratory's NELAP-approved quality assurance program and any applicable state requirements. The test results meet requirements of the current NELAP standards or state requirements, where applicable. For a specific list of accredited analytes, refer to the certifications section of the ALS website at www.alsglobal.com/en/Our-Services/Life-Sciences/Environmental/Downloads.

This laboratory report may not be reproduced, except in full, without the written approval of ALS Environmental.

ALS Spring City: 10 Riverside Drive, Spring City, PA 19475 610-948-4903

CC: Ex. 4 CBI

This page is included as part of the Analytical Report and must be retained as a permanent record thereof.

Ex. 4 CBI
Project Coordinator

ALS Environmental

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NELAP Certifications: NJ PA010 , NY 11759 , PA 22-293 DoD ELAP: A2LA 0818.01
State Certifications: DE ID 11 , MA PA0102 , MD 128 , VA 460157 , WV 343

SAMPLE SUMMARY

Workorder: 2349318 WSI024|CASE R35470 30250.016.0

Lab ID	Sample ID	Matrix	Date Collected	Date Received	Collected By
2349318001	MC0AG5	Ground Water	11/7/2018 09:17	11/8/2018 09:13	Collected by Client
2349318002	MC0AG6	Ground Water	11/7/2018 09:23	11/8/2018 09:13	Collected by Client
2349318003	MC0AG7	Ground Water	11/7/2018 12:48	11/8/2018 09:13	Collected by Client
2349318004	MC0AG8	Ground Water	11/7/2018 11:19	11/8/2018 09:13	Collected by Client
2349318005	MC0AH0	Ground Water	11/7/2018 11:17	11/8/2018 09:13	Collected by Client
2349318006	MC0AH6	Ground Water	11/7/2018 08:45	11/8/2018 09:13	Collected by Client
2349318007	MC0AH8	Ground Water	11/7/2018 14:30	11/8/2018 09:13	Collected by Client
2349318008	MC0AH9	Ground Water	11/7/2018 14:32	11/8/2018 09:13	Collected by Client
2349318009	MC0AJ0	Ground Water	11/7/2018 12:20	11/8/2018 09:13	Collected by Client
2349318010	MC0AK7	Ground Water	11/7/2018 10:25	11/8/2018 09:13	Collected by Client
2349318011	MC0AL2	Ground Water	11/7/2018 11:18	11/8/2018 09:13	Collected by Client
2349318012	MC0AN9	Ground Water	11/7/2018 14:15	11/8/2018 09:13	Collected by Client
2349318013	MC0AG9	Ground Water	11/7/2018 11:19	11/8/2018 09:13	Collected by Client

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State Certifications: DE ID 11 , MA PA0102 , MD 128 , VA 460157 , WV 343

SAMPLE SUMMARY

Workorder: 2349318 WSI024|CASE R35470 30250.016.0

Notes

-- Samples collected by ALS personnel are done so in accordance with the procedures set forth in the ALS Field Sampling Plan (20 - Field Services Sampling Plan).
-- All Waste Water analyses comply with methodology requirements of 40 CFR Part 136.
-- All Drinking Water analyses comply with methodology requirements of 40 CFR Part 141.
-- Unless otherwise noted, all quantitative results for soils are reported on a dry weight basis.
-- The Chain of Custody document is included as part of this report.
-- All Library Search analytes should be regarded as tentative identifications based on the presumptive evidence of the mass spectra. Concentrations reported are estimated values.
-- Parameters identified as "analyze immediately" require analysis within 15 minutes of collection. Any "analyze immediately" parameters not listed under the header "Field Parameters" are preformed in the laboratory and are therefore analyzed out of hold time.
-- Method references listed on this report beginning with the prefix “S” followed by a method number (such as S2310B-97) refer to methods from “Standard Methods for the Examination of Water and Wastewater”.
-- For microbiological analyses, the "Prepared" value is the date/time into the incurbator and the "Analyzed" value is the date/time out the incubator.

Standard Acronyms/Flags

J	Indicates an estimated value between the Method Detection Limit (MDL) and the Practical Quantitation Limit (PQL) for the analyte
U	Indicates that the analyte was Not Detected (ND)
N	Indicates presumptive evidence of the presence of a compound
MDL	Method Detection Limit
PQL	Practical Quantitation Limit
RDL	Reporting Detection Limit
ND	Not Detected - indicates that the analyte was Not Detected at the RDL
Cntr	Analysis was performed using this container
RegLmt	Regulatory Limit
LCS	Laboratory Control Sample
MS	Matrix Spike
MSD	Matrix Spike Duplicate
DUP	Sample Duplicate
%Rec	Percent Recovery
RPD	Relative Percent Difference
LOD	DoD Limit of Detection
LOQ	DoD Limit of Quantitation
DL	DoD Detection Limit
I	Indicates reported value is greater than or equal to the Method Detection Limit (MDL) but less than the Report Detection Limit (RDL)
(S)	Surrogate Compound
NC	Not Calculated
*	Result outside of QC limits

ALS Environmental

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ANALYTICAL RESULTS

Workorder: 2349318 WSI024|CASE R35470 30250.016.0

Lab ID: **2349318001** Date Collected: 11/7/2018 09:17 Matrix: Ground Water

Sample ID: **MC0AG5** Date Received: 11/8/2018 09:13

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	*Cntr*
WET CHEMISTRY										
Hexavalent Chromium	0.021J	J	ug/L	0.030	0.0061	EPA 218.7		11/17/18 08:26	MBW	A

Ex. 4 CBI
Project Coordinator

ALS Environmental

34 Dogwood Lane ■ Middletown, PA 17057 ■ Phone: 717-944-5541 ■ Fax: 717-944-1430 ■ www.alsglobal.com

NELAP Certifications: NJ PA010 , NY 11759 , PA 22-293 DoD ELAP: A2LA 0818.01
State Certifications: DE ID 11 , MA PA0102 , MD 128 , VA 460157 , WV 343

ANALYTICAL RESULTS

Workorder: 2349318 WSI024|CASE R35470 30250.016.0

Lab ID: **2349318002** Date Collected: 11/7/2018 09:23 Matrix: Ground Water

Sample ID: **MC0AG6** Date Received: 11/8/2018 09:13

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	*Cntr*
WET CHEMISTRY										
Hexavalent Chromium	0.011J	J	ug/L	0.030	0.0061	EPA 218.7		11/17/18 09:11	MBW	A

Ex. 4 CBI

Project Coordinator

ALS Environmental

34 Dogwood Lane ■ Middletown, PA 17057 ■ Phone: 717-944-5541 ■ Fax: 717-944-1430 ■ www.alsglobal.com

NELAP Certifications: NJ PA010 , NY 11759 , PA 22-293 DoD ELAP: A2LA 0818.01
State Certifications: DE ID 11 , MA PA0102 , MD 128 , VA 460157 , WV 343

ANALYTICAL RESULTS

Workorder: 2349318 WSI024|CASE R35470 30250.016.0

Lab ID: **2349318003** Date Collected: 11/7/2018 12:48 Matrix: Ground Water

Sample ID: **MC0AG7** Date Received: 11/8/2018 09:13

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	*Cntr*
WET CHEMISTRY										
Hexavalent Chromium	0.051		ug/L	0.030	0.0061	EPA 218.7		11/17/18 09:37	MBW	A

Ex. 4 CBI
Project Coordinator

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NELAP Certifications: NJ PA010 , NY 11759 , PA 22-293 DoD ELAP: A2LA 0818.01
State Certifications: DE ID 11 , MA PA0102 , MD 128 , VA 460157 , WV 343

ANALYTICAL RESULTS

Workorder: 2349318 WSI024|CASE R35470 30250.016.0

Lab ID: **2349318004** Date Collected: 11/7/2018 11:19 Matrix: Ground Water

Sample ID: **MC0AG8** Date Received: 11/8/2018 09:13

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	*Cntr*
WET CHEMISTRY										
Hexavalent Chromium	0.030 U	U	ug/L	0.030	0.0061	EPA 218.7		11/17/18 09:46	MBW	A

Ex. 4 CBI
Project Coordinator

ALS Environmental

34 Dogwood Lane ■ Middletown, PA 17057 ■ Phone: 717-944-5541 ■ Fax: 717-944-1430 ■ www.alsglobal.com

NELAP Certifications: NJ PA010 , NY 11759 , PA 22-293 DoD ELAP: A2LA 0818.01
State Certifications: DE ID 11 , MA PA0102 , MD 128 , VA 460157 , WV 343

ANALYTICAL RESULTS

Workorder: 2349318 WSI024|CASE R35470 30250.016.0

Lab ID: **2349318005** Date Collected: 11/7/2018 11:17 Matrix: Ground Water

Sample ID: **MC0AH0** Date Received: 11/8/2018 09:13

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	*Cntr*
WET CHEMISTRY										
Hexavalent Chromium	0.030 U	U	ug/L	0.030	0.0061	EPA 218.7		11/17/18 09:55	MBW	A

Ex. 4 CBI

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NELAP Certifications: NJ PA010 , NY 11759 , PA 22-293 DoD ELAP: A2LA 0818.01
State Certifications: DE ID 11 , MA PA0102 , MD 128 , VA 460157 , WV 343

ANALYTICAL RESULTS

Workorder: 2349318 WSI024|CASE R35470 30250.016.0

Lab ID: **2349318006** Date Collected: 11/7/2018 08:45 Matrix: Ground Water

Sample ID: **MC0AH6** Date Received: 11/8/2018 09:13

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	*Cntr*
WET CHEMISTRY										
Hexavalent Chromium	0.019J	J	ug/L	0.030	0.0061	EPA 218.7		11/17/18 10:04	MBW	A

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NELAP Certifications: NJ PA010 , NY 11759 , PA 22-293 DoD ELAP: A2LA 0818.01
State Certifications: DE ID 11 , MA PA0102 , MD 128 , VA 460157 , WV 343

ANALYTICAL RESULTS

Workorder: 2349318 WSI024|CASE R35470 30250.016.0

Lab ID: **2349318007** Date Collected: 11/7/2018 14:30 Matrix: Ground Water

Sample ID: **MC0AH8** Date Received: 11/8/2018 09:13

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	*Cntr*
WET CHEMISTRY										
Hexavalent Chromium	2.3		ug/L	0.030	0.0061	EPA 218.7		11/17/18 10:13	MBW	A

Ex. 4 CBI

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ALS Environmental

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NELAP Certifications: NJ PA010 , NY 11759 , PA 22-293 DoD ELAP: A2LA 0818.01
State Certifications: DE ID 11 , MA PA0102 , MD 128 , VA 460157 , WV 343

ANALYTICAL RESULTS

Workorder: 2349318 WSI024|CASE R35470 30250.016.0

Lab ID: **2349318008** Date Collected: 11/7/2018 14:32 Matrix: Ground Water

Sample ID: **MC0AH9** Date Received: 11/8/2018 09:13

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	*Cntr*
WET CHEMISTRY										
Hexavalent Chromium	0.030 U	U	ug/L	0.030	0.0061	EPA 218.7		11/17/18 10:22	MBW	A

Ex. 4 CBI

Project Coordinator

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NELAP Certifications: NJ PA010 , NY 11759 , PA 22-293 DoD ELAP: A2LA 0818.01
State Certifications: DE ID 11 , MA PA0102 , MD 128 , VA 460157 , WV 343

ANALYTICAL RESULTS

Workorder: 2349318 WSI024|CASE R35470 30250.016.0

Lab ID: **2349318009** Date Collected: 11/7/2018 12:20 Matrix: Ground Water

Sample ID: **MC0AJ0** Date Received: 11/8/2018 09:13

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	*Cntr*
WET CHEMISTRY										
Hexavalent Chromium	0.068		ug/L	0.030	0.0061	EPA 218.7		11/17/18 10:31	MBW	A

Ex. 4 CBI

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NELAP Certifications: NJ PA010 , NY 11759 , PA 22-293 DoD ELAP: A2LA 0818.01
State Certifications: DE ID 11 , MA PA0102 , MD 128 , VA 460157 , WV 343

ANALYTICAL RESULTS

Workorder: 2349318 WSI024|CASE R35470 30250.016.0

Lab ID: **2349318010** Date Collected: 11/7/2018 10:25 Matrix: Ground Water

Sample ID: **MC0AK7** Date Received: 11/8/2018 09:13

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	*Cntr*
WET CHEMISTRY										
Hexavalent Chromium	0.063		ug/L	0.030	0.0061	EPA 218.7		11/17/18 10:39	MBW	A

Ex. 4 CBI
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NELAP Certifications: NJ PA010 , NY 11759 , PA 22-293 DoD ELAP: A2LA 0818.01
State Certifications: DE ID 11 , MA PA0102 , MD 128 , VA 460157 , WV 343

ANALYTICAL RESULTS

Workorder: 2349318 WSI024|CASE R35470 30250.016.0

Lab ID: **2349318011** Date Collected: 11/7/2018 11:18 Matrix: Ground Water

Sample ID: **MC0AL2** Date Received: 11/8/2018 09:13

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	*Cntr*
WET CHEMISTRY										
Hexavalent Chromium	0.030 U	U	ug/L	0.030	0.0061	EPA 218.7		11/17/18 10:48	MBW	A

Ex. 4 CBI

Project Coordinator

ALS Environmental

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NELAP Certifications: NJ PA010 , NY 11759 , PA 22-293 DoD ELAP: A2LA 0818.01
State Certifications: DE ID 11 , MA PA0102 , MD 128 , VA 460157 , WV 343

ANALYTICAL RESULTS

Workorder: 2349318 WSI024|CASE R35470 30250.016.0

Lab ID: **2349318012** Date Collected: 11/7/2018 14:15 Matrix: Ground Water

Sample ID: **MC0AN9** Date Received: 11/8/2018 09:13

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	*Cntr*
WET CHEMISTRY										
Hexavalent Chromium	0.073		ug/L	0.030	0.0061	EPA 218.7		11/17/18 11:15	MBW	A

Ex. 4 CBI

Project Coordinator

ALS Environmental

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NELAP Certifications: NJ PA010 , NY 11759 , PA 22-293 DoD ELAP: A2LA 0818.01
State Certifications: DE ID 11 , MA PA0102 , MD 128 , VA 460157 , WV 343

ANALYTICAL RESULTS

Workorder: 2349318 WSI024|CASE R35470 30250.016.0

Lab ID: **2349318013** Date Collected: 11/7/2018 11:19 Matrix: Ground Water

Sample ID: **MC0AG9** Date Received: 11/8/2018 09:13

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	*Cntr*
WET CHEMISTRY										
Hexavalent Chromium	0.25		ug/L	0.030	0.0061	EPA 218.7		11/17/18 11:42	MBW	A

Ex. 4 CBI
Project Coordinator

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NELAP Certifications: NJ PA010 , NY 11759 , PA 22-293 DoD ELAP: A2LA 0818.01
State Certifications: DE ID 11 , MA PA0102 , MD 128 , VA 460157 , WV 343

ANALYSIS - PREP METHOD CROSS REFERENCE TABLE

Workorder: 2349318 WSI024|CASE R35470 30250.016.0

Lab ID	Sample ID	Analysis Method	Prep Method
2349318001	MC0AG5	EPA 218.7	
2349318002	MC0AG6	EPA 218.7	
2349318003	MC0AG7	EPA 218.7	
2349318004	MC0AG8	EPA 218.7	
2349318005	MC0AH0	EPA 218.7	
2349318006	MC0AH6	EPA 218.7	
2349318007	MC0AH8	EPA 218.7	
2349318008	MC0AH9	EPA 218.7	
2349318009	MC0AJ0	EPA 218.7	
2349318010	MC0AK7	EPA 218.7	
2349318011	MC0AL2	EPA 218.7	
2349318012	MC0AN9	EPA 218.7	
2349318013	MC0AG9	EPA 218.7	

Chain of Custody Records

USEPA CLP COC (LAB COPY)

DateShipped: 11/7/2018
CarrierName: FedEx
AirbillNo: 773671921739

CHAIN OF CUSTODY RECORD

Case #:
Cooler #: 1

2349318

Lab: ALS Environmental
Lab Contact: Ex. 4 CBI
Lab Phone: 717-944-5541

Sample Identifier	CLP Sample No.	Matrix/Sampler	Coll. Method	Analysis/Turnaround (Days)	Tag/Preservative/Bottles	Location	Collection Date/Time	For Lab Use Only
BDE-SIGW-03	MC0AG5	Ground Water/ START	Grab	Total Hexavalent Chromium(21)	1461 ((NH4)2SO4) (1)	BDE-SIGW-03	11/07/2018 09:17	8
BDE-SIGW-04	MC0AG6	Ground Water/ START	Grab	Total Hexavalent Chromium(21)	1468 ((NH4)2SO4) (1)	BDE-SIGW-04	11/07/2018 09:23	8
BDE-SIGW-05	MC0AG7	Ground Water/ START	Grab	Total Hexavalent Chromium(21)	1475 ((NH4)2SO4) (1)	BDE-SIGW-05	11/07/2018 12:48	9
BDE-SIGW-06	MC0AG8	Ground Water/ START	Grab	Total Hexavalent Chromium(21)	1482 ((NH4)2SO4) (1)	BDE-SIGW-06	11/07/2018 13:17	8
BDE-SIGW-07	MC0AG9	Ground Water/ START	Grab	Total Hexavalent Chromium(21)	1489 ((NH4)2SO4) (1)	BDE-SIGW-07	11/07/2018 11:19	8
BDE-SIGW-08	MC0AH0	Ground Water/ START	Grab	Total Hexavalent Chromium(21)	1496 ((NH4)2SO4) (1)	BDE-SIGW-08	11/07/2018 11:17	8
BDE-SIGW-14	MC0AH6	Ground Water/ START	Grab	Total Hexavalent Chromium(21)	1538 ((NH4)2SO4) (1)	BDE-SIGW-14	11/07/2018 08:45	8
BDE-SIGW-16	MC0AH8	Ground Water/ START	Grab	Total Hexavalent Chromium(21)	1552 ((NH4)2SO4) (1)	BDE-SIGW-16	11/07/2018 14:30	9
BDE-SIGW-17	MC0AH9	Ground Water/ START	Grab	Total Hexavalent Chromium(21)	1559 ((NH4)2SO4) (1)	BDE-SIGW-17	11/07/2018 14:32	8
BDE-SIGW-18	MC0AJ0	Ground Water/ START	Grab	Total Hexavalent Chromium(21)	1566 ((NH4)2SO4) (1)	BDE-SIGW-18	11/07/2018 12:20	9

Special Instructions: Method 218.7.

Shipment for Case Complete? N

Samples Transferred From Chain of Custody #

Analysis Key

Items/Reason	Relinquished by (Signature and Organization)		Date/Time	Received by (Signature and Organization)	Date/Time
Samples for Analysis	Ex. 4 CBI	Weston	11/7/18 1930	Fed Ex	
	Fed Ex			Ex. 4 CBI	11/8/18 0915

Custody Seals Present? Y N Initials
(if present) Seals Intact?
Received on Ice?
COC/Labs Complete
Cont in Good Cond?
Correct Containers?
Correct Samp Vol?
Correct Preservation?
Headspace/Volatiles?

Tracking # 7736 7462 1739

Cooler Temp 1.5 °C
Cooler #
Therm ID
Ship Carrier FEDEX UPS DHL

ALS

2349318

USEPA CLP COC (LAB COPY)
DateShipped: 11/7/2018
CarrierName: FedEx
AirbillNo: 773671921739

CHAIN OF CUSTODY RECORD

Case #:
Cooler #: 1

No: 3-110718-150352-0033
Lab: ALS Environmental
Lab Contact: Ex. 4 CBI
Lab Phone: 717-944-5541

Sample Identifier	CLP Sample No.	Matrix/Sampler	Coll. Method	Analysis/Turnaround (Days)	Tag/Preservative/Bottles	Location	Collection Date/Time	For Lab Use Only
BDE-SIGW-19	MC0AK7	Ground Water/ START	Grab	Total Hexavalent Chromium(21)	1605 ((NH4)2SO4) (1)	BDE-SIGW-19	11/07/2018 10:25	9
BDE-SIGW-08D	MC0AL2	Ground Water/ START	Grab	Total Hexavalent Chromium(21)	1628 ((NH4)2SO4) (1)	BDE-SIGW-08D	11/07/2018 11:18	8
BDE-SIGW-20	MC0AN9	Ground Water/ START	Grab	Total Hexavalent Chromium(21)	1855 ((NH4)2SO4) (1)	BDE-SIGW-20	11/07/2018 14:15	9

Ex. 4 CBI

Special Instructions: Method 218.7.

Shipment for Case Complete? N
Samples Transferred From Chain of Custody #

Analysis Key

Items/Reason	Relinquished by (Signature and Organization)	Date/Time	Received by (Signature and Organization)	Date/Time	Sample Condition Upon Receipt
Samples for Analysis	Ex. 4 CBI Weston	11/7/18 1830	Fed Ex		
	Fed Ex		Ex. 4 CBI	11/8/18 0913	

Saturday, November 17, 2018 5:41:23 PM
Page 19 of 21
ALS

Precautionary Measures Against Hidden Hazards in Laboratory Samples

Notice to Laboratory Personnel

Background

Under the authority of Section 104 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA or Superfund) of 1980, Section 311 of the Clean Water Act, and Subtitle I of the Resource Conservation and Recovery Act (RCRA), EPA has been delegated the responsibility to undertake response actions with respect to the release or potential release of oil, petroleum or hazardous substances that pose a substantial threat to human health or welfare, or the environment. In addition, EPA provides technical assistance to help mitigate endangerment of the public health, welfare or environment during other emergencies and natural disasters.

EPA's successful implementation of these emergency response action responsibilities requires that technical support capabilities be provided in the form of contracted Superfund Technical Assessment and Response Team (START) teams for each EPA Region. The Weston Solutions Inc. (WESTON) START Region III Eastern Area Contract provides support to EPA Region III.

Hazard Communication

The samples which accompany this notice have been shipped to your laboratory for analysis in accordance with applicable DOT or IATA Regulations and were collected by the WESTON START team and were tentatively designated by the field response team as either environmental or hazardous material samples.

In general, *Environmental Samples* are collected from streams, farm ponds, small lakes, wells and off-site soils that are not reasonably expected to be contaminated with hazardous materials. Samples of on-site soils or water and materials collected from drums, bulk storage tanks, obviously contaminated ponds, impoundments, lagoons, pools, and leachates from hazardous waste sites are considered *Hazardous Samples*. Samples which are obtained from a known radioactive material contamination site or which demonstrate beta or gamma activity greater than three times the average background as scanned with a Geiger-Mueller radiation survey meter are considered *Radioactive Samples*.

The samples which accompany this notice have been tentatively classified by the field response team as:

__x__ Environmental ____ Hazardous ____ Combination (Env. & Haz) ____ Radioactive

The field team which collected the samples used the following Level(s) of personal protection as designated by EPA and OSHA conventions to provided protection against possible radiological or chemical exposure:

____ Level A ____ Level B ____ Level C __x__ Level D

This information is intended for use as a guide for the safe handling of these laboratory samples in accordance with EPA and OSHA regulations. The sample classification(s) and Levels of personal protection used by the WESTON START team are not represented to be, nor are they adequate or applicable in all situations, nor are they intended to serve as substitutes for professional/personal judgment.

This form was prepared by: Ex. 4 CBI

Analytical Services TDD No. or Case No.: R35470

Weston Solutions, Inc. Office: West Chester, PA Phone: 610-701- Ex. 6 Personal Privacy (PP) Fax: 610-701-3187

Laboratory Name: ALS

ALS

FROM: (717) 702-2245
RLS Environmental
34 Dogwood Lane
MIDDLETOWN PA 17057
US

CAD: 110653041/NET4040

TO: Ex. 4 CBI
1400 WESTON WAY
WEST CHESTER PA 19380
(610) 701 (610)
INV:
PO: DEPT:

(US)

562J3/C3E2/CCA5

RMA:

FedEx Ground

J182118061901uv

TRK# 7908 9638 5643

RETURN

19380

9622 0137 0 (000 000 0000) 0 00 7908 9638 5643

23498811

1. Select the 'Print' button to print 1 copy of each label.
2. The Return Shipment instructions, which provide your recipient with information on the returns process, will be printed with the label(s).
3. After printing, select your next step by clicking one of the displayed buttons.

Note: To review or print individual labels, select the Label button under each label image above.

Use of this system constitutes your agreement to the service conditions in the current FedEx Service Guide, available on fedex.com.FedEx will not be responsible for any claim in excess of $100 per package, whether the result of loss, damage, delay, non-delivery,misdelivery,or misinformation, unless you declare a higher value, pay an additional charge, document your actual loss and file a timely claim.Limitations found in the current FedEx Service Guide apply. Your right to recover from FedEx for any loss, including intrinsic value of the package, loss of sales, income interest, profit, attorney's fees, costs, and other forms of damage direct, incidental,consequential, or special is limited to the greater of $100 or the authorized declared value. Recovery cannot exceed actual documented loss.Maximum for items of extraordinary value is $500, e.g. jewelry, precious metals, negotiable instruments and other items listed in our ServiceGuide. claims must be filed within strict time limits, see current FedEx Service Guide.

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Internal Chain of Custody
Work Order: 2349318

2349318001-A **P - PLASTIC**

Transfer Date	To Location	Transfer Reason	Transferred To
11-10-18 04:52	RECEIVING	LOGIN	Ex. 4 CBI
11-08-18 09:13	Sample Received At Lab		

2349318001-B **COC - Chain of Custody**

Transfer Date	To Location	Transfer Reason	Transferred To
11-10-18 04:52	RECEIVING	LOGIN	Ex. 4 CBI
11-08-18 09:13	Sample Received At Lab		

2349318002-A **P - PLASTIC**

Transfer Date	To Location	Transfer Reason	Transferred To
11-16-18 22:49	WETC-LAB	Hexavalent Chromium 218.7 Water	Ex. 4 CBI
11-10-18 04:52	RECEIVING	LOGIN	
11-08-18 09:13	Sample Received At Lab		

2349318002-B **COC - Chain of Custody**

Transfer Date	To Location	Transfer Reason	Transferred To
11-10-18 04:52	RECEIVING	LOGIN	Ex. 4 CBI
11-08-18 09:13	Sample Received At Lab		

2349318003-A **P - PLASTIC**

Transfer Date	To Location	Transfer Reason	Transferred To
11-16-18 22:49	WETC-LAB	Hexavalent Chromium 218.7 Water	Ex. 4 CBI
11-10-18 04:52	RECEIVING	LOGIN	
11-08-18 09:13	Sample Received At Lab		

2349318003-B **COC - Chain of Custody**

Transfer Date	To Location	Transfer Reason	Transferred To
11-10-18 04:52	RECEIVING	LOGIN	Ex. 4 CBI
11-08-18 09:13	Sample Received At Lab		

2349318004-A **P - PLASTIC**

Transfer Date	To Location	Transfer Reason	Transferred To
11-16-18 22:49	WETC-LAB	Hexavalent Chromium 218.7 Water	Ex. 4 CBI
11-10-18 04:52	RECEIVING	LOGIN	
11-08-18 09:13	Sample Received At Lab		

2349318004-B **COC - Chain of Custody**

Transfer Date	To Location	Transfer Reason	Transferred To
11-10-18 04:52	RECEIVING	LOGIN	Ex. 4 CBI
11-08-18 09:13	Sample Received At Lab		

2349318005-A **P - PLASTIC**

Transfer Date	To Location	Transfer Reason	Transferred To
11-16-18 22:49	WETC-LAB	Hexavalent Chromium 218.7 Water	Ex. 4 CBI
11-10-18 04:52	RECEIVING	LOGIN	
11-08-18 09:13	Sample Received At Lab		

ALS Environmental
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Internal Chain of Custody
Work Order: 2349318

2349318005-B	COC - Chain of Custody		
Transfer Date	**To Location**	**Transfer Reason**	**Transferred To**
11-10-18 04:52	RECEIVING	LOGIN	Ex. 4 CBI
11-08-18 09:13	Sample Received At Lab		

2349318006-A	P - PLASTIC		
Transfer Date	**To Location**	**Transfer Reason**	**Transferred To**
11-16-18 22:49	WETC-LAB	Hexavalent Chromium 218.7 Water	Ex. 4 CBI
11-10-18 04:52	RECEIVING	LOGIN	
11-08-18 09:13	Sample Received At Lab		

2349318006-B	COC - Chain of Custody		
Transfer Date	**To Location**	**Transfer Reason**	**Transferred To**
11-10-18 04:52	RECEIVING	LOGIN	Ex. 4 CBI
11-08-18 09:13	Sample Received At Lab		

2349318007-A	P - PLASTIC		
Transfer Date	**To Location**	**Transfer Reason**	**Transferred To**
11-16-18 22:49	WETC-LAB	Hexavalent Chromium 218.7 Water	Ex. 4 CBI
11-10-18 04:52	RECEIVING	LOGIN	
11-08-18 09:13	Sample Received At Lab		

2349318007-B	COC - Chain of Custody		
Transfer Date	**To Location**	**Transfer Reason**	**Transferred To**
11-10-18 04:52	RECEIVING	LOGIN	Ex. 4 CBI
11-08-18 09:13	Sample Received At Lab		

2349318008-A	P - PLASTIC		
Transfer Date	**To Location**	**Transfer Reason**	**Transferred To**
11-16-18 22:49	WETC-LAB	Hexavalent Chromium 218.7 Water	Ex. 4 CBI
11-10-18 04:52	RECEIVING	LOGIN	
11-08-18 09:13	Sample Received At Lab		

2349318008-B	COC - Chain of Custody		
Transfer Date	**To Location**	**Transfer Reason**	**Transferred To**
11-10-18 04:52	RECEIVING	LOGIN	Ex. 4 CBI
11-08-18 09:13	Sample Received At Lab		

2349318009-A	P - PLASTIC		
Transfer Date	**To Location**	**Transfer Reason**	**Transferred To**
11-16-18 22:49	WETC-LAB	Hexavalent Chromium 218.7 Water	Ex. 4 CBI
11-10-18 04:52	RECEIVING	LOGIN	
11-08-18 09:13	Sample Received At Lab		

2349318009-B	COC - Chain of Custody		
Transfer Date	**To Location**	**Transfer Reason**	**Transferred To**
11-10-18 04:52	RECEIVING	LOGIN	Ex. 4 CBI
11-08-18 09:13	Sample Received At Lab		

ALS Environmental
34 Dogwood Lane ▪ Middletown, PA 17057 ▪ Phone: 717-944-5541 ▪ Fax: 717-944-1430 ▪ www.alsglobal.com

Internal Chain of Custody
Work Order: 2349318

2349318010-A	P - PLASTIC		
Transfer Date	**To Location**	**Transfer Reason**	**Transferred To**
11-16-18 22:49	WETC-LAB	Hexavalent Chromium 218.7 Water	Ex. 4 CBI
11-10-18 04:52	RECEIVING	LOGIN	
11-08-18 09:13	Sample Received At Lab		

2349318010-B	COC - Chain of Custody		
Transfer Date	**To Location**	**Transfer Reason**	**Transferred To**
11-10-18 04:52	RECEIVING	LOGIN	Ex. 4 CBI
11-08-18 09:13	Sample Received At Lab		

2349318011-A	P - PLASTIC		
Transfer Date	**To Location**	**Transfer Reason**	**Transferred To**
11-16-18 22:49	WETC-LAB	Hexavalent Chromium 218.7 Water	Ex. 4 CBI
11-10-18 04:52	RECEIVING	LOGIN	
11-08-18 09:13	Sample Received At Lab		

2349318011-B	COC - Chain of Custody		
Transfer Date	**To Location**	**Transfer Reason**	**Transferred To**
11-10-18 04:52	RECEIVING	LOGIN	Ex. 4 CBI
11-08-18 09:13	Sample Received At Lab		

2349318012-A	P - PLASTIC		
Transfer Date	**To Location**	**Transfer Reason**	**Transferred To**
11-16-18 22:49	WETC-LAB	Hexavalent Chromium 218.7 Water	Ex. 4 CBI
11-10-18 04:52	RECEIVING	LOGIN	
11-08-18 09:13	Sample Received At Lab		

2349318012-B	COC - Chain of Custody		
Transfer Date	**To Location**	**Transfer Reason**	**Transferred To**
11-10-18 04:52	RECEIVING	LOGIN	Ex. 4 CBI
11-08-18 09:13	Sample Received At Lab		

2349318013-A	P - PLASTIC		
Transfer Date	**To Location**	**Transfer Reason**	**Transferred To**
11-16-18 22:49	WETC-LAB	Hexavalent Chromium 218.7 Water	Ex. 4 CBI
11-10-18 12:46	DN-WALKIN	STORAGE	
11-10-18 12:44	RECEIVING	LOGIN	
11-08-18 09:13	Sample Received At Lab		

2349318013-B	COC - Chain of Custody		
Transfer Date	**To Location**	**Transfer Reason**	**Transferred To**
11-10-18 12:44	RECEIVING	LOGIN	Ex. 4 CBI
11-08-18 09:13	Sample Received At Lab		

Hexavalent Chromium by Method 218.7 Summary Forms

Sample Description
MC0AG6

Form 3A
Matrix Spike and Matrix Spike Duplicate Recovery Summary

Analysis Method: EPA 218.7
Matrix (soil/water): Ground Water

SDG No.: WSI024/R35470
Units: ug/L
Lab Sample ID: 2349318002
Lab MS Sample ID: 2846000
Lab MSD Sample ID: 2846001

Analyte	Spike Added	Sample Concentration	MS Concentration	MS Recovery (%)	(1)	Acceptable Limits (%)
Hexavalent Chromium	0.25	0.011	0.25	94.4		85 - 115

Analyte	Spike Added	MSD Concentration	MSD Recovery (%)	(1)	Acceptable Limits (%)	RPD (%)	(1)	Acc. Lim. (%)
Hexavalent Chromium	0.25	0.26	99.2		85 - 115	4.74		15

(1) The following qualifiers are used:

* : Values outside of acceptable limits
D : Spikes diluted out

Comments:

Sample Description
MC0AN9

Form 3A
Matrix Spike and Matrix Spike Duplicate Recovery Summary

Analysis Method: EPA 218.7
Matrix (soil/water): Ground Water

SDG No.: WSI024/R35470
Units: ug/L
Lab Sample ID: 2349318012
Lab MS Sample ID: 2846004
Lab MSD Sample ID: 2846005

Analyte	Spike Added	Sample Concentration	MS Concentration	MS Recovery (%)	(1)	Acceptable Limits (%)
Hexavalent Chromium	0.25	0.073	0.31	94		85 - 115

Analyte	Spike Added	MSD Concentration	MSD Recovery (%)	(1)	Acceptable Limits (%)	RPD (%)	(1)	Acc. Lim. (%)
Hexavalent Chromium	0.25	0.32	99.6		85 - 115	4.44		15

(1) The following qualifiers are used:

* : Values outside of acceptable limits
D : Spikes diluted out

Comments:

Form 4B
Inorganic Blank Summary

Analysis Method: EPA 218.7
Instrument: IC-4

SDG No.: WSI024
R35470

Sample ID	Analyte	Type	Matrix	Analyzed	Result	Q (1)	Units
2845986	Hexavalent Chromium	MB	QC-Water	11/17/2018 03:59	0.030	U	ug/L
2845993	Hexavalent Chromium	MB	QC-Water	11/17/2018 06:30	0.030	U	ug/L
2845996	Hexavalent Chromium	MB	QC-Water	11/17/2018 08:35	0.030	U	ug/L
2846003	Hexavalent Chromium	MB	QC-Water	11/17/2018 11:06	0.030	U	ug/L
2846007	Hexavalent Chromium	MB	QC-Water	11/17/2018 12:00	0.030	U	ug/L

(1) The following qualifiers are used:

U: The analyte concentration is less than the reporting limit listed
J: The analyte concentration is less than the reporting limit but greater than the method detection limit

Comments:

Form 6B
Inorganic Initial and Continuing Calibration Verification Summary

Analysis Method: EPA 218.7

SDG No. WSI024/R35470

Instrument ID: IC-4

Units: ug/L

Sample ID	Analyte	Type	Analyzed	True Conc.	Conc. Recovered	Recovery (%)	(1)	Acc. Limit (%)
2845988	Hexavalent Chromium	CCVL	11/17/2018 04:16	0.25	0.24	96		85 - 115
2845992	Hexavalent Chromium	CCVH	11/17/2018 06:21	1	0.98	97.5		85 - 115
2845998	Hexavalent Chromium	CCVL	11/17/2018 08:53	0.25	0.24	94.4		85 - 115
2846002	Hexavalent Chromium	CCVH	11/17/2018 10:57	1	0.97	97.4		85 - 115
2846006	Hexavalent Chromium	CCVL	11/17/2018 11:51	0.25	0.22	89.6		85 - 115

(1) The following qualifiers are used:
* : Values outside of acceptable limits

Comments:

Form 8B
Laboratory Control Sample (LCS) Recovery Summary

Analysis Method: EPA 218.7
SDG No.: WSI024 R35470
Matrix (soil/water): QC-Water
Instrument ID: IC-4
Units: ug/L

Sample ID	Analyte	Type	Analyzed	True Conc.	Conc. Recovered	Recovery (%)	(1)	Acc. Limit (%)
2845987	Hexavalent Chromium	MRL	11/17/2018 04:07	0.02	0.022	110		50 - 150
2845989	Hexavalent Chromium	LCS	11/17/2018 04:25	0.5	0.53	105		85 - 115
2845997	Hexavalent Chromium	MRL	11/17/2018 08:44	0.02	0.022	110		50 - 150
2845999	Hexavalent Chromium	LCS	11/17/2018 09:02	0.5	0.52	103		85 - 115

(1) The following qualifiers are used:
* : Values outside of acceptable limits

Comments:

Hexavalent Chromium by Method 218.7 Raw Data

Cr+6 (ug/L) by 218.6____ 218.7 X
ANALYSIS COVERSHEET

Standards: Cal: NS181117023-7029

CCV 1: NS181117026

CCV 2: NS181117024

QCS: NS181117021

MRL: NS181117 029

Reagents:

Working Eluent: WR 181117005

Post-column Reagent: WR181117004

Pipettors: 04-107, 04-094, 04-077

Instrument: IC-4

Batch #, Waters: 213382, 213383

Batch #, Soils: —

Analysis Date: 11/17/18

Calibration Date: 11/17/18

Initial and Date:

Analyst: MBW 11/17/18

1st Review/Enter: MBW 11/17/18

2nd Review: CHW 11/17/18

Approval: MBW 11/17/18

Set Up Checklist (record initials when completed):

MBW Edit Batch — Enter last run's ReRuns into current batch

ReRuns: List sample ID and hold time if applicable:

Unentered Samples:

Hold Time	Description	Sample ID

_____2nd review verified that lab sample IDs were correctly transcribed onto schedule.

Cr+6 218.7 ph/Chlorine prep

Sample	Na_2CO3 Mass (mg)	$NaHCO_3$ Mass (mg)	$(NH4)_2SO_4$ Mass (mg)	Final pH	Chlorine Y/N
2348398001-A	0	0	0	>8.0	N
2348398001-B	0	0	0	>8.0	N
2348398002	0	0	0	>8.0	N
2348398003	0	0	0	>8.0	N
2348398004	0	0	0	>8.0	N
2348398005-A	0	0	0	>8.0	N
2348398005-B	0	0	0	>8.0	N
2348398006	0	0	0	>8.0	N
2348398007	0	0	0	>8.0	N
2348398008	0	0	0	>8.0	N
2348398009	0	0	0	>8.0	N
2348398010	0	0	0	>8.0	N
2348398011	0	0	0	>8.0	N
2348398012	0	0	0	>8.0	N
2348398013	0	0	0	>8.0	N
2349318001	0	0	0	>8.0	N
		MBW 11/17/18			

Date:	11/16/2018
Time:	23:35
Tech:	MBW

Queue:	WETC
Batch:	213382

Reviewed by:	CHW
Reviewed date:	11/17/18

Regeants	
Na_2CO3	171004001
$NaHCO_3$	161110004
$(NH4)_2SO_4$	170428001

Comments

Nominal mass for 100 mL sample (mg):

Na2CO3: 13.3 - 16.6 NaHCO3: 10.5 - 13.1

(NH4)2SO4: 33 - 41.2

Cr+6 218.7 ph/Chlorine prep

Sample	Na_2CO3 Mass (mg)	$NaHCO_3$ Mass (mg)	$(NH4)_2SO_4$ Mass (mg)	Final pH	Chlorine Y/N
2349318002	0	0	0	>8.0	N
2349318003	0	0	0	>8.0	N
2349318004	0	0	0	>8.0	N
2349318005	0	0	0	>8.0	N
2349318006	0	0	0	>8.0	N
2349318007	0	0	0	>8.0	N
2349318008	0	0	0	>8.0	N
2349318009	0	0	0	>8.0	N
2349318010	0	0	0	>8.0	N
2349318011	0	0	0	>8.0	N
2349318012	0	0	0	>8.0	N
2349318013	0	0	0	>8.0	N

MBW 11/17/18

Date:	11/16/2018
Time:	23:35
Tech:	MBW

Queue:	WETC
Batch:	213383

Reviewed by:	
Reviewed date:	

Regeants	
Na_2CO3	171004001
$NaHCO_3$	161110004
$(NH4)_2SO_4$	170428001

Comments

Nominal mass for 100 mL sample (mg):

Na2CO3: 13.3 - 16.6 NaHCO3: 10.5 - 13.1

(NH4)2SO4: 33 - 41.2

Operator: Ex. 4 CBI Timebase:ICS2100 Sequence:4-111718-2

11/17/2018 9:42 AM

Pos	Name	ilutionFac	*SampleType	Comment	*Instrument	*Batch	*Sequence1	*InitialCal	Status
20	Cal Std 1	1	CAL		IC-4		111718	111718	finished
21	Cal Std 2	1	CAL		IC-4		111718	111718	finished
22	Cal Std 3	1	CAL		IC-4		111718	111718	finished
23	Cal Std 4	1	CAL		IC-4		111718	111718	finished
24	Cal Std 5	1	CAL		IC-4		111718	111718	finished
25	Cal Std 6	1	CAL		IC-4		111718	111718	finished
26	Cal Std 7	1	CAL		IC-4		111718	111718	finished
27	2845986	1	MB	LRB	IC-4	213382	111718	111718	finished
28	2845987	1	MRL	MRL	IC-4	213382	111718	111718	finished
29	2845988	1	CCVL	LFB	IC-4	213382	111718	111718	finished
30	2845989	1	LCS	QCS	IC-4	213382	111718	111718	finished
31	BLANK 7	1	SAMPLE		IC-4	213382	111718	111718	finished
32	MDL 7	1	SAMPLE		IC-4	213382	111718	111718	finished
33	BLANK 8	1	SAMPLE		IC-4	213382	111718	111718	finished
34	MDL 8	1	SAMPLE		IC-4	213382	111718	111718	finished
35	BLANK 9	1	SAMPLE		IC-4	213382	111718	111718	finished
36	MDL 9	1	SAMPLE		IC-4	213382	111718	111718	finished
37	2348398001	1	SAMPLE		IC-4	213382	111718	111718	finished
38	2845990	1	MS		IC-4	213382	111718	111718	finished
39	2845991	1	MSD		IC-4	213382	111718	111718	finished
40	2348398002	1	SAMPLE		IC-4	213382	111718	111718	finished
41	2348398003	1	SAMPLE		IC-4	213382	111718	111718	finished
42	2348398004	1	SAMPLE		IC-4	213382	111718	111718	finished
43	2845992	1	CCVH		IC-4	213382	111718	111718	finished
44	2845993	1	MB		IC-4	213382	111718	111718	finished
45	2348398005	1	SAMPLE		IC-4	213382	111718	111718	finished
46	2845994	1	MS		IC-4	213382	111718	111718	finished
47	2845995	1	MSD		IC-4	213382	111718	111718	finished
48	2348398006	1	SAMPLE		IC-4	213382	111718	111718	finished
49	2348398007	1	SAMPLE		IC-4	213382	111718	111718	finished
50	2348398008	1	SAMPLE		IC-4	213382	111718	111718	finished
1	2348398009	1	SAMPLE		IC-4	213382	111718	111718	finished
2	2348398010	1	SAMPLE		IC-4	213382	111718	111718	finished
3	2348398011	1	SAMPLE		IC-4	213382	111718	111718	finished
4	2348398012	1	SAMPLE		IC-4	213382	111718	111718	finished
5	2348398013	1	SAMPLE		IC-4	213382	111718	111718	finished
6	2349318001	1	SAMPLE		IC-4	213382	111718	111718	finished
7	2845996	1	MB	LRB	IC-4	213383	111718	111718	finished
8	2845997	1	MRL	MRL	IC-4	213383	111718	111718	finished
9	2845998	1	CCVL	LFB	IC-4	213383	111718	111718	finished
10	2845999	1	LCS	QCS	IC-4	213383	111718	111718	finished
11	2349318002	1	SAMPLE		IC-4	213383	111718	111718	finished

Operator: Ex. 4 CBI Timebase:ICS2100 Sequence:4-111718-2

11/17/2018 9:42 AM

12	2846000	1	MS		IC-4	213383	111718	111718	finished
13	2846001	1	MSD		IC-4	213383	111718	111718	finished
14	2349318003	1	SAMPLE		IC-4	213383	111718	111718	nning sin
15	2349318004	1	SAMPLE		IC-4	213383	111718	111718	single
16	2349318005	1	SAMPLE		IC-4	213383	111718	111718	single
17	2349318006	1	SAMPLE		IC-4	213383	111718	111718	single
18	2349318007	1	SAMPLE		IC-4	213383	111718	111718	single
19	2349318008	1	SAMPLE		IC-4	213383	111718	111718	single
20	2349318009	1	SAMPLE		IC-4	213383	111718	111718	single
21	2349318010	1	SAMPLE		IC-4	213383	111718	111718	single
22	2349318011	1	SAMPLE		IC-4	213383	111718	111718	single
23	2846002	1	CCVH		IC-4	213383	111718	111718	single
24	2846003	1	MB		IC-4	213383	111718	111718	single
25	2349318012	1	SAMPLE		IC-4	213383	111718	111718	single
26	2846004	1	MS		IC-4	213383	111718	111718	single
27	2846005	1	MSD		IC-4	213383	111718	111718	single
28	2349318013	1	SAMPLE		IC-4	213383	111718	111718	single
29	2846006	1	CCVL		IC-4	213383	111718	111718	single
30	2846007	1	MB		IC-4	213383	111718	111718	single
31	SHUTDOWN		MISC		IC-4	213383	111718	111718	single

Operator: Ex. 4 CBI Timebase:ICS2100 Sequence:4-111718-2

11/17/2018 12:15 PM

ANION SUMMARY REPORT

No.	Name	Time	*Analyst	lutionFac	*Batch	*Instrument	Amount Cr6 UV_VIS_1
8	2845986	11/17/18 03:59	MBW	1	213382	IC-4	n.a.
9	2845987	11/17/18 04:07	MBW	1	213382	IC-4	0.022
10	2845988	11/17/18 04:16	MBW	1	213382	IC-4	0.240
11	2845989	11/17/18 04:25	MBW	1	213382	IC-4	0.525
12	BLANK 7	11/17/18 04:34	MBW	1	213382	IC-4	n.a.
13	MDL 7	11/17/18 04:43	MBW	1	213382	IC-4	0.020
14	BLANK 8	11/17/18 04:52	MBW	1	213382	IC-4	n.a.
15	MDL 8	11/17/18 05:01	MBW	1	213382	IC-4	0.020
16	BLANK 9	11/17/18 05:10	MBW	1	213382	IC-4	n.a.
17	MDL 9	11/17/18 05:19	MBW	1	213382	IC-4	0.020
18	2348398001	11/17/18 05:28	MBW	1	213382	IC-4	n.a.
19	2845990	11/17/18 05:36	MBW	1	213382	IC-4	0.251
20	2845991	11/17/18 05:45	MBW	1	213382	IC-4	0.248
21	2348398002	11/17/18 05:54	MBW	1	213382	IC-4	n.a.
22	2348398003	11/17/18 06:03	MBW	1	213382	IC-4	2.071
23	2348398004	11/17/18 06:12	MBW	1	213382	IC-4	0.138
24	2845992	11/17/18 06:21	MBW	1	213382	IC-4	0.975
25	2845993	11/17/18 06:30	MBW	1	213382	IC-4	n.a.
26	2348398005	11/17/18 06:39	MBW	1	213382	IC-4	0.045
27	2845994	11/17/18 06:48	MBW	1	213382	IC-4	0.302
28	2845995	11/17/18 07:06	MBW	1	213382	IC-4	0.295
29	2348398006	11/17/18 07:15	MBW	1	213382	IC-4	n.a.
30	2348398007	11/17/18 07:24	MBW	1	213382	IC-4	0.106
31	2348398008	11/17/18 07:33	MBW	1	213382	IC-4	n.a.
32	2348398009	11/17/18 07:42	MBW	1	213382	IC-4	n.a.
33	2348398010	11/17/18 07:50	MBW	1	213382	IC-4	0.055
34	2348398011	11/17/18 07:59	MBW	1	213382	IC-4	n.a.
35	2348398012	11/17/18 08:08	MBW	1	213382	IC-4	0.011
36	2348398013	11/17/18 08:17	MBW	1	213382	IC-4	n.a.
37	2349318001	11/17/18 08:26	MBW	1	213382	IC-4	0.021
38	2845996	11/17/18 08:35	MBW	1	213383	IC-4	n.a.
39	2845997	11/17/18 08:44	MBW	1	213383	IC-4	0.022
40	2845998	11/17/18 08:53	MBW	1	213383	IC-4	0.236
41	2845999	11/17/18 09:02	MBW	1	213383	IC-4	0.516
42	2349318002	11/17/18 09:11	MBW	1	213383	IC-4	0.011
43	2846000	11/17/18 09:19	MBW	1	213383	IC-4	0.247
44	2846001	11/17/18 09:28	MBW	1	213383	IC-4	0.259
45	2349318003	11/17/18 09:37	MBW	1	213383	IC-4	0.051
46	2349318004	11/17/18 09:46	MBW	1	213383	IC-4	n.a.
47	2349318005	11/17/18 09:55	MBW	1	213383	IC-4	n.a.
48	2349318006	11/17/18 10:04	MBW	1	213383	IC-4	0.019
49	2349318007	11/17/18 10:13	MBW	1	213383	IC-4	2.308

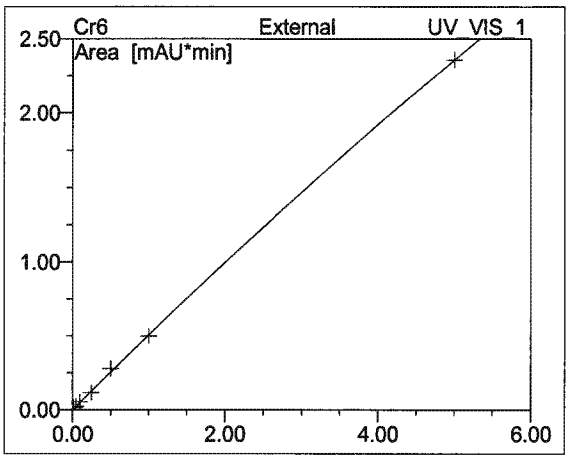
Operator: Ex. 4 CBI Timebase:ICS2100 Sequence:4-111718-2

11/17/2018 12:15 PM

50	2349318008	11/17/18 10:22	MBW	1	213383	IC-4	n.a.
51	2349318009	11/17/18 10:31	MBW	1	213383	IC-4	0.068
52	2349318010	11/17/18 10:39	MBW	1	213383	IC-4	0.063
53	2349318011	11/17/18 10:48	MBW	1	213383	IC-4	n.a.
54	2846002	11/17/18 10:57	MBW	1	213383	IC-4	0.974
55	2846003	11/17/18 11:06	MBW	1	213383	IC-4	n.a.
56	2349318012	11/17/18 11:15	MBW	1	213383	IC-4	0.073
57	2846004	11/17/18 11:24	MBW	1	213383	IC-4	0.308
58	2846005	11/17/18 11:33	MBW	1	213383	IC-4	0.322
59	2349318013	11/17/18 11:42	MBW	1	213383	IC-4	0.253
60	2846006	11/17/18 11:51	MBW	1	213383	IC-4	0.224
61	2846007	11/17/18 12:00	MBW	1	213383	IC-4	n.a.
62	SHUTDOWN	11/17/18 12:08	MBW		213383	IC-4	n.a.

Calibration Batch Report

Sequence:	4-111718-2	Instrument:	IC-4
Instrument Method:	cr+6	InitialCal:	111718
Ini. Date/Time:	11/17/18 04:07	Method:	218_7_111718

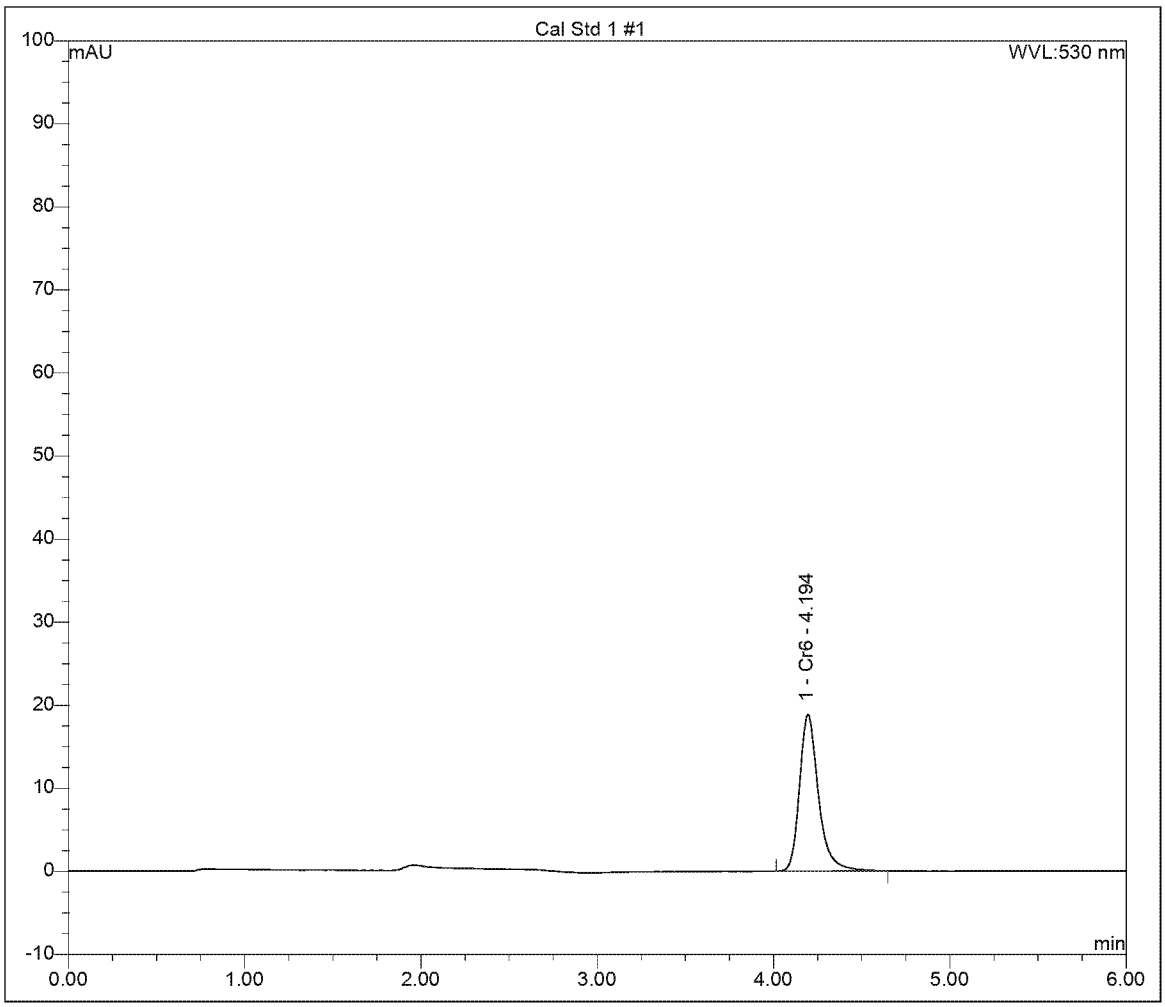


No.	Ret.Time min	Peak Name	Cal.Type	Points	Offset (C0)	Slope (C1)	Curve (C2)	Coeff.Det. %
1	4.31	Cr6	Quad	7	0.000	0.516	-0.009	99.9809
AVERAGE:					0.0000	0.5162	-0.0089	99.9809

Peak Integration Report

Sample Name:	**Cal Std 1**	*Dilution:*	**1**
Sample Type:	**CAL**	*Analyst:*	**MBW**
Program:	**cr+6**	*Queue:*	**WETC**
Inj. Date/Time:	**11/17/18 02:56**	*Batch:*	
Instrument:	**IC-4**	*Comment:*	
Sequence1:	**111718**	*InitialCal:*	**111718**
Sequence2:		*Method:*	**218_7_111718**

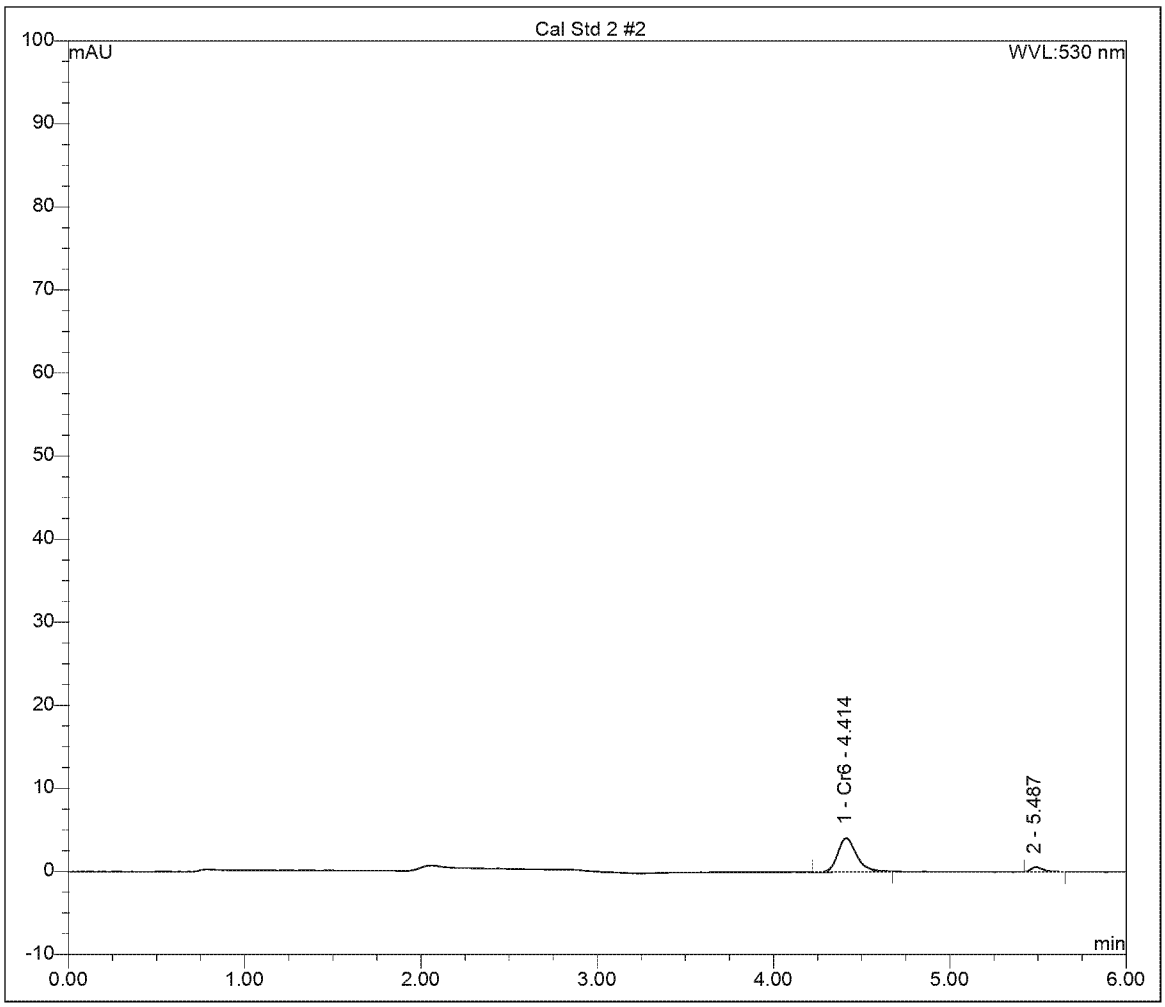
No.	Time min	Peak Name	Area mAU*min	Height mAU	Amount
1	4.19	Cr6	2.359	18.873	5.00
		TOTAL:	2.36	18.87	5.00



Peak Integration Report

Sample Name:	**Cal Std 2**	*Dilution:*	**1**
Sample Type:	**CAL**	*Analyst:*	**MBW**
Program:	**cr+6**	*Queue:*	**WETC**
Inj. Date/Time:	**11/17/18 03:05**	*Batch:*	
Instrument:	**IC-4**	*Comment:*	
Sequence1:	**111718**	*InitialCal:*	**111718**
Sequence2:		*Method:*	**218_7_111718**

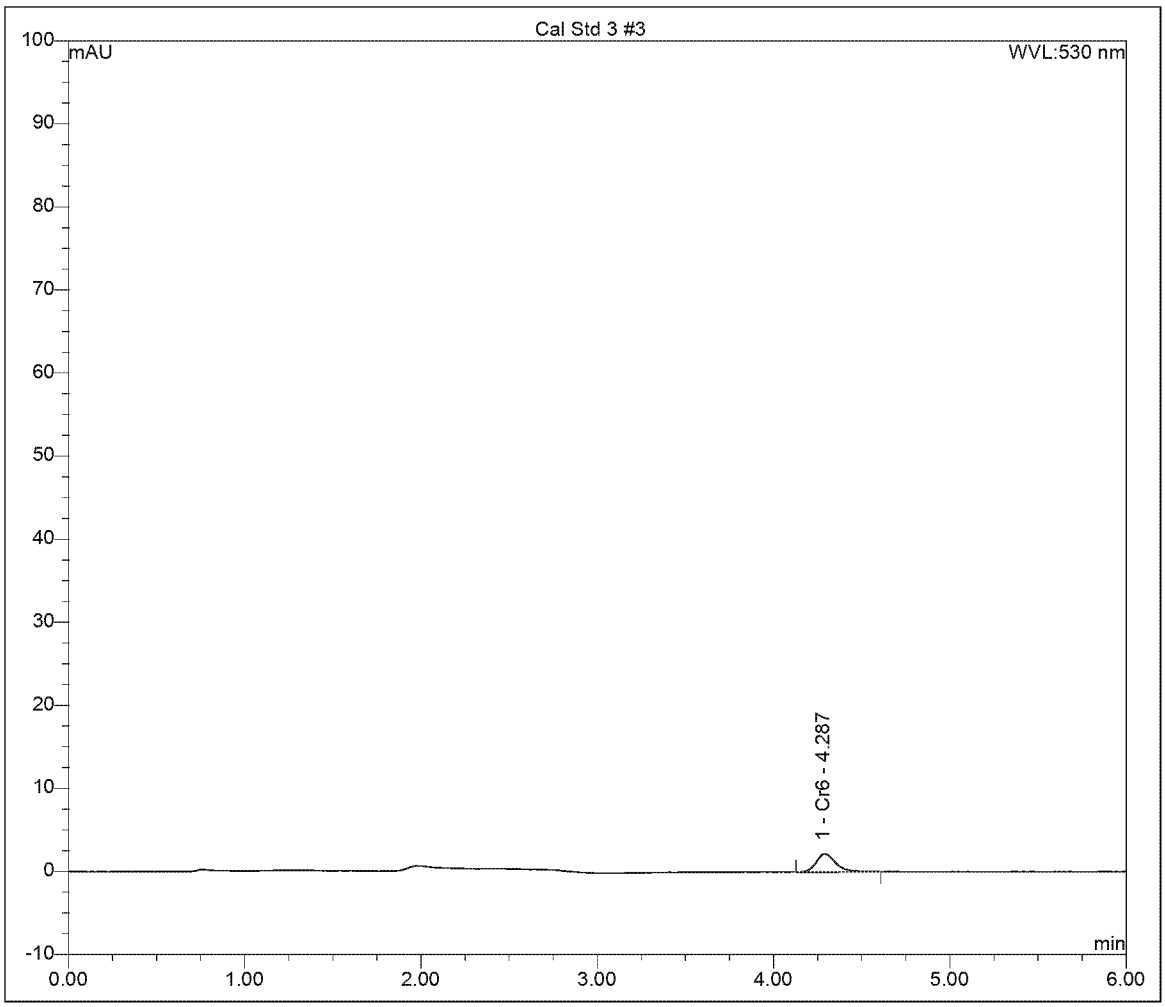
No.	Time min	Peak Name	Area mAU*min	Height mAU	Amount
1	4.41	Cr6	0.497	4.076	0.98
		TOTAL:	0.50	4.08	0.98



Peak Integration Report

Sample Name:	**Cal Std 3**	*Dilution:*	**1**
Sample Type:	**CAL**	*Analyst:*	**MBW**
Program:	**cr+6**	*Queue:*	**WETC**
Inj. Date/Time:	**11/17/18 03:14**	*Batch:*	
Instrument:	**IC-4**	*Comment:*	
Sequence1:	**111718**	*InitialCal:*	**111718**
Sequence2:		*Method:*	**218_7_111718**

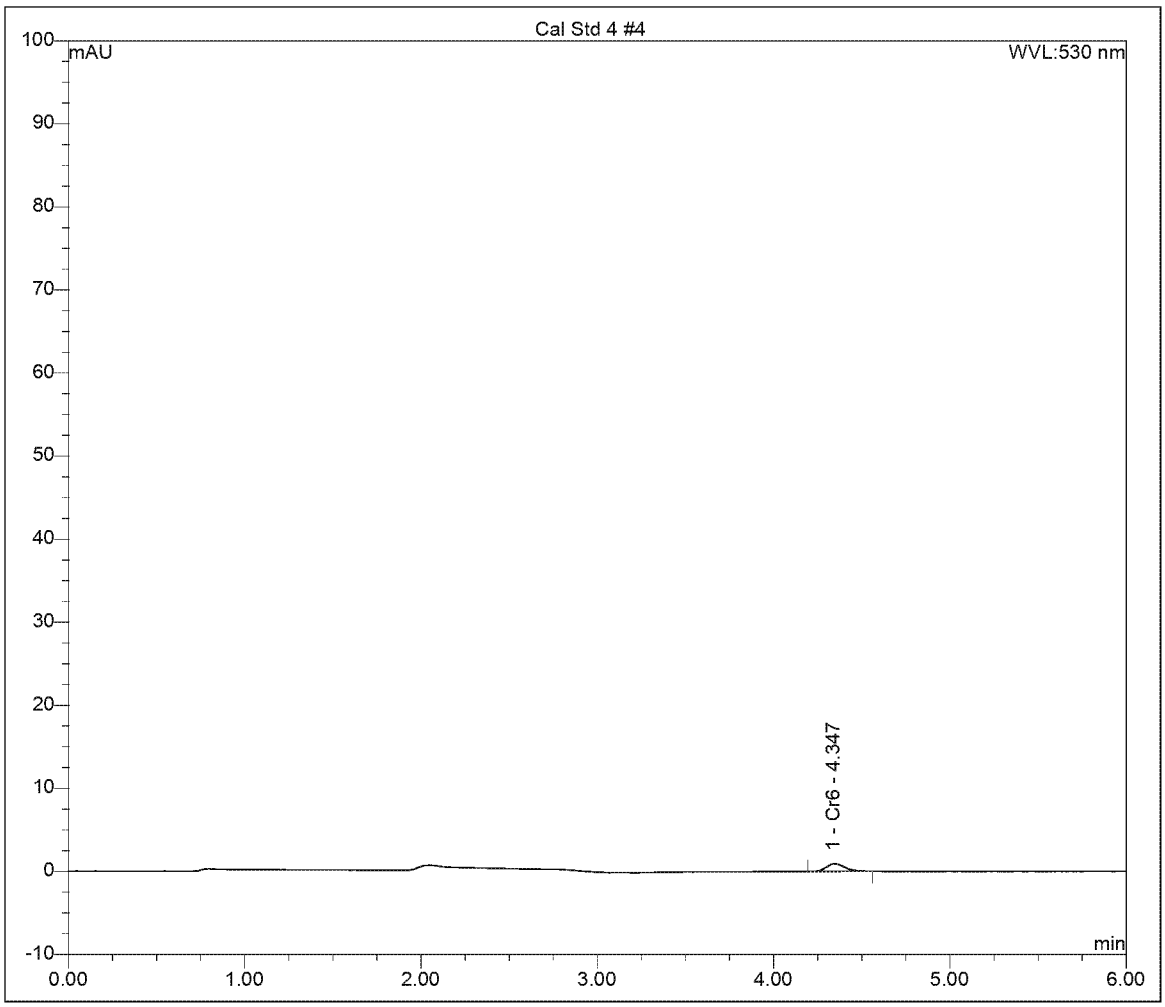
No.	Time min	Peak Name	Area mAU*min	Height mAU	Amount
1	4.29	Cr6	0.279	2.164	0.55
		TOTAL:	0.28	2.16	0.55



Peak Integration Report

Sample Name:	**Cal Std 4**	*Dilution:*	**1**
Sample Type:	**CAL**	*Analyst:*	**MBW**
Program:	**cr+6**	*Queue:*	**WETC**
Inj. Date/Time:	**11/17/18 03:23**	*Batch:*	
Instrument:	**IC-4**	*Comment:*	
Sequence1:	**111718**	*InitialCal:*	**111718**
Sequence2:		*Method:*	**218_7_111718**

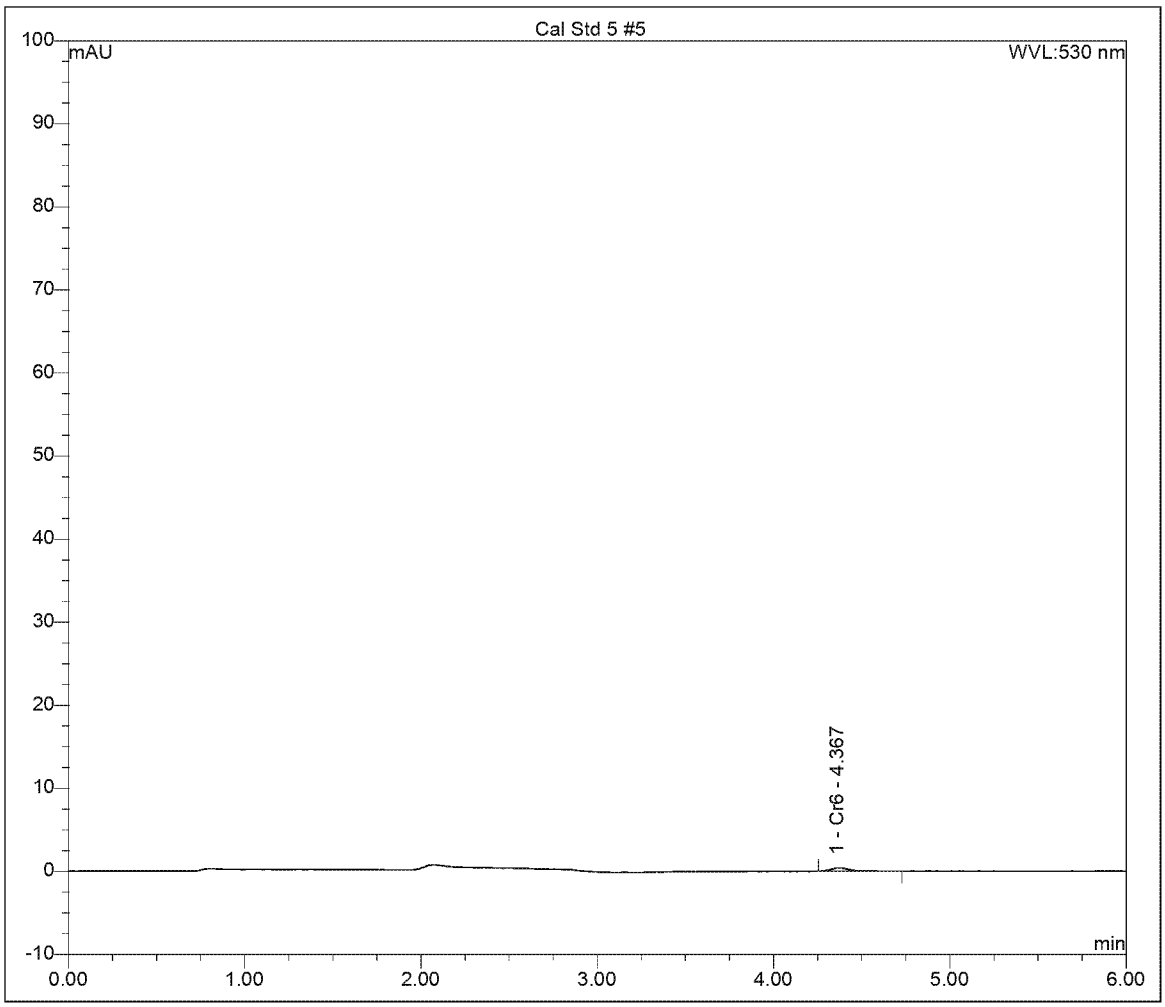
No.	Time min	Peak Name	Area mAU*min	Height mAU	Amount
1	4.35	Cr6	0.116	0.936	0.23
		TOTAL:	0.12	0.94	0.23



Peak Integration Report

Sample Name:	**Cal Std 5**	*Dilution:*	**1**
Sample Type:	**CAL**	*Analyst:*	**MBW**
Program:	**cr+6**	*Queue:*	**WETC**
Inj. Date/Time:	**11/17/18 03:32**	*Batch:*	
Instrument:	**IC-4**	*Comment:*	
Sequence1:	**111718**	*InitialCal:*	**111718**
Sequence2:		*Method:*	**218_7_111718**

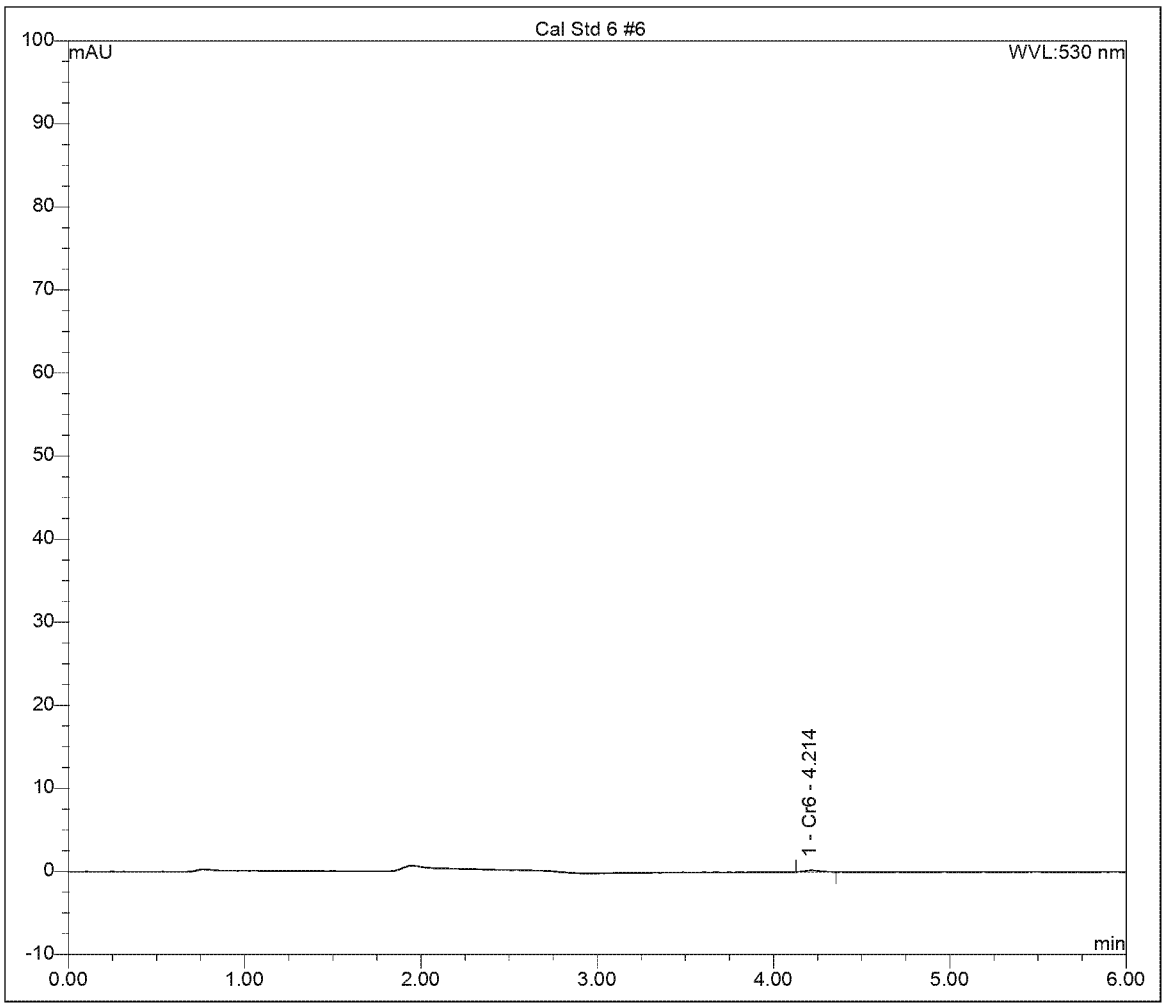
No.	Time min	Peak Name	Area mAU*min	Height mAU	Amount
1	4.37	Cr6	0.055	0.412	0.11
		TOTAL:	0.05	0.41	0.11



Peak Integration Report

Sample Name:	**Cal Std 6**	*Dilution:*	**1**
Sample Type:	**CAL**	*Analyst:*	**MBW**
Program:	**cr+6**	*Queue:*	**WETC**
Inj. Date/Time:	**11/17/18 03:41**	*Batch:*	
Instrument:	**IC-4**	*Comment:*	
Sequence1:	**111718**	*InitialCal:*	**111718**
Sequence2:		*Method:*	**218_7_111718**

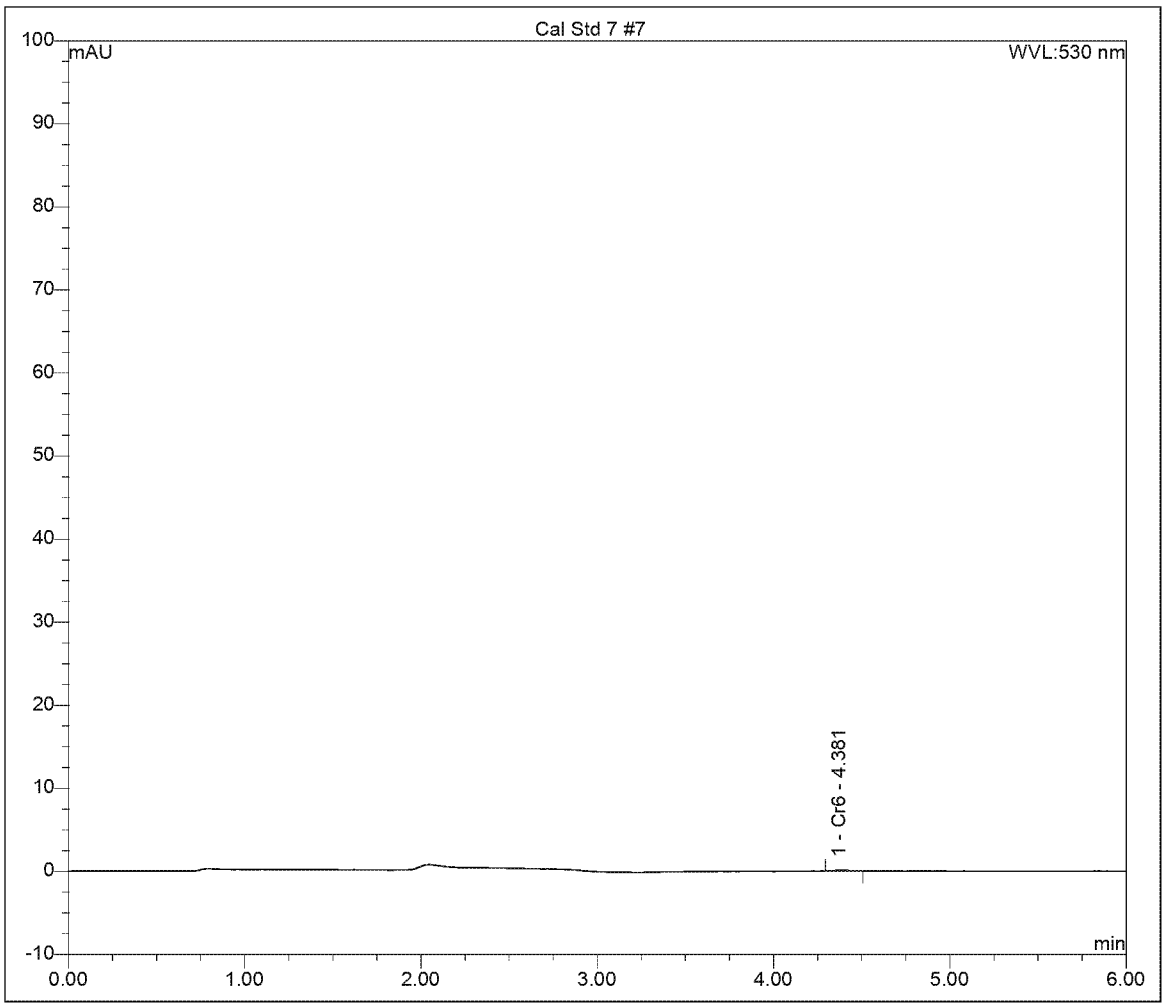
No.	Time min	Peak Name	Area mAU*min	Height mAU	Amount
1	4.21	Cr6	0.022	0.211	0.04
		TOTAL:	0.02	0.21	0.04



Peak Integration Report

Sample Name:	**Cal Std 7**	*Dilution:*	**1**
Sample Type:	**CAL**	*Analyst:*	**MBW**
Program:	**cr+6**	*Queue:*	**WETC**
Inj. Date/Time:	**11/17/18 03:49**	*Batch:*	
Instrument:	**IC-4**	*Comment:*	
Sequence1:	**111718**	*InitialCal:*	**111718**
Sequence2:		*Method:*	**218_7_111718**

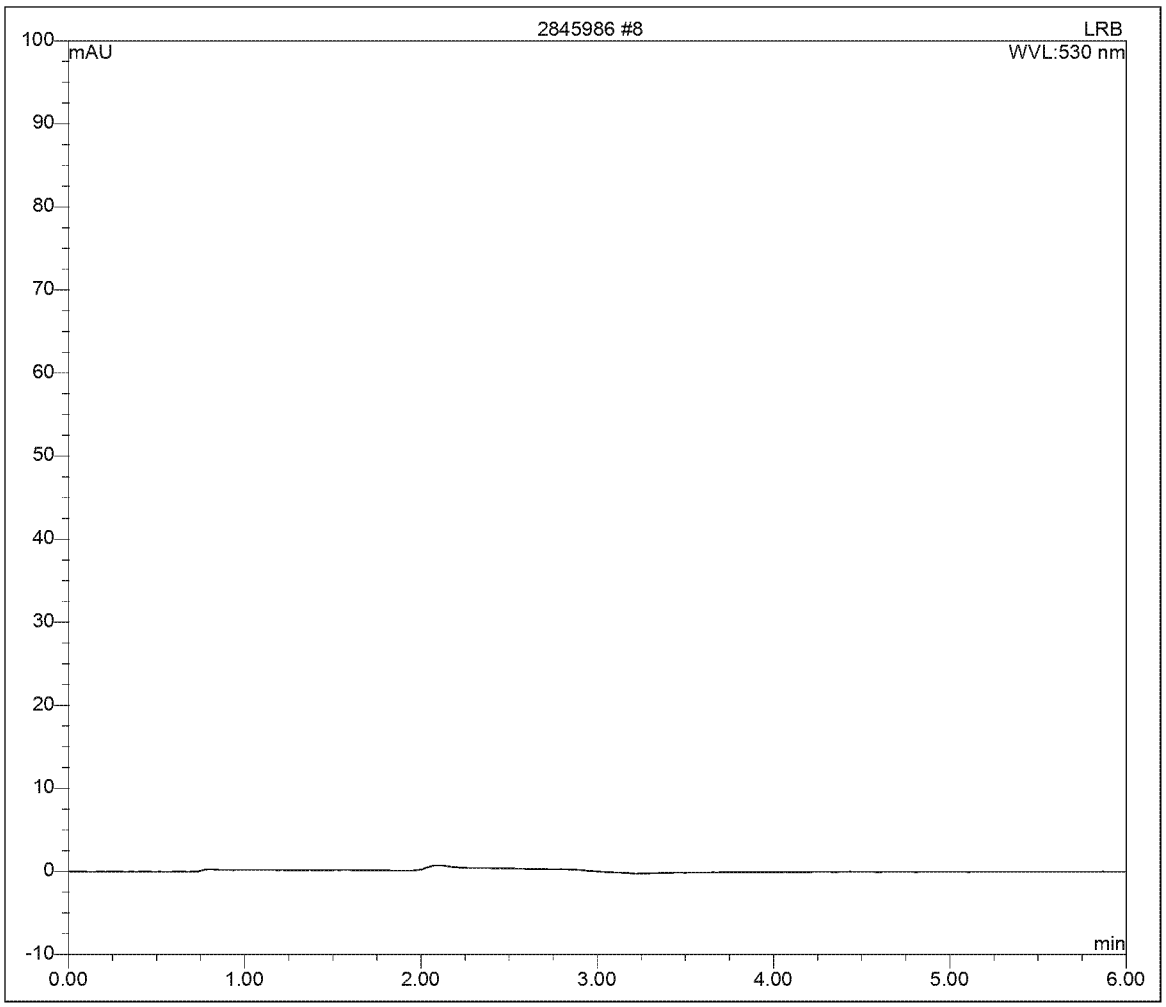
No.	Time min	Peak Name	Area mAU*min	Height mAU	Amount
1	4.38	Cr6	0.014	0.135	0.03
		TOTAL:	0.01	0.13	0.03



Peak Integration Report

Sample Name:	**2845986**	*Dilution:*	**1**
Sample Type:	**MB**	*Analyst:*	**MBW**
Program:	**cr+6**	*Queue:*	**WETC**
Inj. Date/Time:	**11/17/18 03:59**	*Batch:*	**213382**
Instrument:	**IC-4**	*Comment:*	
Sequence1:	**111718**	*InitialCal:*	**111718**
Sequence2:		*Method:*	**218_7_111718**

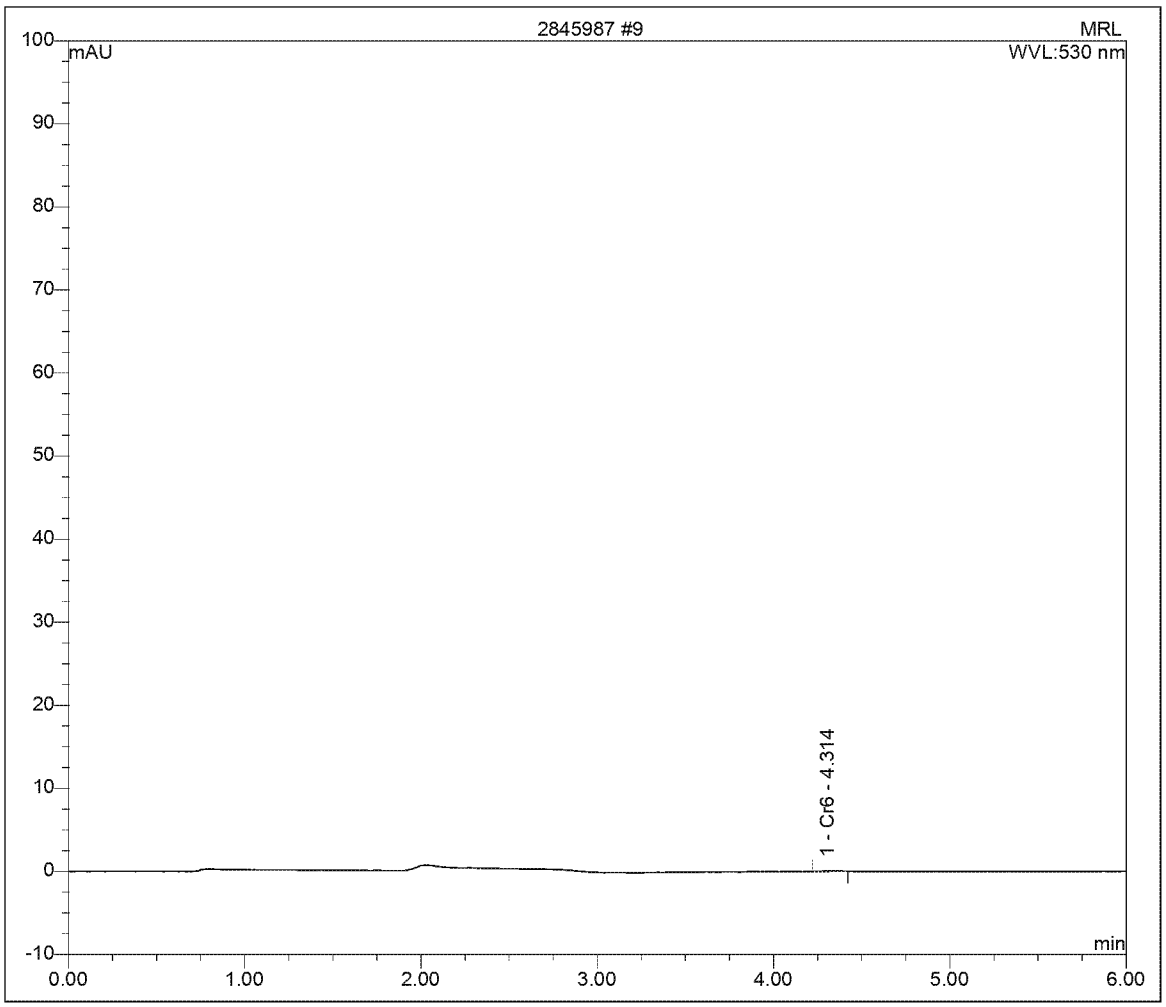
No.	Time min	Peak Name	Area mAU*min	Height mAU	Amount
n.a.	n.a.	Cr6	n.a.	n.a.	n.a.
		TOTAL:	0.00	0.00	0.00



Peak Integration Report

Sample Name:	**2845987**	*Dilution:*	**1**
Sample Type:	**MRL**	*Analyst:*	**MBW**
Program:	**cr+6**	*Queue:*	**WETC**
Inj. Date/Time:	**11/17/18 04:07**	*Batch:*	**213382**
Instrument:	**IC-4**	*Comment:*	
Sequence1:	**111718**	*InitialCal:*	**111718**
Sequence2:		*Method:*	**218_7_111718**

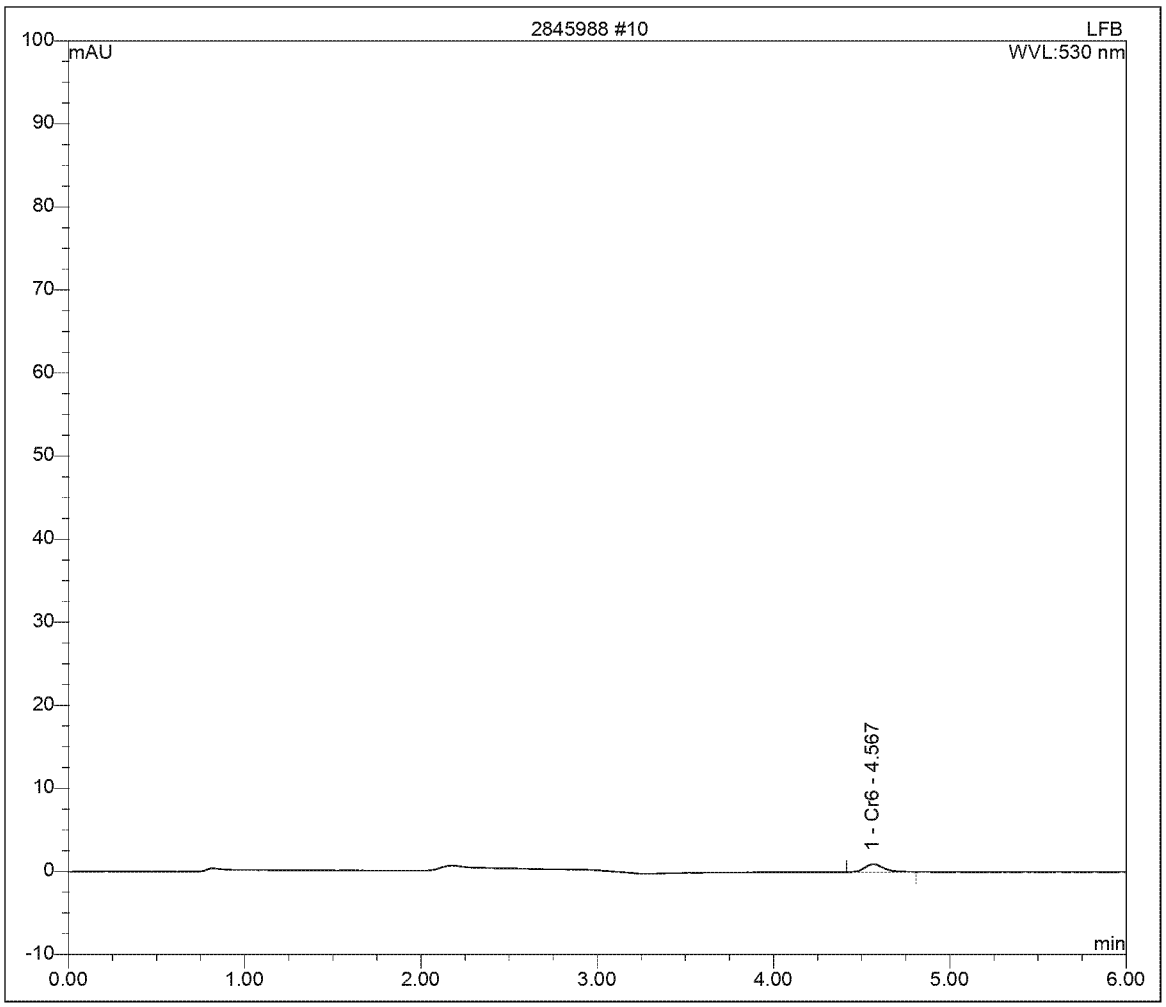
No.	Time min	Peak Name	Area mAU*min	Height mAU	Amount
1	4.31	Cr6	0.012	0.116	0.02
		TOTAL:	0.01	0.12	0.02



Peak Integration Report

Sample Name:	**2845988**	*Dilution:*	**1**
Sample Type:	**CCVL**	*Analyst:*	**MBW**
Program:	**cr+6**	*Queue:*	**WETC**
Inj. Date/Time:	**11/17/18 04:16**	*Batch:*	**213382**
Instrument:	**IC-4**	*Comment:*	
Sequence1:	**111718**	*InitialCal:*	**111718**
Sequence2:		*Method:*	**218_7_111718**

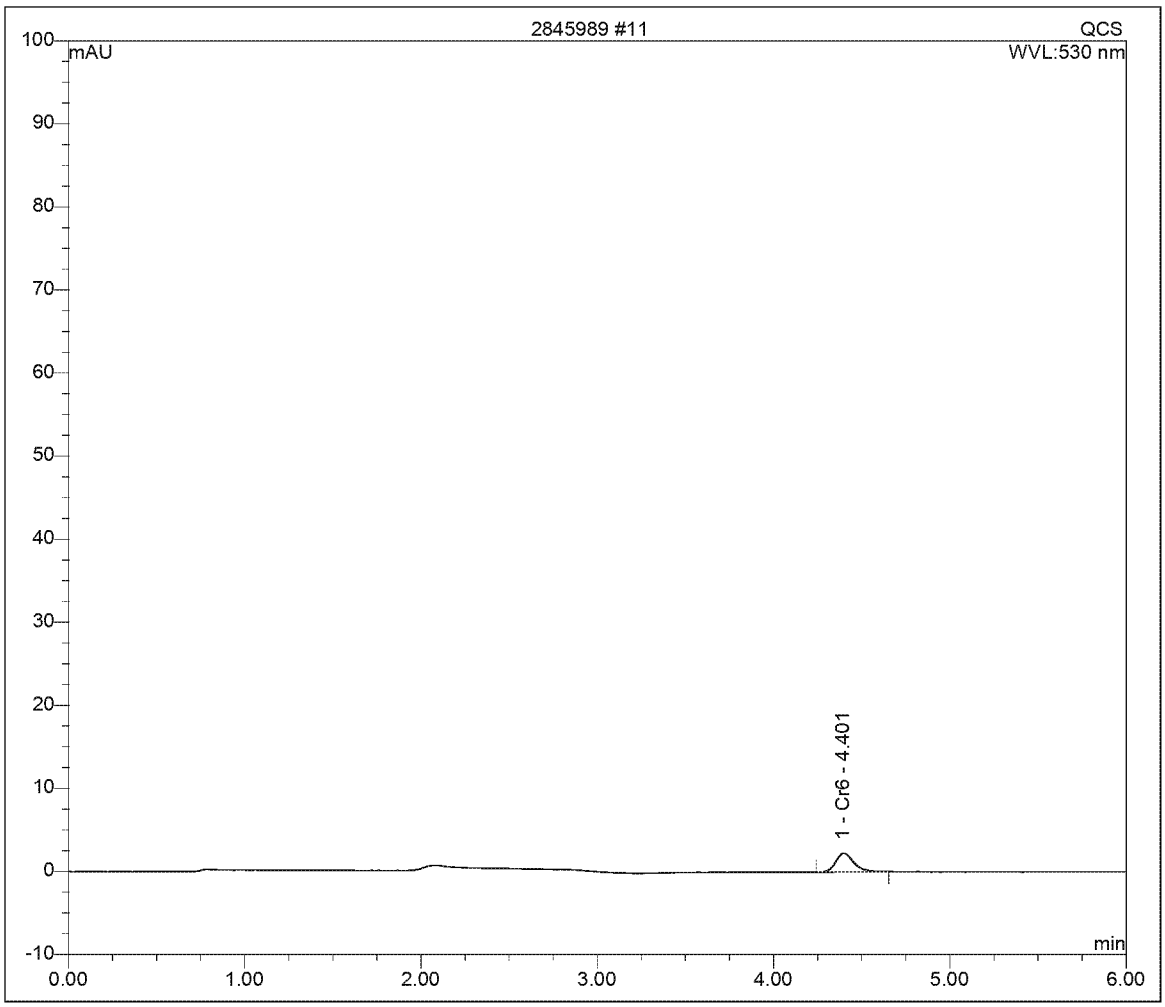
No.	Time min	Peak Name	Area mAU*min	Height mAU	Amount
1	4.57	Cr6	0.124	0.962	0.24
		TOTAL:	0.12	0.96	0.24



Peak Integration Report

Sample Name:	**2845989**	*Dilution:*	**1**
Sample Type:	**LCS**	*Analyst:*	**MBW**
Program:	**cr+6**	*Queue:*	**WETC**
Inj. Date/Time:	**11/17/18 04:25**	*Batch:*	**213382**
Instrument:	**IC-4**	*Comment:*	
Sequence1:	**111718**	*InitialCal:*	**111718**
Sequence2:		*Method:*	**218_7_111718**

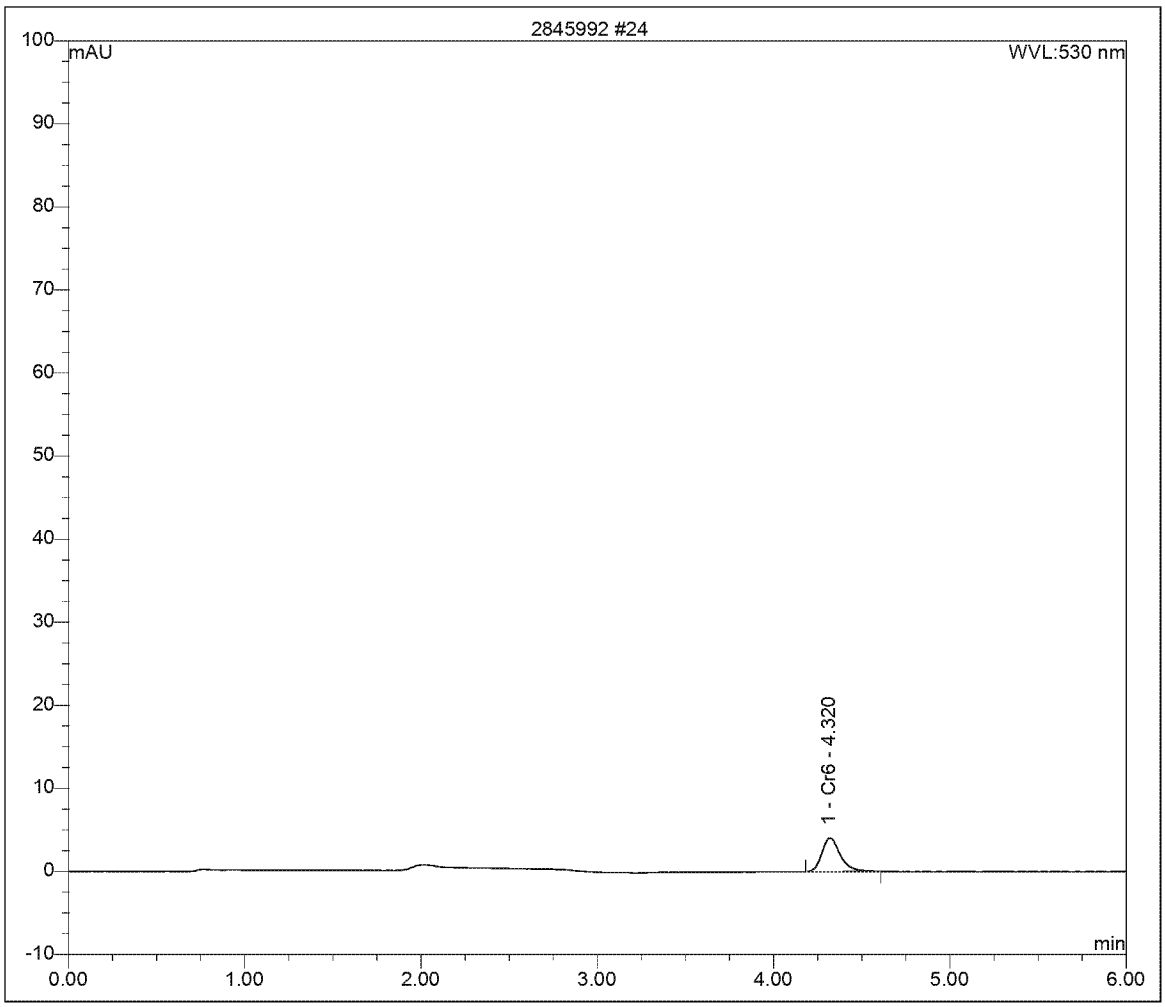
No.	Time min	Peak Name	Area mAU*min	Height mAU	Amount
1	4.40	Cr6	0.268	2.263	0.52
		TOTAL:	0.27	2.26	0.52



Peak Integration Report

Sample Name:	**2845992**	*Dilution:*	**1**
Sample Type:	**CCVH**	*Analyst:*	**MBW**
Program:	**cr+6**	*Queue:*	**WETC**
Inj. Date/Time:	**11/17/18 06:21**	*Batch:*	**213382**
Instrument:	**IC-4**	*Comment:*	
Sequence1:	**111718**	*InitialCal:*	**111718**
Sequence2:		*Method:*	**218_7_111718**

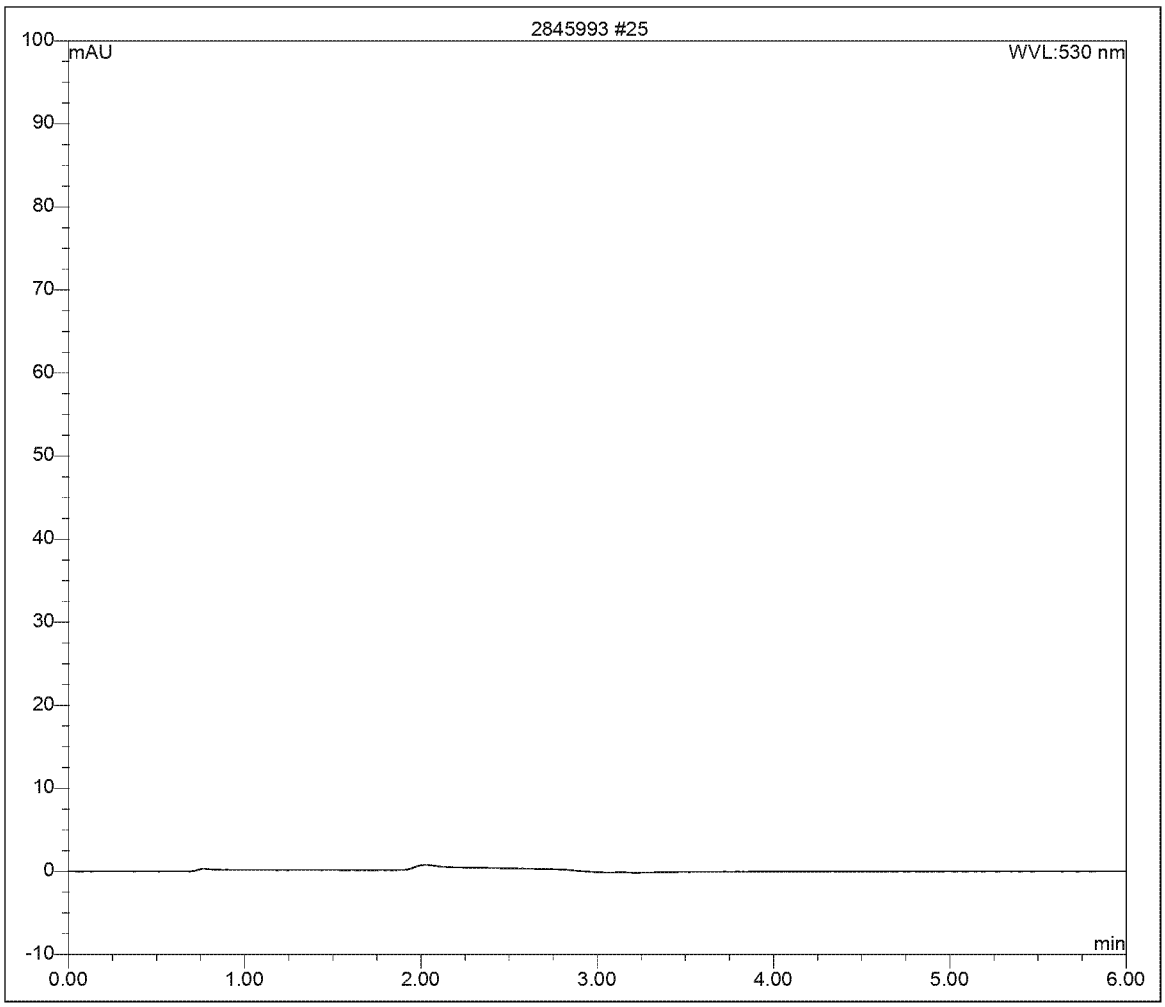
No.	Time min	Peak Name	Area mAU*min	Height mAU	Amount
1	4.32	Cr6	0.495	4.056	0.98
		TOTAL:	0.49	4.06	0.98



Peak Integration Report

Sample Name:	**2845993**	*Dilution:*	**1**
Sample Type:	**MB**	*Analyst:*	**MBW**
Program:	**cr+6**	*Queue:*	**WETC**
Inj. Date/Time:	**11/17/18 06:30**	*Batch:*	**213382**
Instrument:	**IC-4**	*Comment:*	
Sequence1:	**111718**	*InitialCal:*	**111718**
Sequence2:		*Method:*	**218_7_111718**

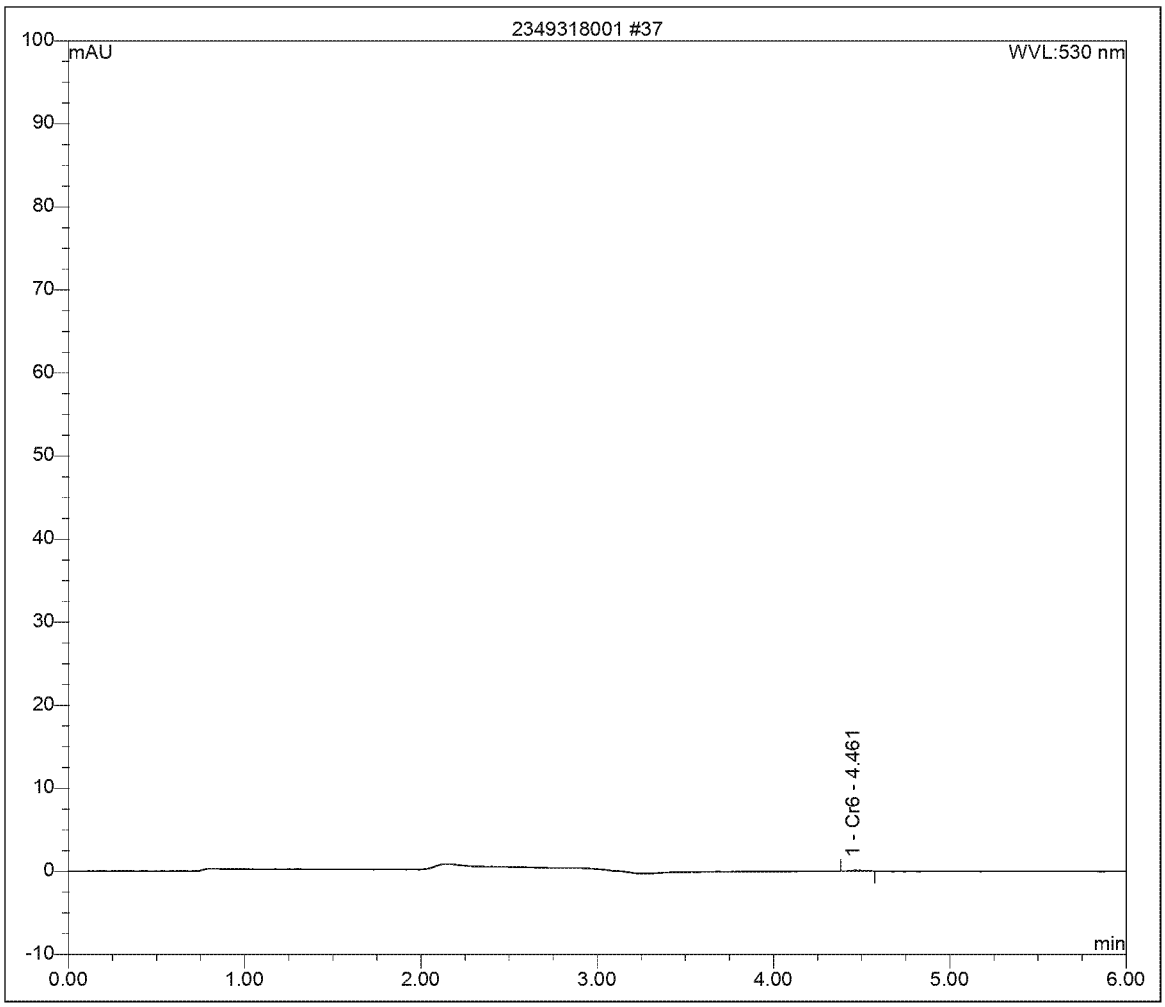
No.	Time min	Peak Name	Area mAU*min	Height mAU	Amount
n.a.	n.a.	Cr6	n.a.	n.a.	n.a.
		TOTAL:	0.00	0.00	0.00



Peak Integration Report

Sample Name:	**2349318001**	*Dilution:*	**1**
Sample Type:	**SAMPLE**	*Analyst:*	**MBW**
Program:	**cr+6**	*Queue:*	**WETC**
Inj. Date/Time:	**11/17/18 08:26**	*Batch:*	**213382**
Instrument:	**IC-4**	*Comment:*	
Sequence1:	**111718**	*InitialCal:*	**111718**
Sequence2:		*Method:*	**218_7_111718**

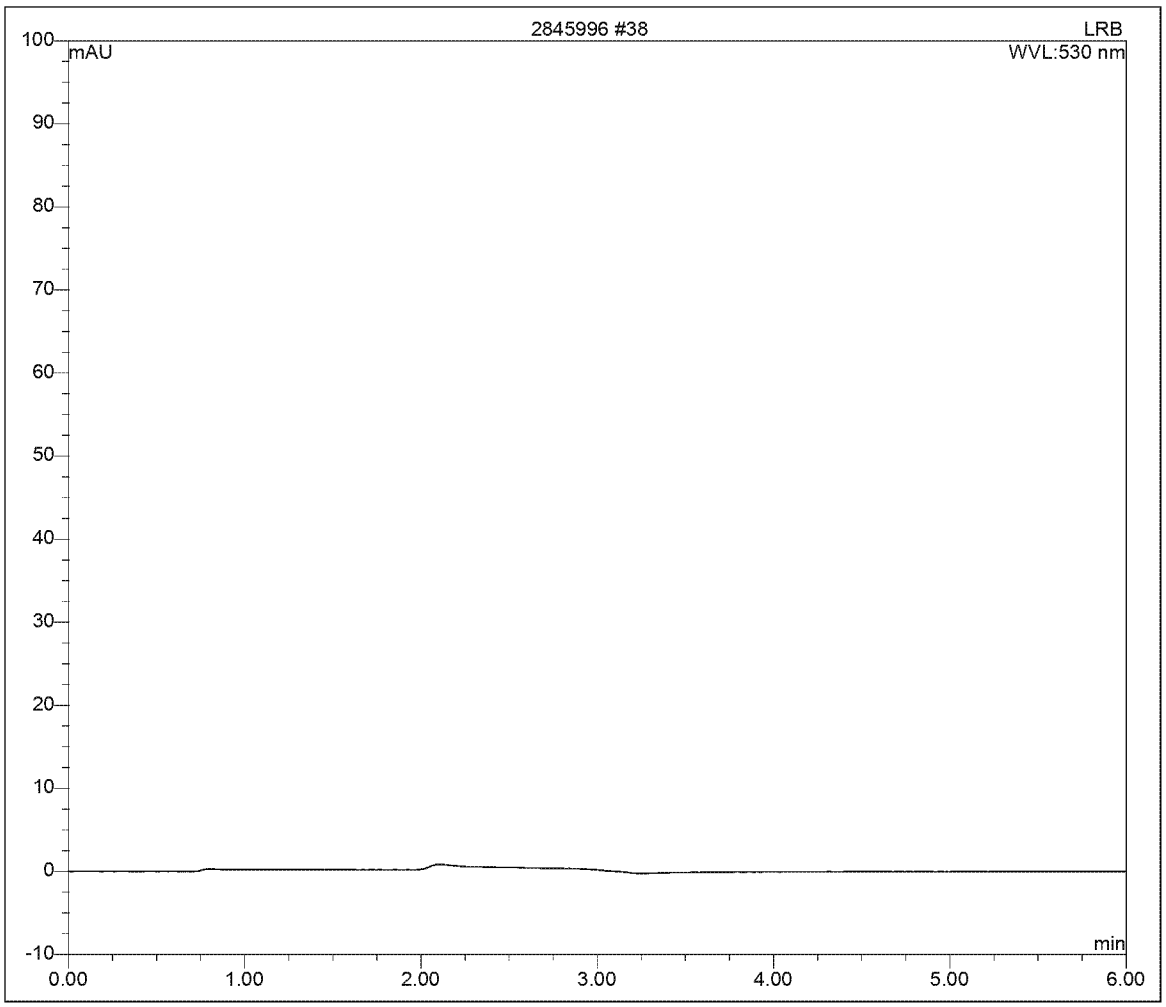
No.	Time min	Peak Name	Area mAU*min	Height mAU	Amount
1	4.46	Cr6	0.011	0.109	0.02
		TOTAL:	0.01	0.11	0.02



Peak Integration Report

Sample Name:	**2845996**	*Dilution:*	**1**
Sample Type:	**MB**	*Analyst:*	**MBW**
Program:	**cr+6**	*Queue:*	**WETC**
Inj. Date/Time:	**11/17/18 08:35**	*Batch:*	**213383**
Instrument:	**IC-4**	*Comment:*	
Sequence1:	**111718**	*InitialCal:*	**111718**
Sequence2:		*Method:*	**218_7_111718**

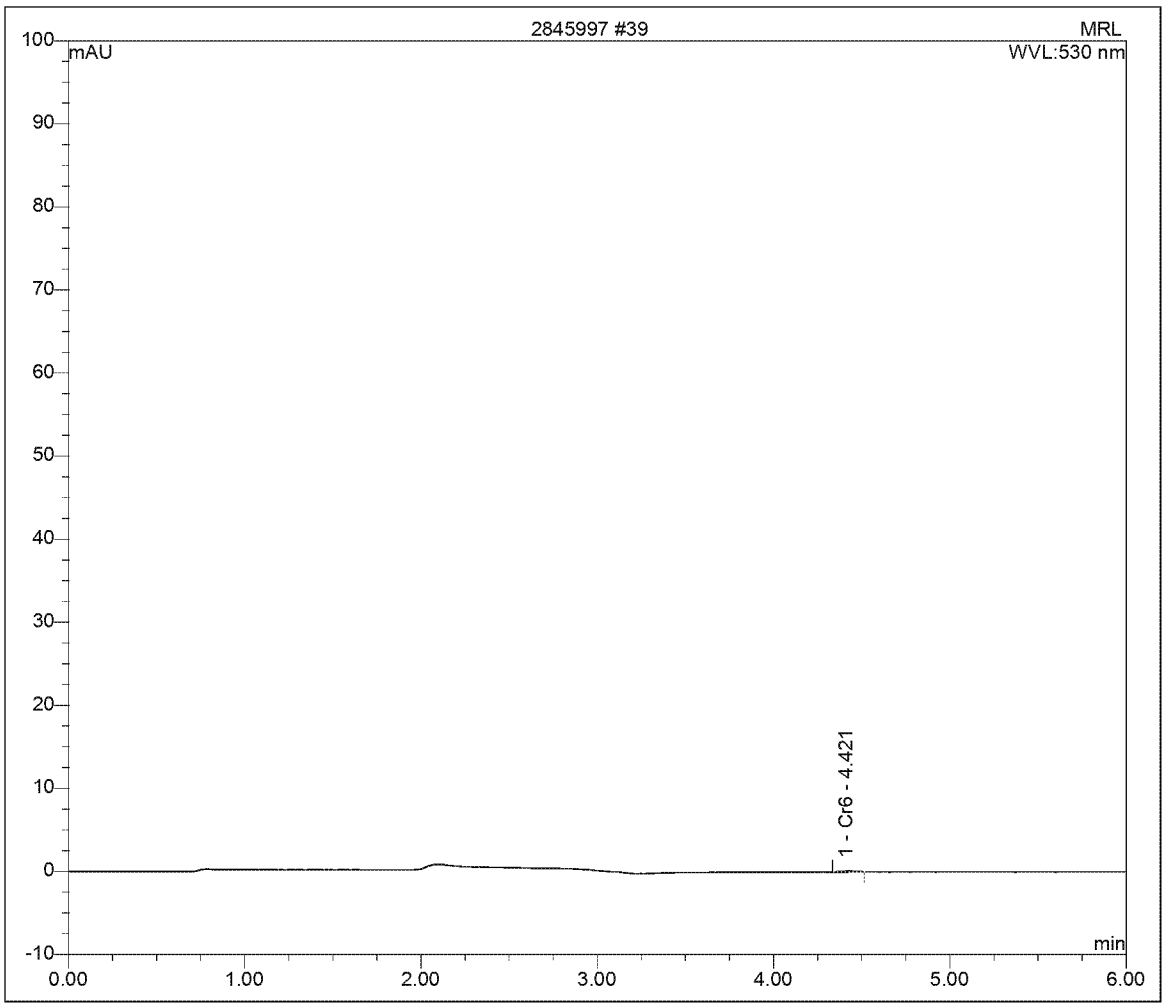
No.	Time min	Peak Name	Area mAU*min	Height mAU	Amount
n.a.	n.a.	Cr6	n.a.	n.a.	n.a.
		TOTAL:	0.00	0.00	0.00



Peak Integration Report

Sample Name:	**2845997**	*Dilution:*	**1**
Sample Type:	**MRL**	*Analyst:*	**MBW**
Program:	**cr+6**	*Queue:*	**WETC**
Inj. Date/Time:	**11/17/18 08:44**	*Batch:*	**213383**
Instrument:	**IC-4**	*Comment:*	
Sequence1:	**111718**	*InitialCal:*	**111718**
Sequence2:		*Method:*	**218_7_111718**

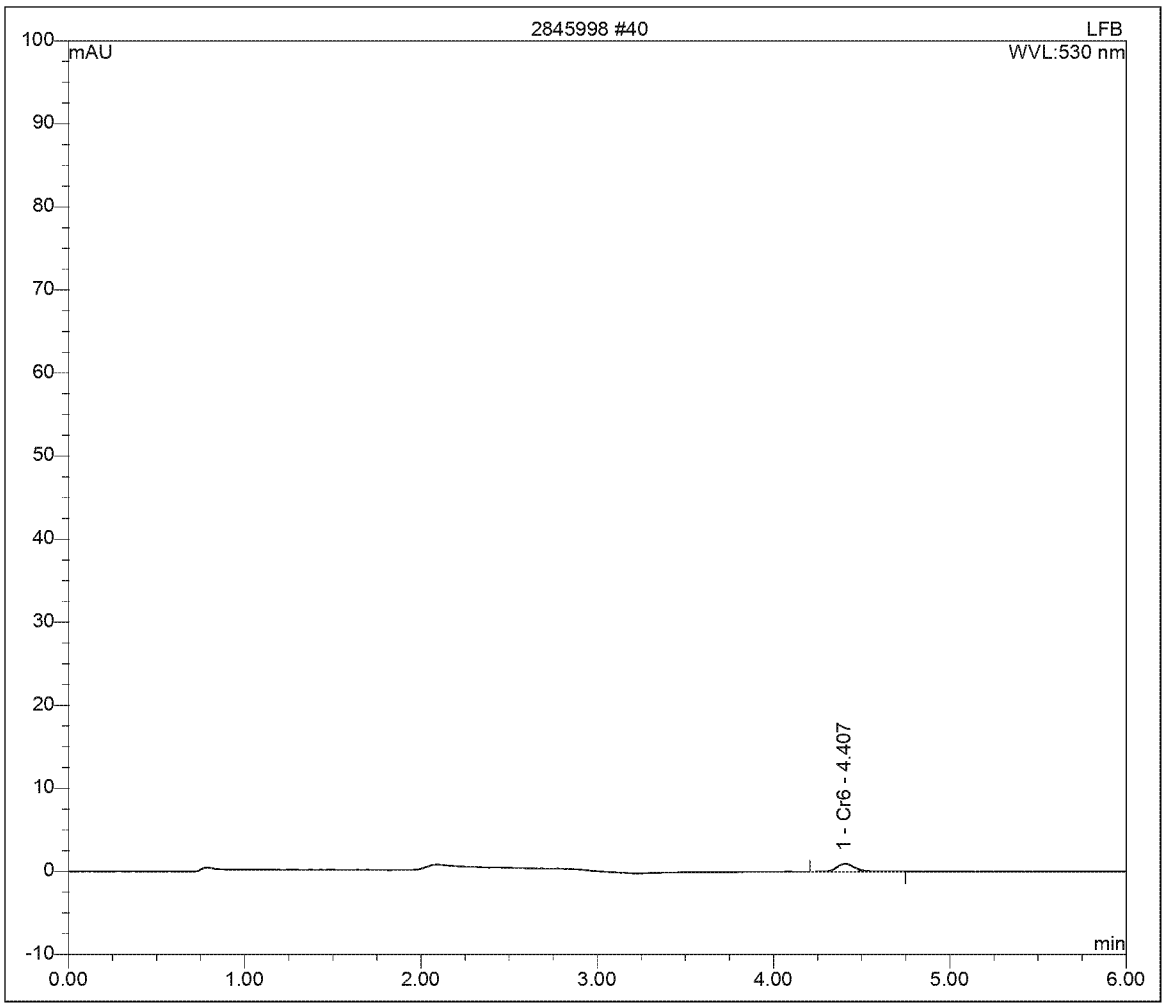
No.	Time min	Peak Name	Area mAU*min	Height mAU	Amount
1	4.42	Cr6	0.011	0.124	0.02
		TOTAL:	0.01	0.12	0.02



Peak Integration Report

Sample Name:	**2845998**	*Dilution:*	**1**
Sample Type:	**CCVL**	*Analyst:*	**MBW**
Program:	**cr+6**	*Queue:*	**WETC**
Inj. Date/Time:	**11/17/18 08:53**	*Batch:*	**213383**
Instrument:	**IC-4**	*Comment:*	
Sequence1:	**111718**	*InitialCal:*	**111718**
Sequence2:		*Method:*	**218_7_111718**

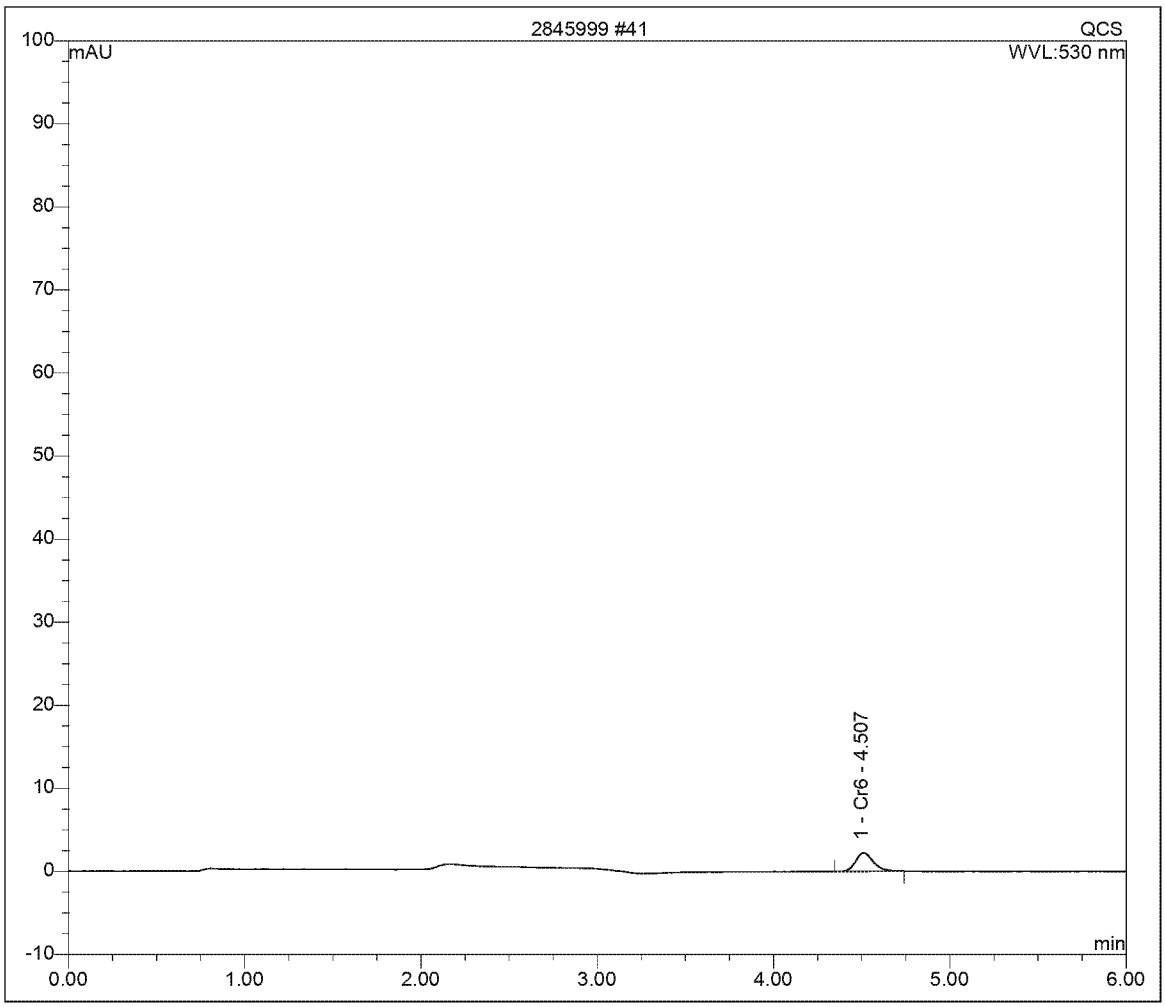
No.	Time min	Peak Name	Area mAU*min	Height mAU	Amount
1	4.41	Cr6	0.121	0.966	0.24
		TOTAL:	0.12	0.97	0.24



Peak Integration Report

Sample Name:	**2845999**	*Dilution:*	**1**
Sample Type:	**LCS**	*Analyst:*	**MBW**
Program:	**cr+6**	*Queue:*	**WETC**
Inj. Date/Time:	**11/17/18 09:02**	*Batch:*	**213383**
Instrument:	**IC-4**	*Comment:*	
Sequence1:	**111718**	*InitialCal:*	**111718**
Sequence2:		*Method:*	**218_7_111718**

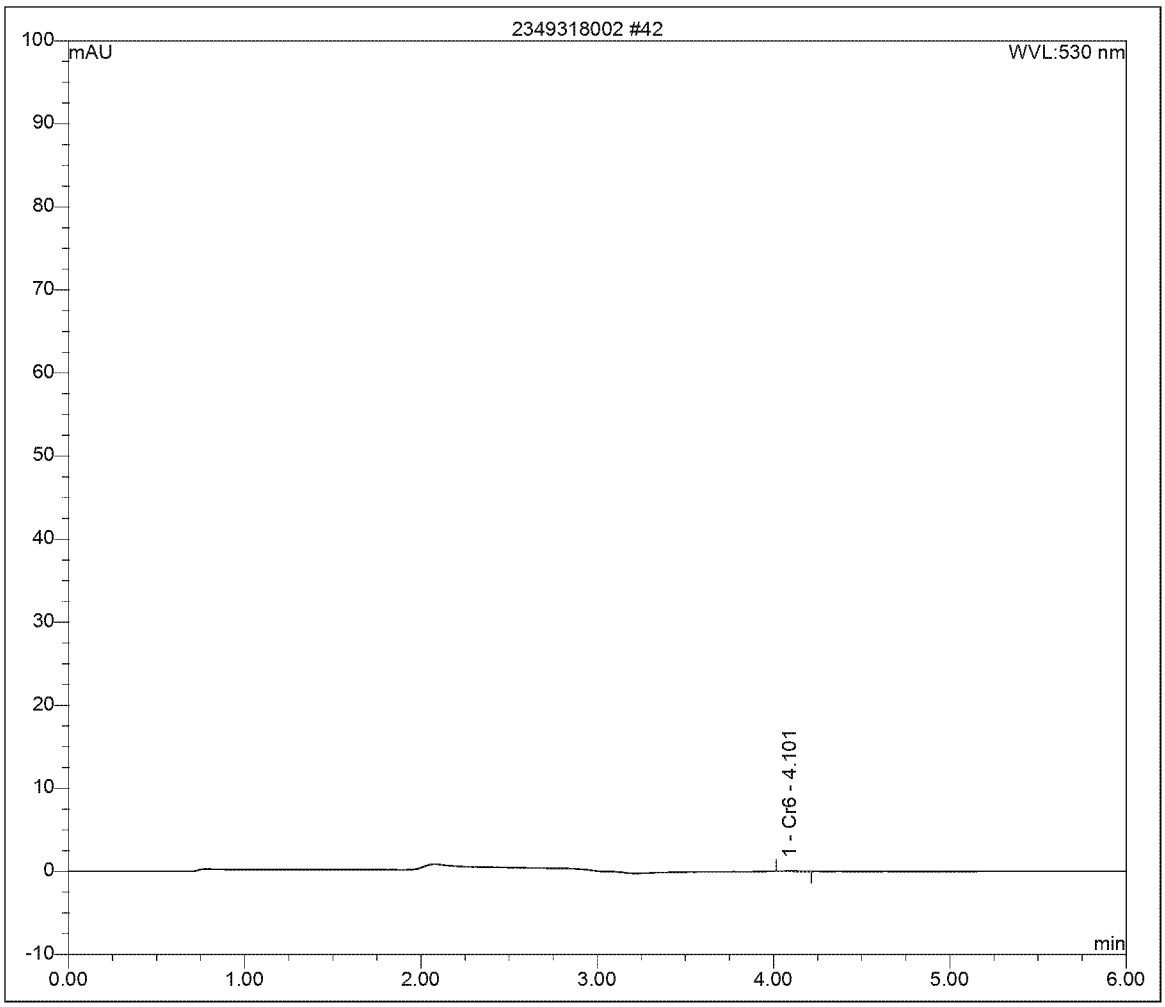
No.	Time min	Peak Name	Area mAU*min	Height mAU	Amount
1	4.51	Cr6	0.264	2.244	0.52
		TOTAL:	0.26	2.24	0.52



Peak Integration Report

Sample Name:	**2349318002**	*Dilution:*	**1**
Sample Type:	**SAMPLE**	*Analyst:*	**MBW**
Program:	**cr+6**	*Queue:*	**WETC**
Inj. Date/Time:	**11/17/18 09:11**	*Batch:*	**213383**
Instrument:	**IC-4**	*Comment:*	
Sequence1:	**111718**	*InitialCal:*	**111718**
Sequence2:		*Method:*	**218_7_111718**

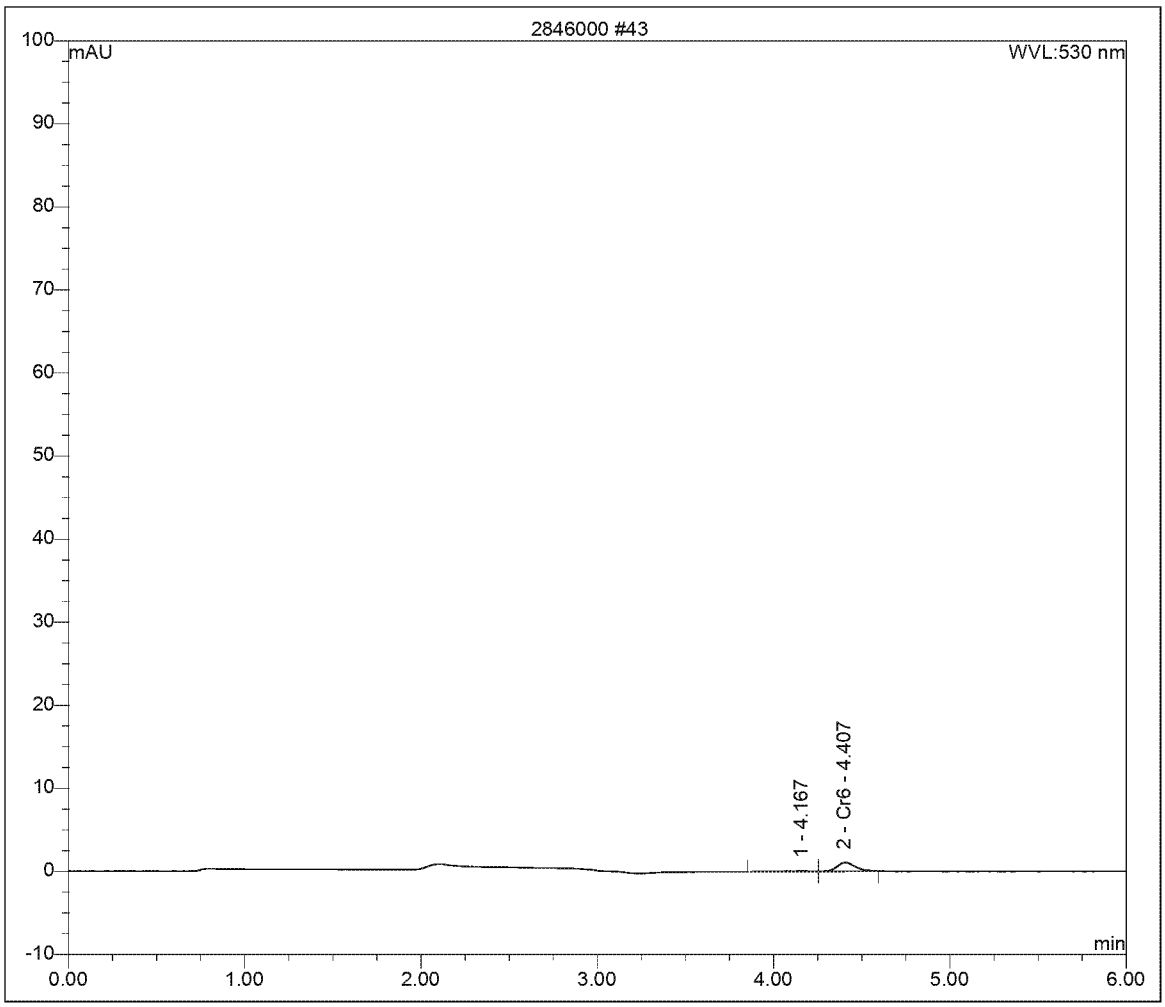
No.	Time min	Peak Name	Area mAU*min	Height mAU	Amount
1	4.10	Cr6	0.006	0.053	0.01
		TOTAL:	0.01	0.05	0.01



Peak Integration Report

Sample Name:	**2846000**	*Dilution:*	**1**
Sample Type:	**MS**	*Analyst:*	**MBW**
Program:	**cr+6**	*Queue:*	**WETC**
Inj. Date/Time:	**11/17/18 09:19**	*Batch:*	**213383**
Instrument:	**IC-4**	*Comment:*	
Sequence1:	**111718**	*InitialCal:*	**111718**
Sequence2:		*Method:*	**218_7_111718**

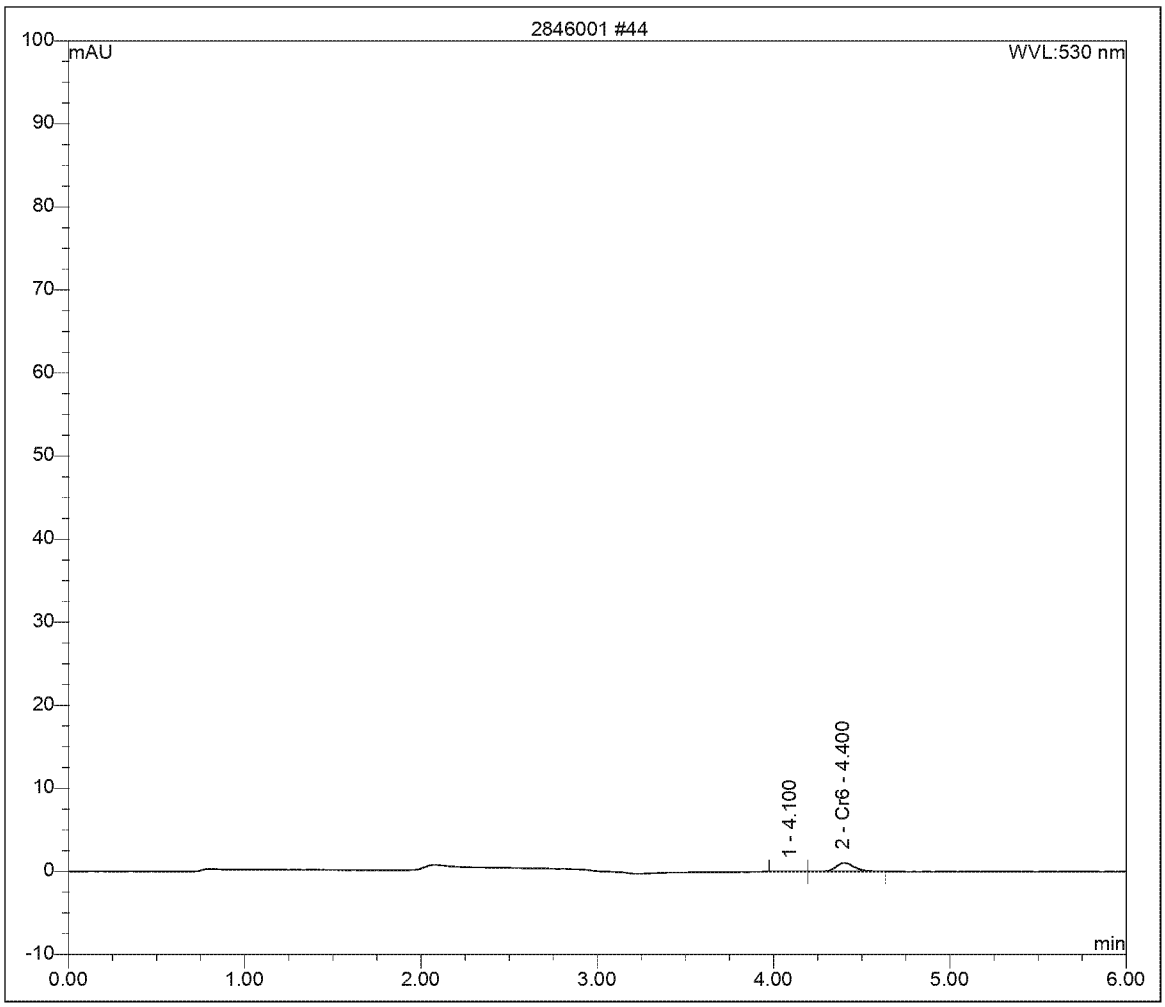
No.	Time min	Peak Name	Area mAU*min	Height mAU	Amount
2	4.41	Cr6	0.127	1.065	0.25
		TOTAL:	0.13	1.07	0.25



Peak Integration Report

Sample Name:	**2846001**	*Dilution:*	**1**
Sample Type:	**MSD**	*Analyst:*	**MBW**
Program:	**cr+6**	*Queue:*	**WETC**
Inj. Date/Time:	**11/17/18 09:28**	*Batch:*	**213383**
Instrument:	**IC-4**	*Comment:*	
Sequence1:	**111718**	*InitialCal:*	**111718**
Sequence2:		*Method:*	**218_7_111718**

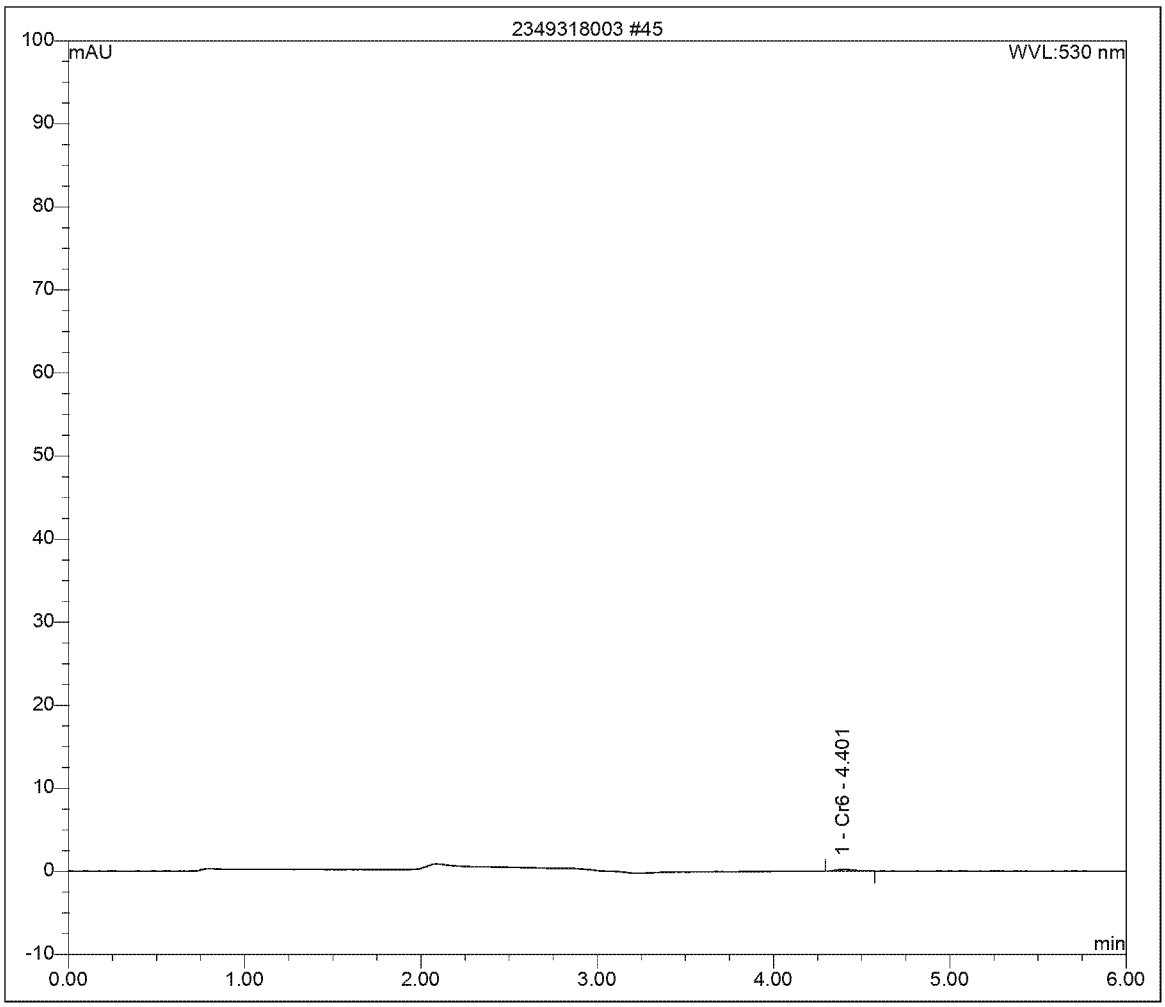
No.	Time min	Peak Name	Area mAU*min	Height mAU	Amount
2	4.40	Cr6	0.133	1.063	0.26
		TOTAL:	0.13	1.06	0.26



Peak Integration Report

Sample Name:	**2349318003**	*Dilution:*	**1**
Sample Type:	**SAMPLE**	*Analyst:*	**MBW**
Program:	**cr+6**	*Queue:*	**WETC**
Inj. Date/Time:	**11/17/18 09:37**	*Batch:*	**213383**
Instrument:	**IC-4**	*Comment:*	
Sequence1:	**111718**	*InitialCal:*	**111718**
Sequence2:		*Method:*	**218_7_111718**

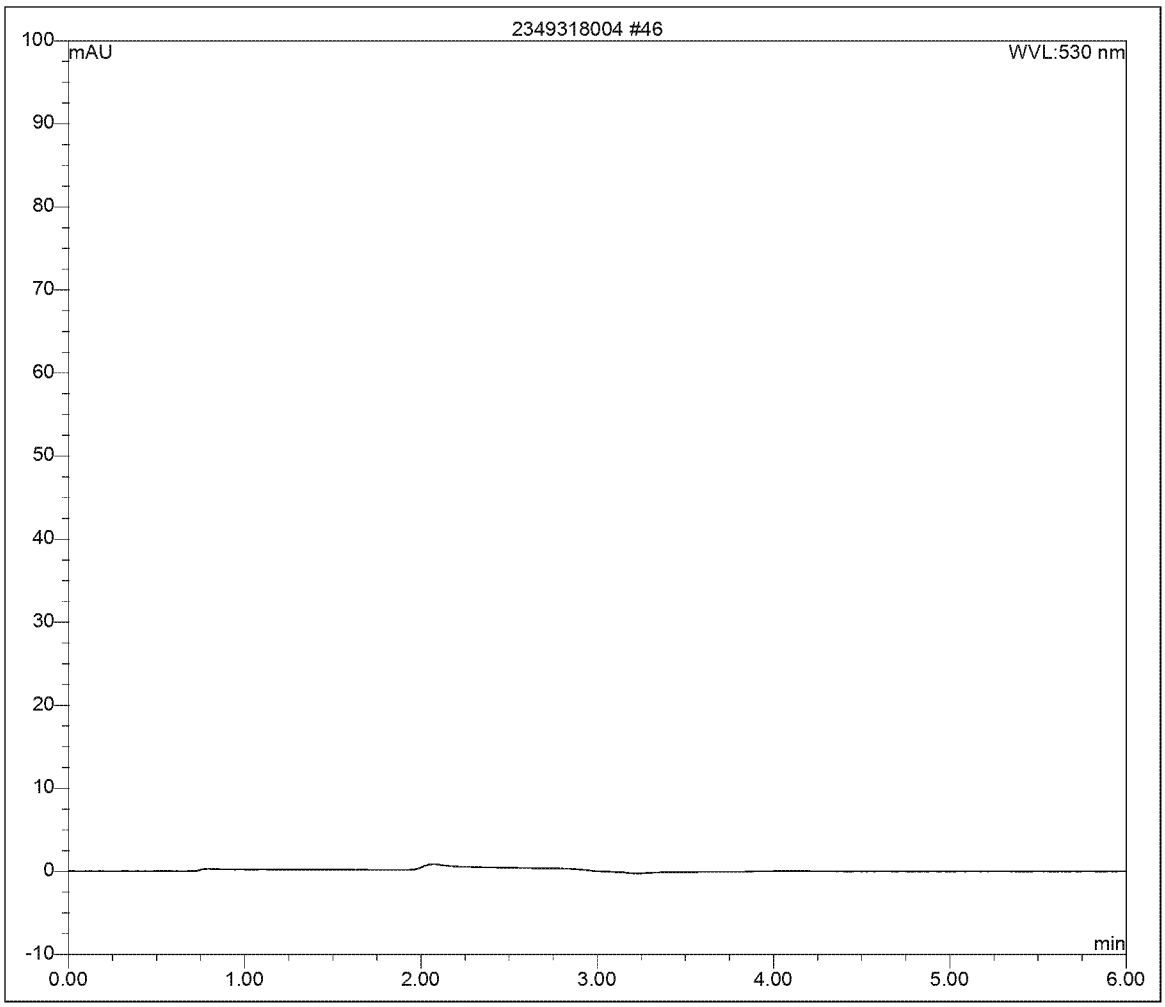
No.	Time min	Peak Name	Area mAU*min	Height mAU	Amount
1	4.40	Cr6	0.027	0.231	0.05
		TOTAL:	0.03	0.23	0.05



Peak Integration Report

Sample Name:	**2349318004**	*Dilution:*	**1**
Sample Type:	**SAMPLE**	*Analyst:*	**MBW**
Program:	**cr+6**	*Queue:*	**WETC**
Inj. Date/Time:	**11/17/18 09:46**	*Batch:*	**213383**
Instrument:	**IC-4**	*Comment:*	
Sequence1:	**111718**	*InitialCal:*	**111718**
Sequence2:		*Method:*	**218_7_111718**

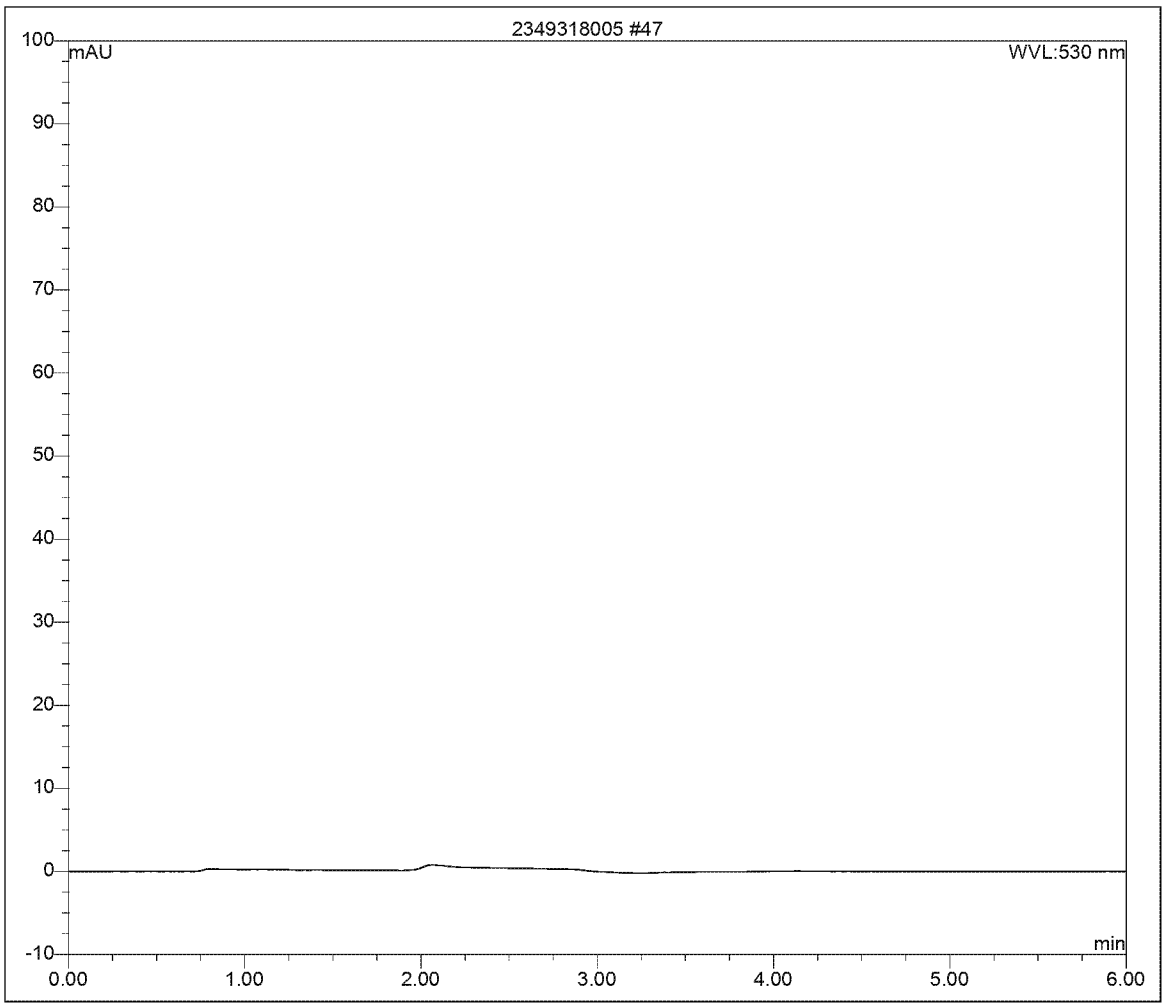
No.	Time min	Peak Name	Area mAU*min	Height mAU	Amount
n.a.	n.a.	Cr6	n.a.	n.a.	n.a.
		TOTAL:	0.00	0.00	0.00



Peak Integration Report

Sample Name:	**2349318005**	*Dilution:*	**1**
Sample Type:	**SAMPLE**	*Analyst:*	**MBW**
Program:	**cr+6**	*Queue:*	**WETC**
Inj. Date/Time:	**11/17/18 09:55**	*Batch:*	**213383**
Instrument:	**IC-4**	*Comment:*	
Sequence1:	**111718**	*InitialCal:*	**111718**
Sequence2:		*Method:*	**218_7_111718**

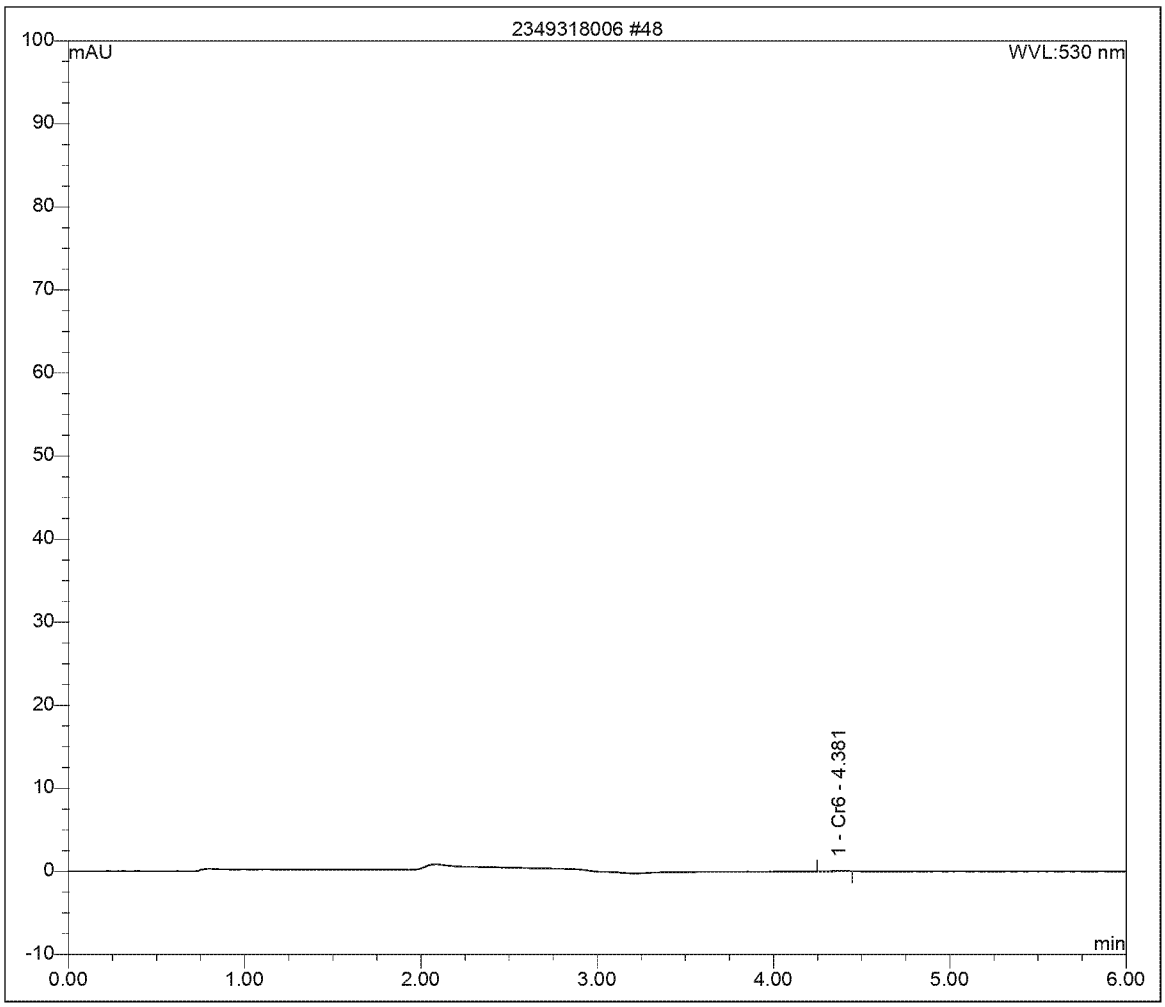
No.	Time min	Peak Name	Area mAU*min	Height mAU	Amount
n.a.	n.a.	Cr6	n.a.	n.a.	n.a.
		TOTAL:	0.00	0.00	0.00



Peak Integration Report

Sample Name:	**2349318006**	*Dilution:*	**1**
Sample Type:	**SAMPLE**	*Analyst:*	**MBW**
Program:	**cr+6**	*Queue:*	**WETC**
Inj. Date/Time:	**11/17/18 10:04**	*Batch:*	**213383**
Instrument:	**IC-4**	*Comment:*	
Sequence1:	**111718**	*InitialCal:*	**111718**
Sequence2:		*Method:*	**218_7_111718**

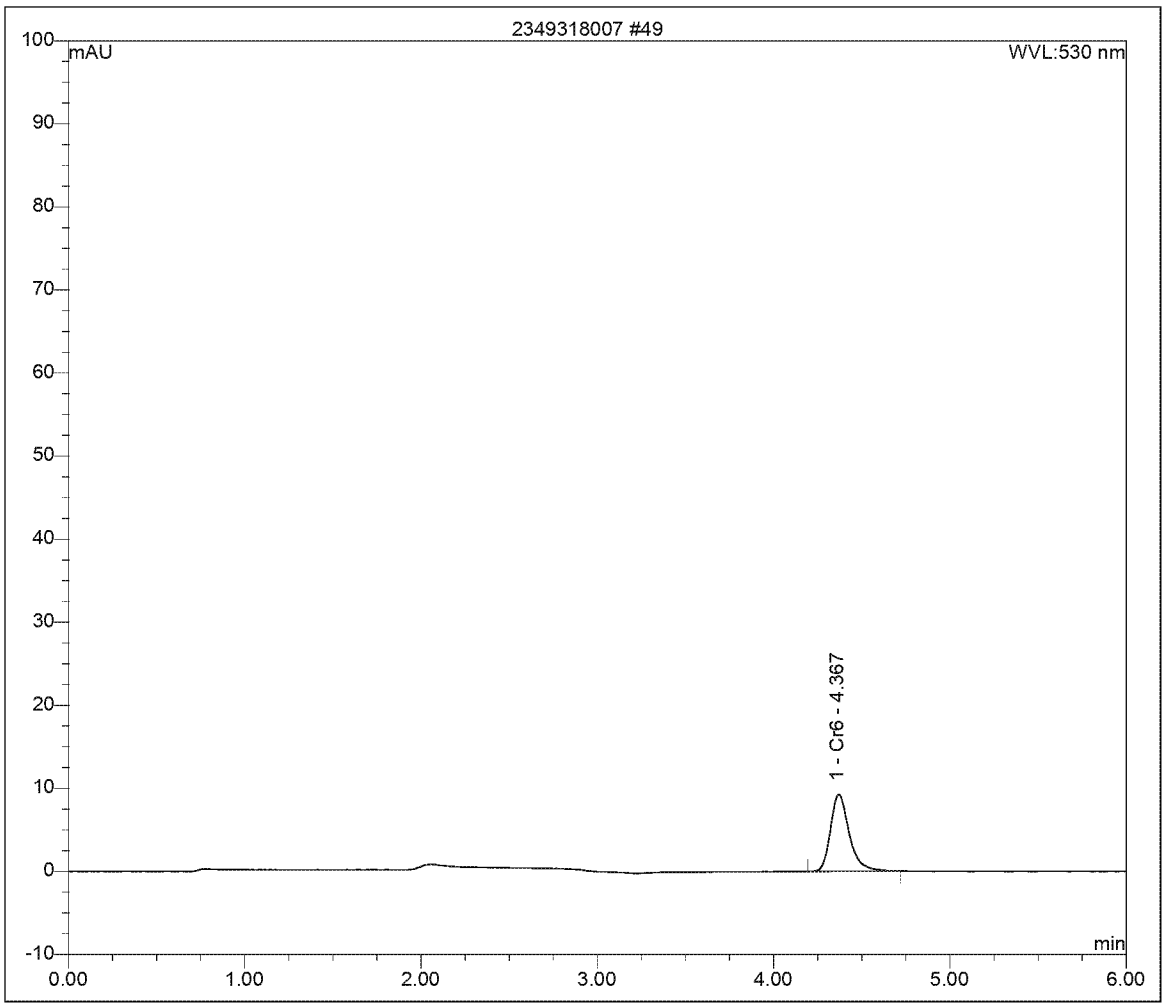
No.	Time min	Peak Name	Area mAU*min	Height mAU	Amount
1	4.38	Cr6	0.010	0.108	0.02
		TOTAL:	0.01	0.11	0.02



Peak Integration Report

Sample Name:	**2349318007**	*Dilution:*	**1**
Sample Type:	**SAMPLE**	*Analyst:*	**MBW**
Program:	**cr+6**	*Queue:*	**WETC**
Inj. Date/Time:	**11/17/18 10:13**	*Batch:*	**213383**
Instrument:	**IC-4**	*Comment:*	
Sequence1:	**111718**	*InitialCal:*	**111718**
Sequence2:		*Method:*	**218_7_111718**

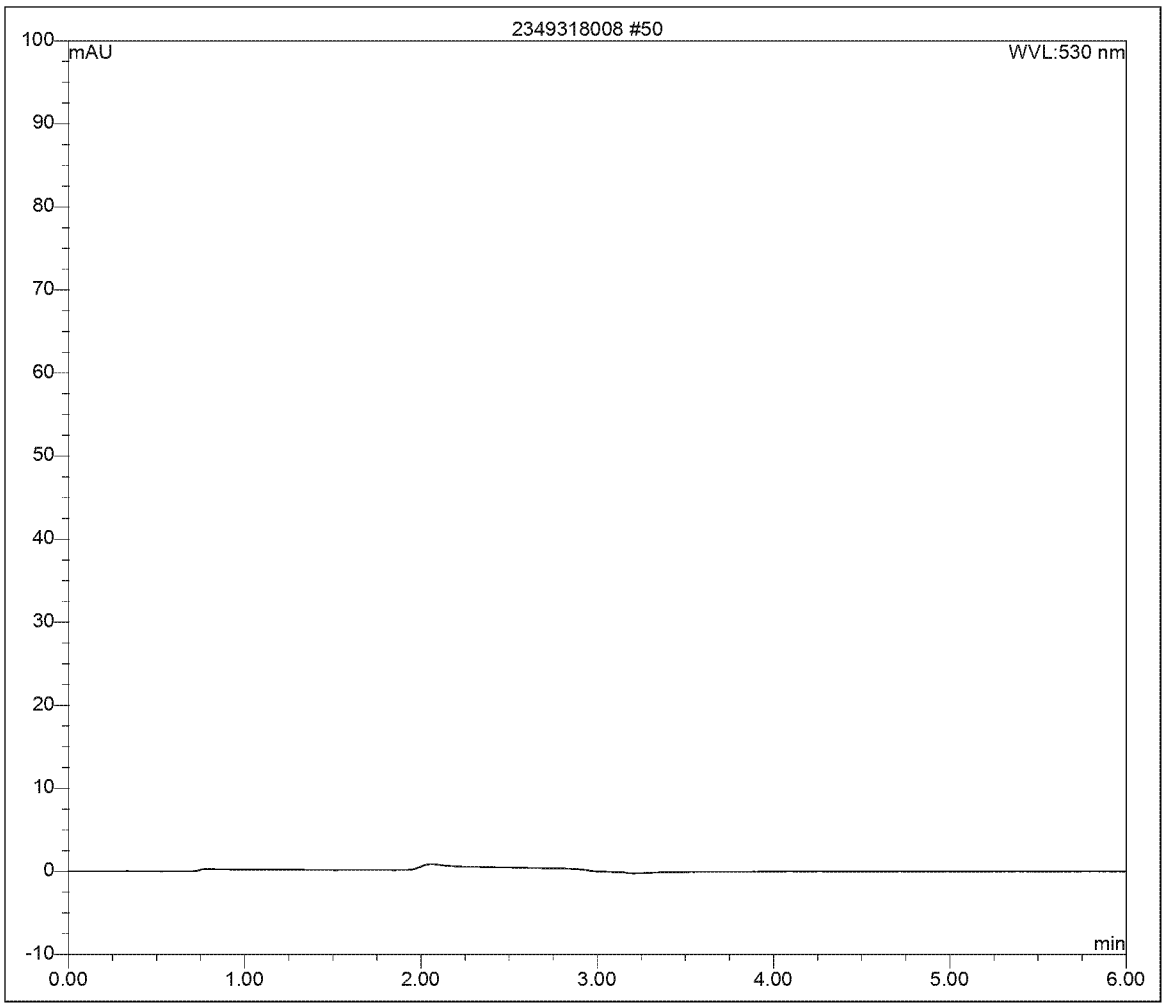
No.	Time min	Peak Name	Area mAU*min	Height mAU	Amount
1	4.37	Cr6	1.144	9.280	2.31
		TOTAL:	1.14	9.28	2.31



Peak Integration Report

Sample Name:	**2349318008**	*Dilution:*	**1**
Sample Type:	**SAMPLE**	*Analyst:*	**MBW**
Program:	**cr+6**	*Queue:*	**WETC**
Inj. Date/Time:	**11/17/18 10:22**	*Batch:*	**213383**
Instrument:	**IC-4**	*Comment:*	
Sequence1:	**111718**	*InitialCal:*	**111718**
Sequence2:		*Method:*	**218_7_111718**

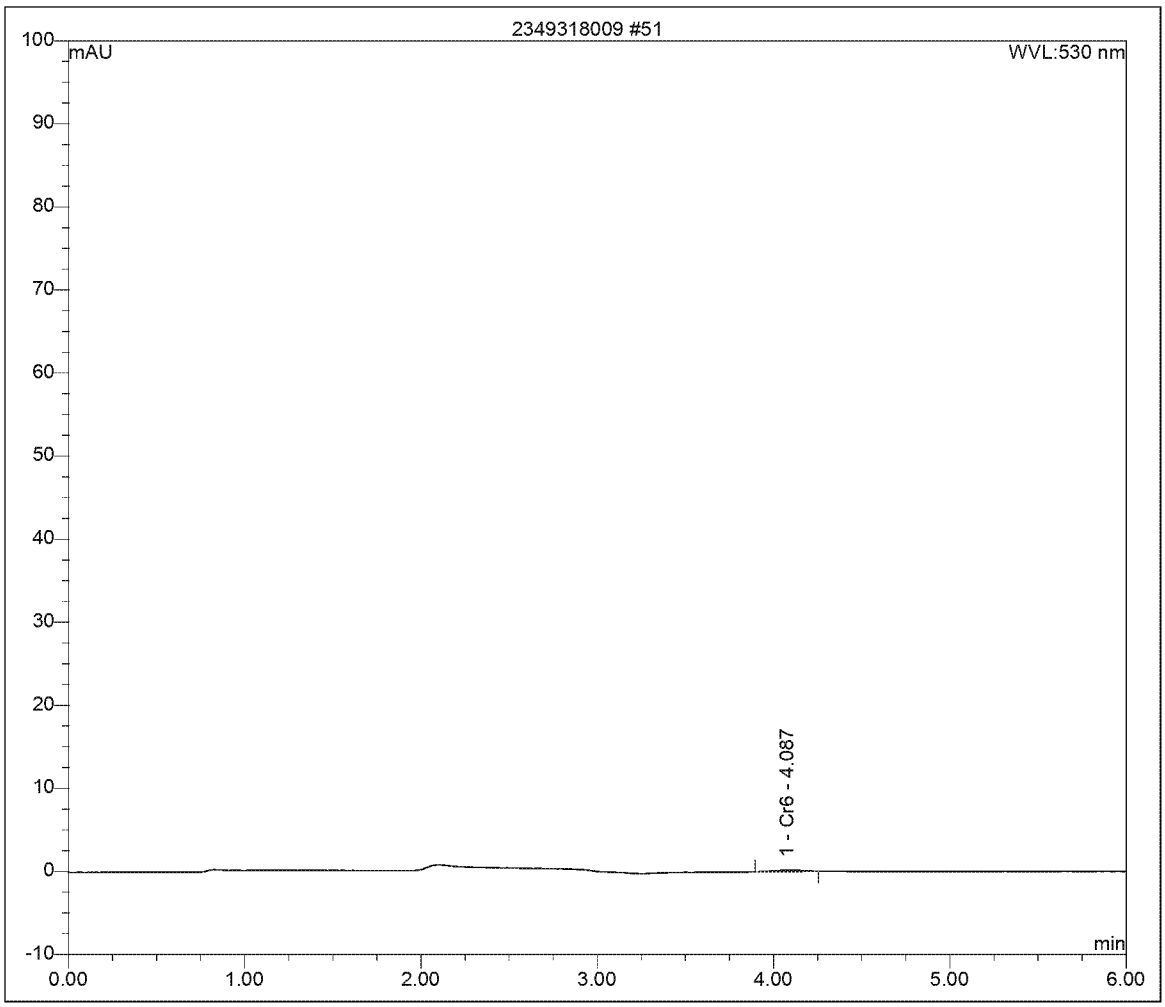
No.	Time min	Peak Name	Area mAU*min	Height mAU	Amount
n.a.	n.a.	Cr6	n.a.	n.a.	n.a.
		TOTAL:	0.00	0.00	0.00



Peak Integration Report

Sample Name:	**2349318009**	*Dilution:*	**1**
Sample Type:	**SAMPLE**	*Analyst:*	**MBW**
Program:	**cr+6**	*Queue:*	**WETC**
Inj. Date/Time:	**11/17/18 10:31**	*Batch:*	**213383**
Instrument:	**IC-4**	*Comment:*	
Sequence1:	**111718**	*InitialCal:*	**111718**
Sequence2:		*Method:*	**218_7_111718**

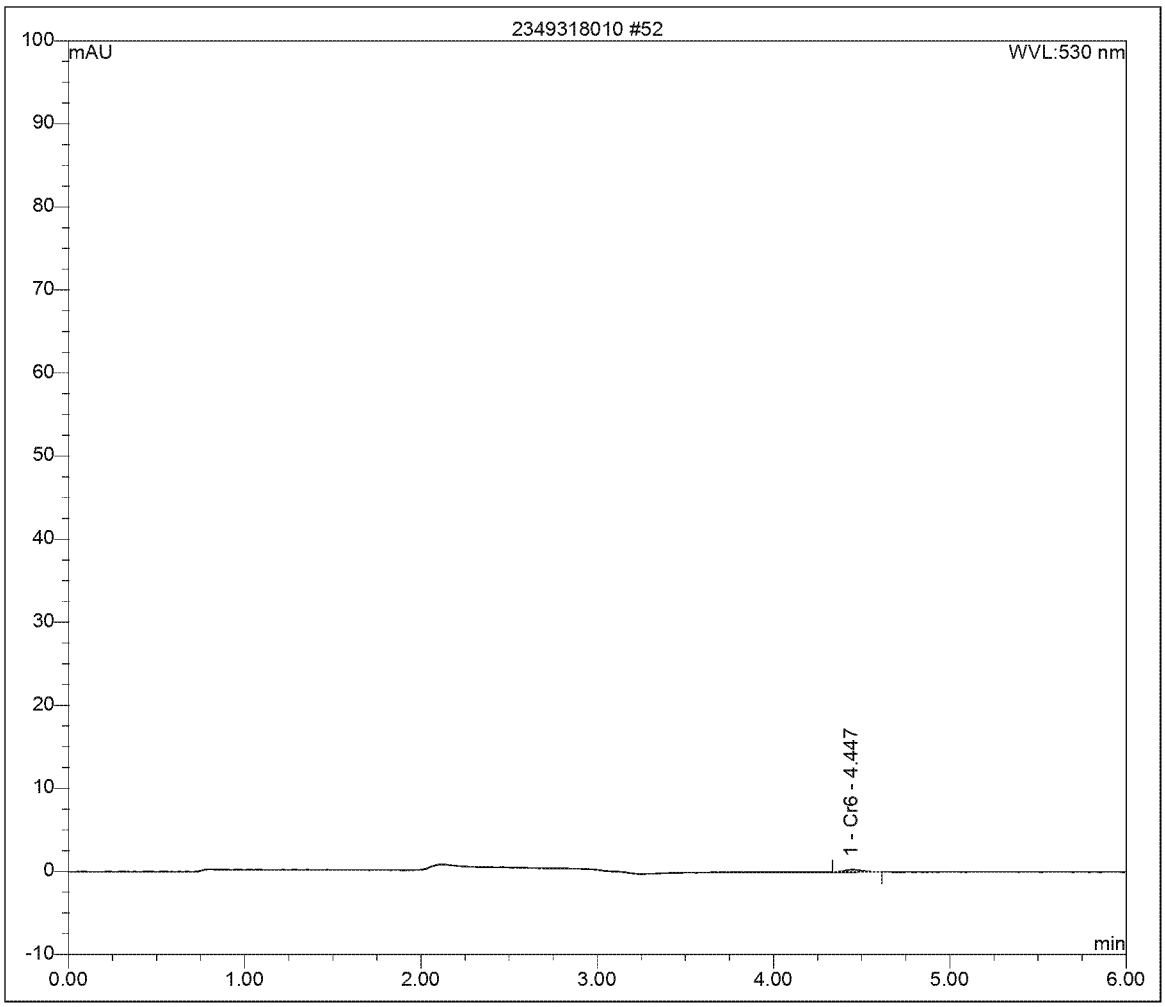
No.	Time min	Peak Name	Area mAU*min	Height mAU	Amount
1	4.09	Cr6	0.035	0.190	0.07
		TOTAL:	0.03	0.19	0.07



Peak Integration Report

Sample Name:	**2349318010**	*Dilution:*	**1**
Sample Type:	**SAMPLE**	*Analyst:*	**MBW**
Program:	**cr+6**	*Queue:*	**WETC**
Inj. Date/Time:	**11/17/18 10:39**	*Batch:*	**213383**
Instrument:	**IC-4**	*Comment:*	
Sequence1:	**111718**	*InitialCal:*	**111718**
Sequence2:		*Method:*	**218_7_111718**

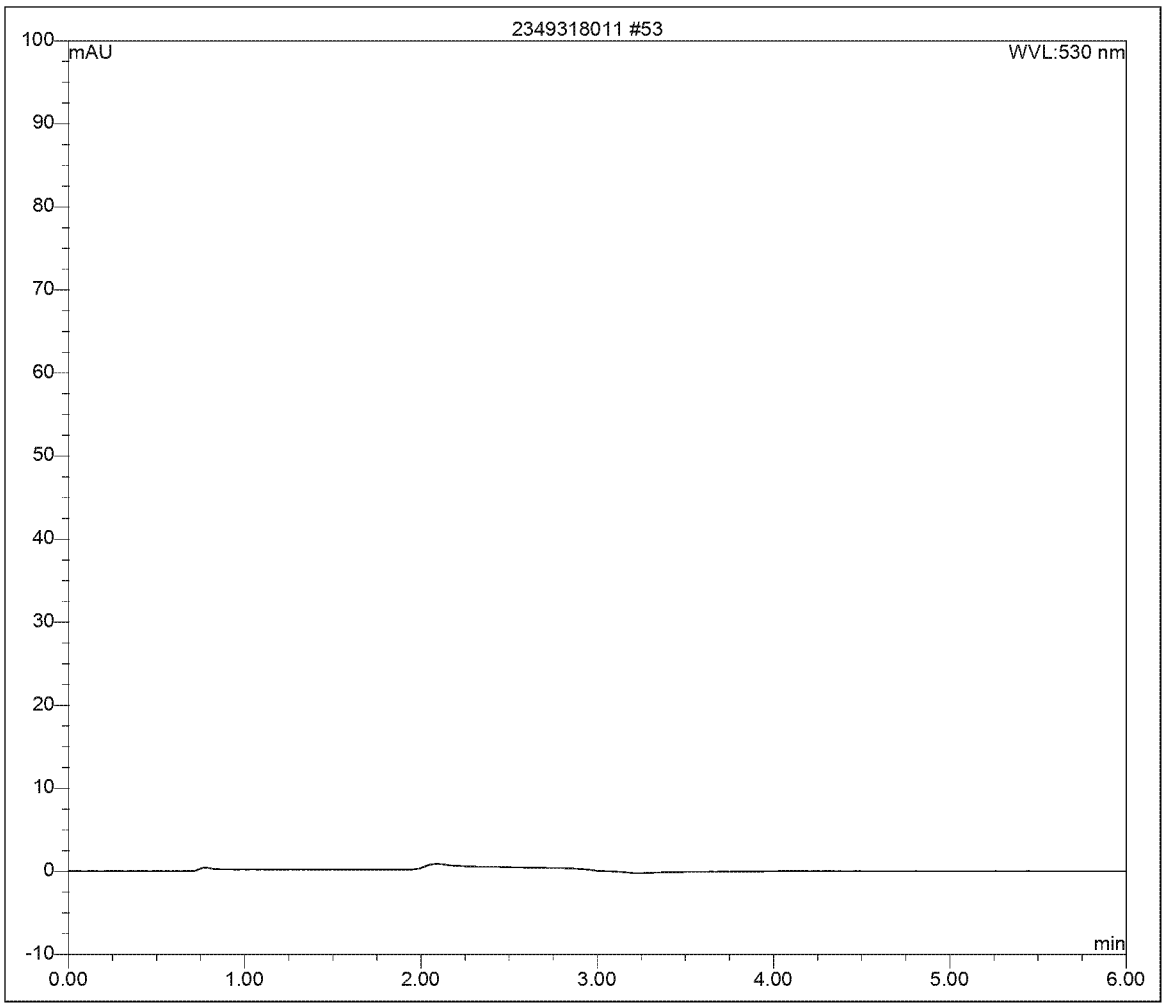
No.	Time min	Peak Name	Area mAU*min	Height mAU	Amount
1	4.45	Cr6	0.033	0.287	0.06
		TOTAL:	0.03	0.29	0.06



Peak Integration Report

Sample Name:	**2349318011**	*Dilution:*	**1**
Sample Type:	**SAMPLE**	*Analyst:*	**MBW**
Program:	**cr+6**	*Queue:*	**WETC**
Inj. Date/Time:	**11/17/18 10:48**	*Batch:*	**213383**
Instrument:	**IC-4**	*Comment:*	
Sequence1:	**111718**	*InitialCal:*	**111718**
Sequence2:		*Method:*	**218_7_111718**

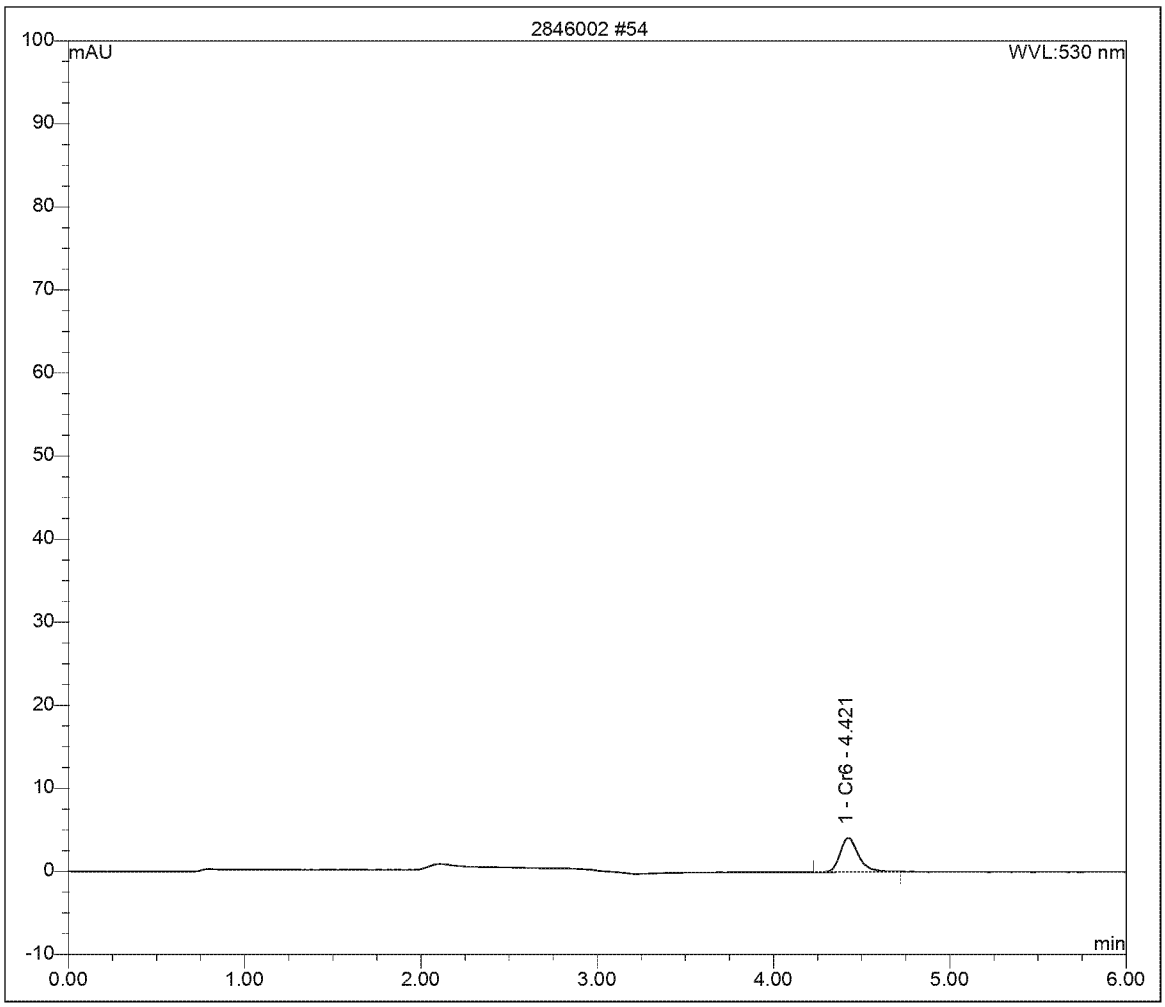
No.	Time min	Peak Name	Area mAU*min	Height mAU	Amount
n.a.	n.a.	Cr6	n.a.	n.a.	n.a.
		TOTAL:	0.00	0.00	0.00



Peak Integration Report

Sample Name:	**2846002**	*Dilution:*	**1**
Sample Type:	**CCVH**	*Analyst:*	**MBW**
Program:	**cr+6**	*Queue:*	**WETC**
Inj. Date/Time:	**11/17/18 10:57**	*Batch:*	**213383**
Instrument:	**IC-4**	*Comment:*	
Sequence1:	**111718**	*InitialCal:*	**111718**
Sequence2:		*Method:*	**218_7_111718**

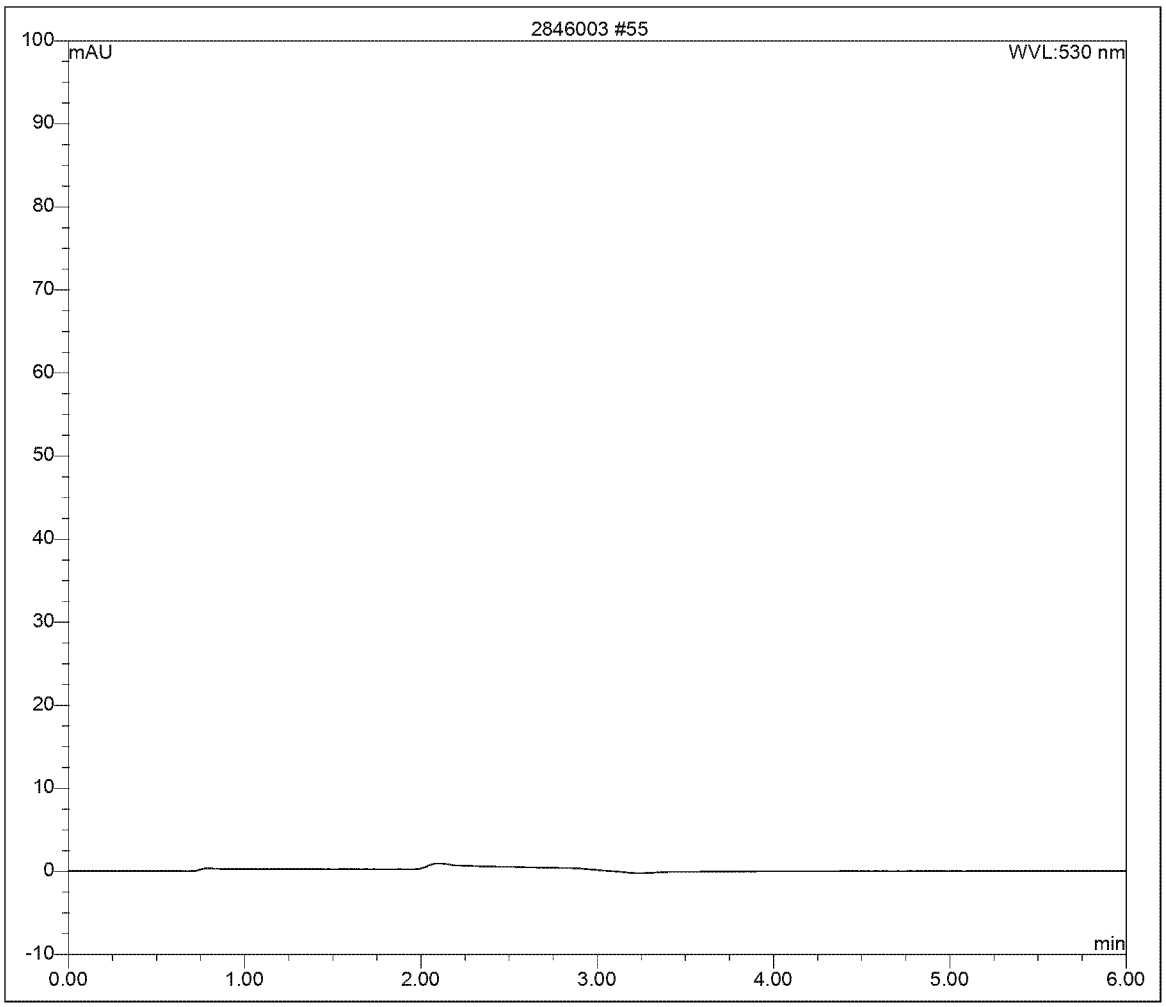
No.	Time min	Peak Name	Area mAU*min	Height mAU	Amount
1	4.42	Cr6	0.494	4.112	0.97
		TOTAL:	0.49	4.11	0.97



Peak Integration Report

Sample Name:	**2846003**	*Dilution:*	**1**
Sample Type:	**MB**	*Analyst:*	**MBW**
Program:	**cr+6**	*Queue:*	**WETC**
Inj. Date/Time:	**11/17/18 11:06**	*Batch:*	**213383**
Instrument:	**IC-4**	*Comment:*	
Sequence1:	**111718**	*InitialCal:*	**111718**
Sequence2:		*Method:*	**218_7_111718**

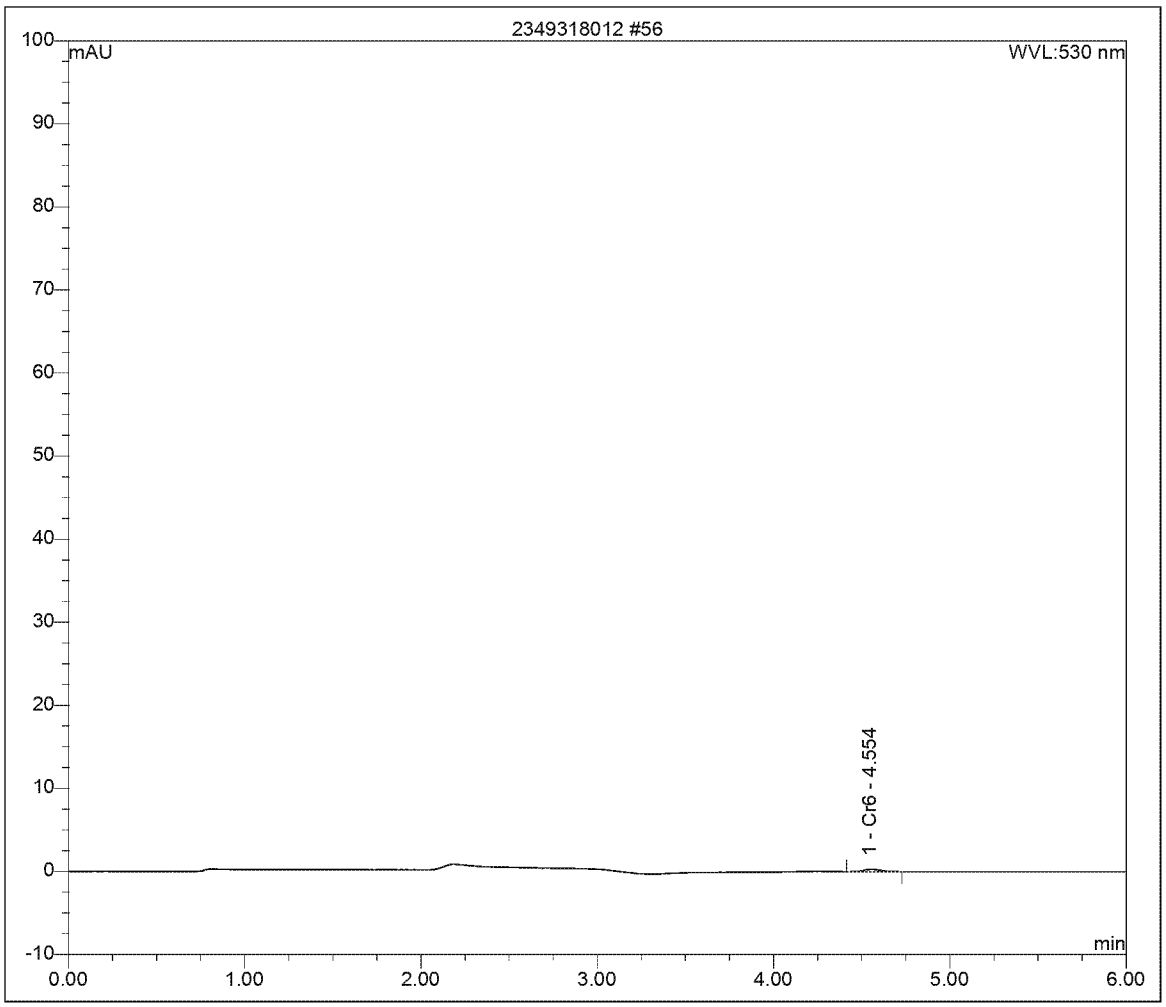
No.	Time min	Peak Name	Area mAU*min	Height mAU	Amount
n.a.	n.a.	Cr6	n.a.	n.a.	n.a.
		TOTAL:	0.00	0.00	0.00



Peak Integration Report

Sample Name:	**2349318012**	*Dilution:*	**1**
Sample Type:	**SAMPLE**	*Analyst:*	**MBW**
Program:	**cr+6**	*Queue:*	**WETC**
Inj. Date/Time:	**11/17/18 11:15**	*Batch:*	**213383**
Instrument:	**IC-4**	*Comment:*	
Sequence1:	**111718**	*InitialCal:*	**111718**
Sequence2:		*Method:*	**218_7_111718**

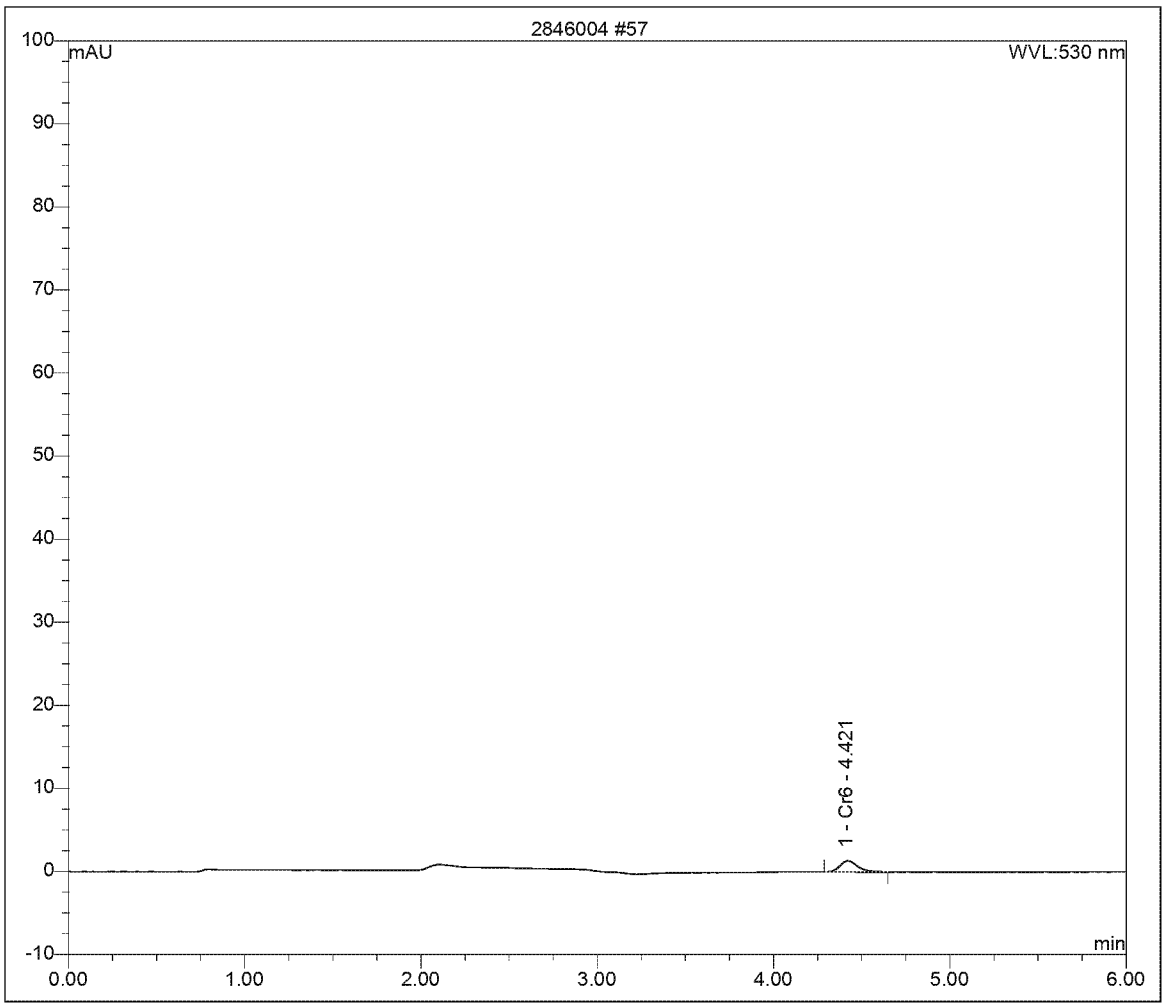
No.	Time min	Peak Name	Area mAU*min	Height mAU	Amount
1	4.55	Cr6	0.037	0.308	0.07
		TOTAL:	0.04	0.31	0.07



Peak Integration Report

Sample Name:	**2846004**	*Dilution:*	**1**
Sample Type:	**MS**	*Analyst:*	**MBW**
Program:	**cr+6**	*Queue:*	**WETC**
Inj. Date/Time:	**11/17/18 11:24**	*Batch:*	**213383**
Instrument:	**IC-4**	*Comment:*	
Sequence1:	**111718**	*InitialCal:*	**111718**
Sequence2:		*Method:*	**218_7_111718**

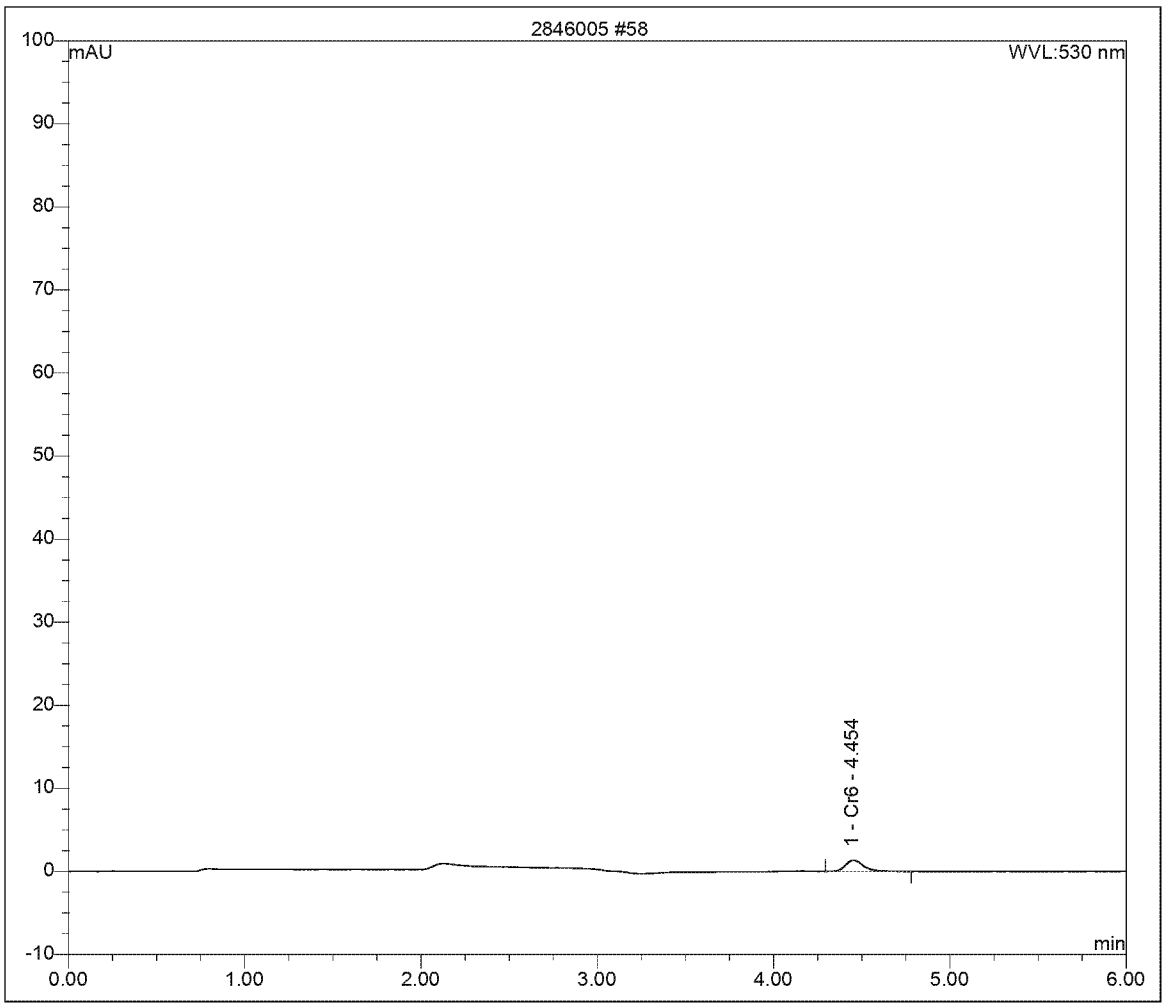
No.	Time min	Peak Name	Area mAU*min	Height mAU	Amount
1	4.42	Cr6	0.158	1.358	0.31
		TOTAL:	0.16	1.36	0.31



Peak Integration Report

Sample Name:	**2846005**	*Dilution:*	**1**
Sample Type:	**MSD**	*Analyst:*	**MBW**
Program:	**cr+6**	*Queue:*	**WETC**
Inj. Date/Time:	**11/17/18 11:33**	*Batch:*	**213383**
Instrument:	**IC-4**	*Comment:*	
Sequence1:	**111718**	*InitialCal:*	**111718**
Sequence2:		*Method:*	**218_7_111718**

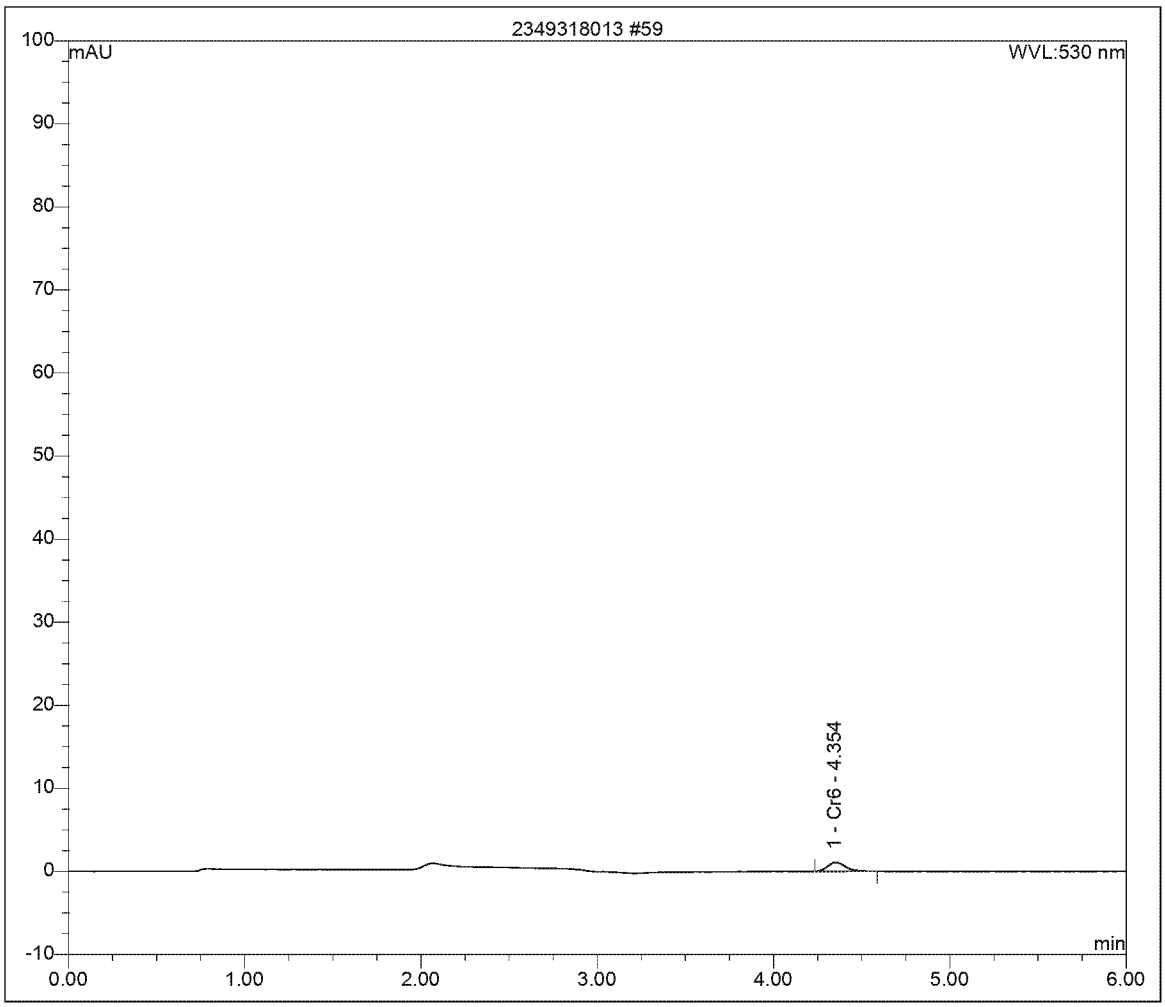
No.	Time min	Peak Name	Area mAU*min	Height mAU	Amount
1	4.45	Cr6	0.165	1.354	0.32
		TOTAL:	0.17	1.35	0.32



Peak Integration Report

Sample Name:	**2349318013**	*Dilution:*	**1**
Sample Type:	**SAMPLE**	*Analyst:*	**MBW**
Program:	**cr+6**	*Queue:*	**WETC**
Inj. Date/Time:	**11/17/18 11:42**	*Batch:*	**213383**
Instrument:	**IC-4**	*Comment:*	
Sequence1:	**111718**	*InitialCal:*	**111718**
Sequence2:		*Method:*	**218_7_111718**

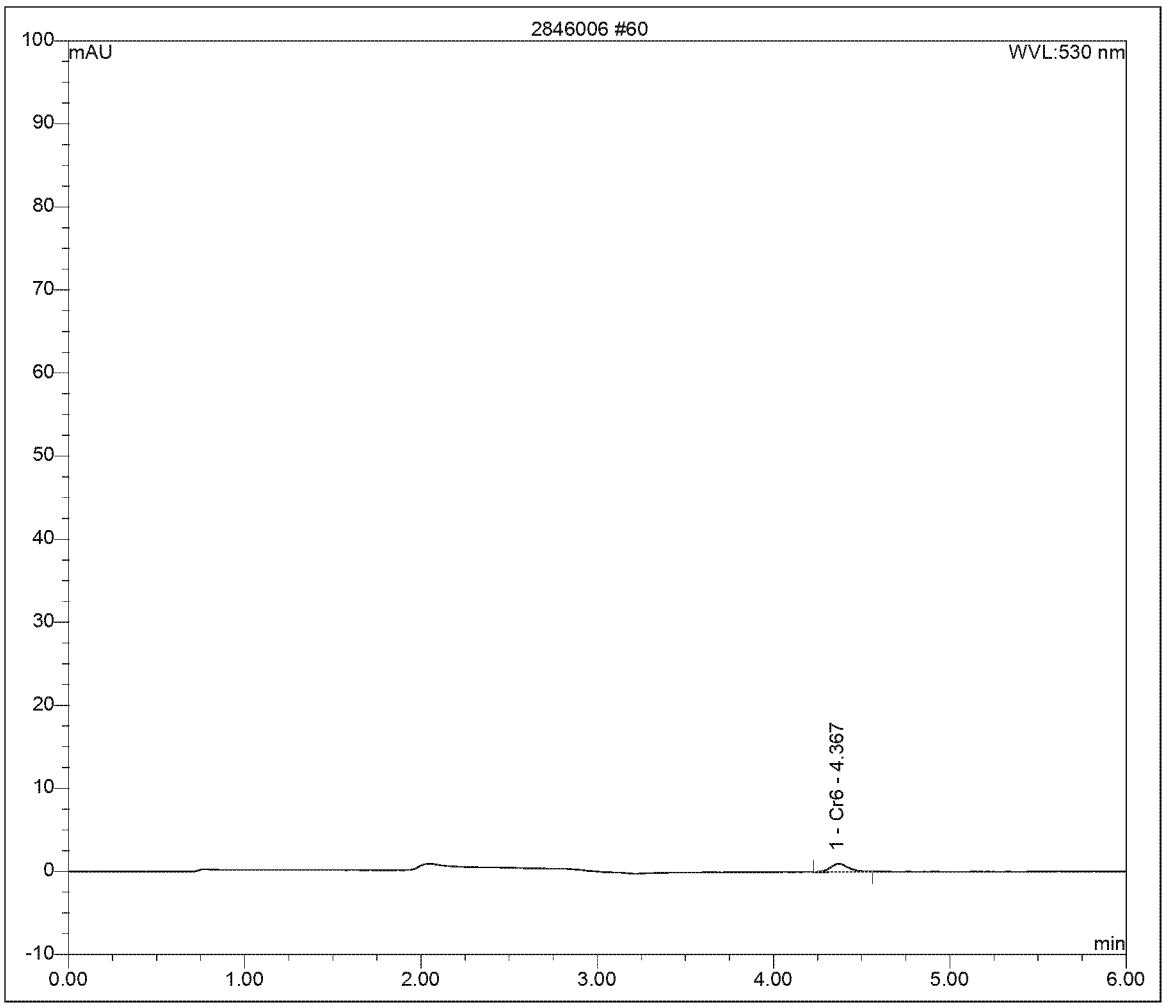
No.	Time min	Peak Name	Area mAU*min	Height mAU	Amount
1	4.35	Cr6	0.130	1.084	0.25
		TOTAL:	0.13	1.08	0.25



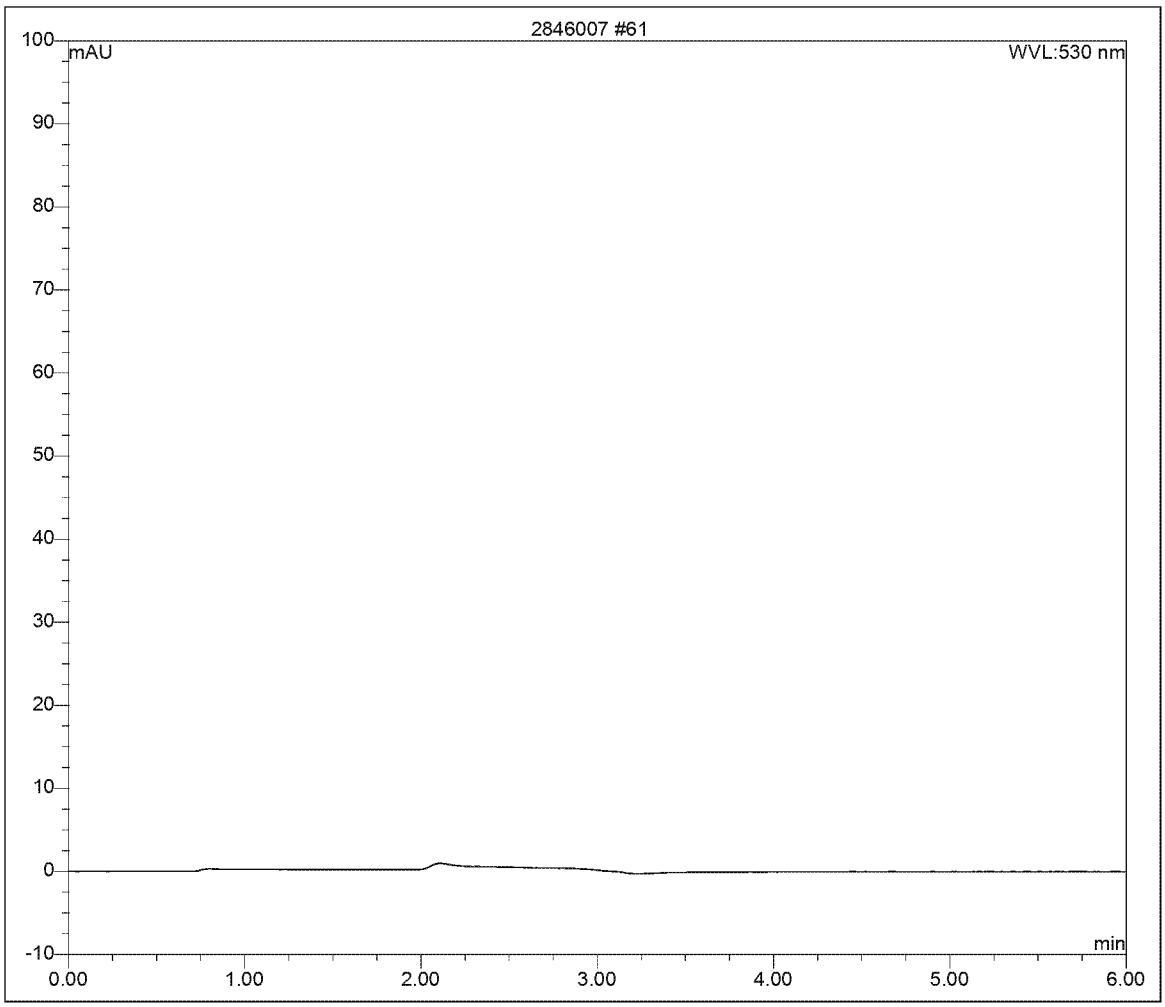
Peak Integration Report

Sample Name:	**2846006**	*Dilution:*	**1**
Sample Type:	**CCVL**	*Analyst:*	**MBW**
Program:	**cr+6**	*Queue:*	**WETC**
Inj. Date/Time:	**11/17/18 11:51**	*Batch:*	**213383**
Instrument:	**IC-4**	*Comment:*	
Sequence1:	**111718**	*InitialCal:*	**111718**
Sequence2:		*Method:*	**218_7_111718**

No.	Time min	Peak Name	Area mAU*min	Height mAU	Amount
1	4.37	Cr6	0.115	0.976	0.22
		TOTAL:	0.12	0.98	0.22



Peak Integration Report

Sample Name:	**2846007**	*Dilution:*	**1**
Sample Type:	**MB**	*Analyst:*	**MBW**
Program:	**cr+6**	*Queue:*	**WETC**
Inj. Date/Time:	**11/17/18 12:00**	*Batch:*	**213383**
Instrument:	**IC-4**	*Comment:*	
Sequence1:	**111718**	*InitialCal:*	**111718**
Sequence2:		*Method:*	**218_7_111718**

No.	Time min	Peak Name	Area mAU*min	Height mAU	Amount
n.a.	n.a.	Cr6	n.a.	n.a.	n.a.
		TOTAL:	0.00	0.00	0.00