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Cover Page

Order ID : P1747

Project ID : Walter Gladwin Recreation Center, Bronx, NY

Client : LiRo Engineers, Inc.

Lab Sample Number	Client Sample Number
P1747-01	MW-01
P1747-02	MW-01-DUP
P1747-03	MW-01
P1747-04	MW-02
P1747-05	TWP-04
P1747-06	TRIP-BLANK-1
P1747-07	MW-01
P1747-08	MW-01-DUP
P1747-09	MW-02
P1747-10	TWP-04

I certify that the 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. Release of the data contained in this hard copy data package has been authorized by the laboratory manager or his designee, as verified by the following signature.

Signature : _____ Date: 3/28/2024

NYDOH CERTIFICATION NO - 11376

NJDEP CERTIFICATION NO - 20012

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CASE NARRATIVE

LiRo Engineers, Inc.
Project Name: Walter Gladwin Recreation Center, Bronx, NY
Project # N/A
Chemtech Project # P1747
Test Name: SVOC-TCL BNA -20

A. Number of Samples and Date of Receipt:
10 Water samples were received on 03/13/2024.

B. Parameters
According to the Chain of Custody document, the following analyses were requested: Anions Group1, CBOD5, Chloride, Dissolved ICP-TAL Metals, Dissolved Mercury, DISSOLVED METALS-TAL, Flash Point, Hexavalent Chromium, Mercury, Metals ICP-TAL, METALS-NYCD, METALS-TAL, Non-Polar Material, NYCDischarge, PCB, Pesticide-TCL, Phenolics, SVOC-NYCD, SVOC-TCL BNA -20, TKN, Total Nitrogen, TS, TSS, VOC-NYCD and VOC-TCLVOA-10. This data package contains results for SVOC-TCL BNA -20.

C. Analytical Techniques:
The samples were analyzed on instrument BNA_G using GC Column ZB-SemiVolatiles Guardian which is 30 meters, 0.25 mm ID, 0.5 um df, Catalog # 7HG-G027-17-GGAThe analysis of SVOC-TCL BNA -20 was based on method 8270E and extraction was done based on method 3510.

D. QA/ QC Samples:
The Holding Times were met for all analysis.
The Surrogate recoveries met the acceptable criteria.
The Internal Standards Areas met the acceptable requirements.
The Retention Times were acceptable for all samples.
The RPD met criteria .
The Blank Spike met requirements for all samples .
The Blank Spike Duplicate met requirements for all samples .
The Blank analysis did not indicate the presence of lab contamination.

The % RSD is greater than 15% in the Initial Calibration method (Method 8270-BG031324.M) for 2-Nitrophenol , 2,4-Dinitrophenol, 4,6-Dinitro-2-methylphenol, these compounds are passing on Linear Regression.

The Continuous Calibration met the requirements .
The Tuning criteria met requirements.

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E. Additional Comments:

Please use %D calculated based on Avg RF and CCRF for all compounds using Average Response Factor when the %RSD value for a compound is <15% for the Initial Calibration curve and use %D calculated based on Amount added and Calculated amount for all compounds using Linear Regression when the %RSD value for a compound is > 15% for the Initial Calibration curve for SW-846 analysis.

F. Manual Integration Comments:

Please refer to the Manual integration Report included with the Run Logs for information on the manual integrations performed.

I certify that the 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. The laboratory manager or his designee, as verified by the following signature has authorized release of the data contained in this hard copy data package.

Signature_____

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DATA REPORTING QUALIFIERS- ORGANIC

For reporting results, the following " Results Qualifiers" are used:

Value	If the result is a value greater than or equal to the detection limit, report the value
U	Indicates the compound was analyzed for but was not detected. Report the minimum detection limit for the sample with the U, i.e. "10 U". This is not necessarily the instrument detection limit attainable for this particular sample based on any concentration or dilution that may have been required.
ND	Indicates the analyte was analyzed for, but not detected
J	Indicates an estimated value**.** This flag is used: (1) When estimating a concentration for a tentatively identified compound (library search hits, where a 1:1 response is assumed.) (2) When the mass spectral data indicated the identification, however the result was less than the specified detection limit greater than zero. If the detection limit was 10ug/L and a concentration of 3 ug/L was calculated report as 3 J. This is flag is used when similar situation arise on any organic parameter i.e. Pest, PCB and others.
B	Indicates the analyte was found in the blank as well as the sample report as "12 B".
E	Indicates the analyte 's concentration exceeds the calibrated range of the instrument for that specific analysis.
D	This flag identifies all compounds identified in an analysis at a secondary dilution factor.
P	This flag is used for Pesticide/PCB target analyte when there is >25% difference for detected concentrations between the two GC columns. The lower of the two values is reported on Form 1 and flagged with a "P".
N	This flag indicates presumptive evidence of a compound. This is only used for tentatively identified compounds (TICs), where the identification is based on a mass spectral library search. It applies to all TIC results. For generic characterization of a TIC, such as chlorinated hydrocarbon, the flag is not used.
A	This flag indicates that a Tentatively Identified Compound is a suspected aldol-condensation product.
Q	Indicates the LCS did not meet the control limits requirements

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APPENDIX A

QA REVIEW GENERAL DOCUMENTATION

Project #: **P1747**

	Completed
For thorough review, the report must have the following:	
GENERAL:	
Are all original paperwork present (chain of custody, record of communication,airbill, sample management lab chronicle, login page)	✓
Check chain-of-custody for proper relinquish/return of samples	✓
Is the chain of custody signed and complete	✓
Check internal chain-of-custody for proper relinquish/return of samples /sample extracts	✓
Collect information for each project id from server. Were all requirements followed	✓
COVER PAGE:	
Do numbers of samples correspond to the number of samples in the Chain of Custody on login page	✓
Do lab numbers and client Ids on cover page agree with the Chain of Custody	✓
CHAIN OF CUSTODY:	
Do requested analyses on Chain of Custody agree with form I results	✓
Do requested analyses on Chain of Custody agree with the log-in page	✓
Were the correct method log-in for analysis according to the Analytical Request and Chain of Castody	✓
Were the samples received within hold time	✓
Were any problems found with the samples at arrival recorded in the Sample Management Laboratory Chronicle	✓
ANALYTICAL:	
Was method requirement followed?	✓
Was client requirement followed?	✓
Does the case narrative summarize all QC failure?	✓
All runlogs and manual integration are reviewed for requirements	✓
All manual calculations and /or hand notations verified	✓

1st Level QA Review Signature: **PRIYANKA DAVE** **Date:** **03/28/2024**

2nd Level QA Review Signature: _____ **Date:** _____

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Phone: (908) 789 8900 Fax: (908) 789 8922

LAB CHRONICLE

OrderID:	P1747	**OrderDate:**	3/13/2024 12:28:00 PM
Client:	LiRo Engineers, Inc.	**Project:**	Walter Gladwin Recreation Center, Bronx, NY
Contact:	Steve Frank	**Location:**	I21,I31,VOA Ref. #3 Water

LabID	ClientID	Matrix	Test	Method	Sample Date	Prep Date	Anal Date	Received
P1747-01	**MW-01**	**Water**			**03/12/24**			**03/13/24**
			SVOC-TCL BNA -20	8270E		03/14/24	03/14/24	
P1747-02	**MW-01-DUP**	**Water**			**03/12/24**			**03/13/24**
			SVOC-TCL BNA -20	8270E		03/14/24	03/14/24	
P1747-03	**MW-01**	**Water**			**03/13/24**			**03/13/24**
			SVOC-NYCD	625.1		03/14/24	03/15/24	
P1747-03RE	**MW-01RE**	**Water**			**03/13/24**			**03/13/24**
			SVOC-NYCD	625.1		03/14/24	03/18/24	
P1747-04	**MW-02**	**Water**			**03/12/24**			**03/13/24**
			SVOC-TCL BNA -20	8270E		03/14/24	03/14/24	
P1747-05	**TWP-04**	**Water**			**03/12/24**			**03/13/24**
			SVOC-TCL BNA -20	8270E		03/14/24	03/14/24	

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Hit Summary Sheet
SW-846

SDG No.: P1747

Client: LiRo Engineers, Inc.

Sample ID	Client ID		Parameter		Concentration	C	MDL	RDL	Units
Client ID : MW-01									
P1747-01	MW-01	WATER	1-Heptacosanol	*	2.500	J	0	0	ug/L
P1747-01	MW-01	WATER	2-(Methylmercapto)benzothiazole	*	13.900	J	0	0	ug/L
P1747-01	MW-01	WATER	3,5-Dichloro-6-cyanopyridin-2-yl	*	4.900	J	0	0	ug/L
P1747-01	MW-01	WATER	Diethyltoluamide	*	9.000	J	0	0	ug/L
P1747-01	MW-01	WATER	N-Cyclohexyl-N-methylurea, N-m	*	3.500	J	0	0	ug/L
P1747-01	MW-01	WATER	n-Hexadecanoic acid	*	2.200	J	0	0	ug/L
P1747-01	MW-01	WATER	unknown17.582	*	2.800	J	0	0	ug/L
			Total Tics :				**38.80**		
			Total Concentration:				**38.80**		
Client ID : MW-01-DUP									
P1747-02	MW-01-DUP	WATER	2-(Methylmercapto)benzothiazole	*	14.400	J	0	0	ug/L
P1747-02	MW-01-DUP	WATER	Benzamide, 3-methyl-N-methyl-N	*	9.300	J	0	0	ug/L
P1747-02	MW-01-DUP	WATER	N-Cyclohexyl-N-methylurea, N-m	*	3.400	J	0	0	ug/L
P1747-02	MW-01-DUP	WATER	n-Hexadecanoic acid	*	2.200	J	0	0	ug/L
P1747-02	MW-01-DUP	WATER	Pentadecafluorooctanoic acid, octa	*	2.100	J	0	0	ug/L
P1747-02	MW-01-DUP	WATER	unknown12.413	*	5.100	J	0	0	ug/L
P1747-02	MW-01-DUP	WATER	unknown17.853	*	3.000	J	0	0	ug/L
			Total Tics :				**39.50**		
			Total Concentration:				**39.50**		
Client ID : MW-02									
P1747-04	MW-02	WATER	n-Hexadecanoic acid	*	2.500	J	0	0	ug/L
			Total Tics :				**2.50**		
			Total Concentration:				**2.50**		
Client ID : TWP-04									
P1747-05	TWP-04	WATER	unknown16.374	*	2.200	J	0	0	ug/L
			Total Tics :				**2.20**		
			Total Concentration:				**2.20**		

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QC SUMMARY

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Surrogate Summary

SW-846

SDG No.: P1747

Client: LiRo Engineers, Inc.

Analytical Method: 8270E

Lab Sample ID	Client ID	Parameter	Spike (PPM)	Result (PPM)	Recovery (%)	Qual	Limits (%) Low	High
P1747-01	MW-01	2-Fluorophenol	150	63.7	42		10	139
		Phenol-d6	150	38.1	25		10	134
		Nitrobenzene-d5	100	93.5	93		49	133
		2-Fluorobiphenyl	100	90.6	91		52	132
		2,4,6-Tribromophenol	150	149	99		32	145
		Terphenyl-d14	100	92.3	92		36	145
P1747-02	MW-01-DUP	2-Fluorophenol	150	60.5	40		10	139
		Phenol-d6	150	35.7	24		10	134
		Nitrobenzene-d5	100	92.7	93		49	133
		2-Fluorobiphenyl	100	90.1	90		52	132
		2,4,6-Tribromophenol	150	137	92		32	145
		Terphenyl-d14	100	86.1	86		36	145
P1747-04	MW-02	2-Fluorophenol	150	49.2	33		10	139
		Phenol-d6	150	28.4	19		10	134
		Nitrobenzene-d5	100	90.1	90		49	133
		2-Fluorobiphenyl	100	85.2	85		52	132
		2,4,6-Tribromophenol	150	103	69		32	145
		Terphenyl-d14	100	90.3	90		36	145
P1747-05	MW-04	2-Fluorophenol	150	60.7	40		10	139
		Phenol-d6	150	35.4	24		10	134
		Nitrobenzene-d5	100	94.5	94		49	133
		2-Fluorobiphenyl	100	89.7	90		52	132
		2,4,6-Tribromophenol	150	126	84		32	145
		Terphenyl-d14	100	88.3	88		36	145
PB159586BL	PB159586BL	2-Fluorophenol	150	147	98		10	139
		Phenol-d6	150	138	92		10	134
		Nitrobenzene-d5	100	86.8	87		49	133
		2-Fluorobiphenyl	100	84.9	85		52	132
		2,4,6-Tribromophenol	150	135	90		32	145
		Terphenyl-d14	100	86.7	87		36	145
PB159586BS	PB159586BS	2-Fluorophenol	150	148	99		10	139
		Phenol-d6	150	139	93		10	134
		Nitrobenzene-d5	100	85.3	85		49	133
		2-Fluorobiphenyl	100	86.9	87		52	132
		2,4,6-Tribromophenol	150	141	94		32	145
		Terphenyl-d14	100	82.6	83		36	145
PB159586BSD	PB159586BSD	2-Fluorophenol	150	144	96		10	139
		Phenol-d6	150	136	91		10	134
		Nitrobenzene-d5	100	84.3	84		49	133
		2-Fluorobiphenyl	100	84.1	84		52	132
		2,4,6-Tribromophenol	150	139	92		32	145
		Terphenyl-d14	100	82.2	82		36	145

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Laboratory Control Sample/Laboratory Control Sample Duplicate Summary
SW-846

SDG No.: P1747

Client: LiRo Engineers, Inc.

Analytical Method: 8270E **DataFile:** BG060651.D

Lab Sample ID	Parameter	Spike	Result	Unit	Rec	RPD	Qual	RPD Qual	Limits Low	Limits High	RPD
PB159586BS	Benzaldehyde	50	47.7	ug/L	95				15	121	
	Phenol	50	50.3	ug/L	101				66	118	
	bis(2-Chloroethyl)ether	50	45.0	ug/L	90				62	103	
	2-Chlorophenol	50	51.2	ug/L	102				70	117	
	2-Methylphenol	50	45.2	ug/L	90				69	109	
	2,2-oxybis(1-Chloropropane)	50	44.0	ug/L	88				52	103	
	Acetophenone	50	43.9	ug/L	88				60	104	
	3+4-Methylphenols	50	45.6	ug/L	91				67	106	
	N-Nitroso-di-n-propylamine	50	44.6	ug/L	89				57	107	
	Hexachloroethane	50	46.0	ug/L	92				76	118	
	Nitrobenzene	50	44.6	ug/L	89				58	106	
	Isophorone	50	44.7	ug/L	89				61	102	
	2-Nitrophenol	50	46.1	ug/L	92				70	115	
	2,4-Dimethylphenol	50	39.7	ug/L	79				67	130	
	bis(2-Chloroethoxy)methane	50	44.8	ug/L	90				58	109	
	2,4-Dichlorophenol	50	49.4	ug/L	99				66	115	
	Naphthalene	50	43.6	ug/L	87				64	107	
	4-Chloroaniline	50	14.9	ug/L	30				10	85	
	Hexachlorobutadiene	50	43.3	ug/L	87				69	101	
	Caprolactam	50	46.6	ug/L	93				58	128	
	4-Chloro-3-methylphenol	50	47.0	ug/L	94				65	114	
	2-Methylnaphthalene	50	42.7	ug/L	85				64	107	
	Hexachlorocyclopentadiene	100	100	ug/L	100				36	160	
	2,4,6-Trichlorophenol	50	49.7	ug/L	99				61	110	
	2,4,5-Trichlorophenol	50	44.4	ug/L	89				70	106	
	1,1-Biphenyl	50	46.2	ug/L	92				72	98	
	2-Chloronaphthalene	50	47.6	ug/L	95				59	106	
	2-Nitroaniline	50	49.3	ug/L	99				58	107	
	Dimethylphthalate	50	45.9	ug/L	92				64	103	
	Acenaphthylene	50	48.4	ug/L	97				65	108	
	2,6-Dinitrotoluene	50	50.2	ug/L	100				64	110	
	3-Nitroaniline	50	30.7	ug/L	61				28	100	
	Acenaphthene	50	44.6	ug/L	89				59	113	
	2,4-Dinitrophenol	100	98.9	ug/L	99				64	132	
	4-Nitrophenol	100	100	ug/L	100				68	116	
	Dibenzofuran	50	44.8	ug/L	90				65	106	
	2,4-Dinitrotoluene	50	53.1	ug/L	106				60	115	
	Diethylphthalate	50	45.5	ug/L	91				63	105	
	4-Chlorophenyl-phenylether	50	44.3	ug/L	89				61	104	
	Fluorene	50	45.5	ug/L	91				64	107	
	4-Nitroaniline	50	46.7	ug/L	93				69	112	
	4,6-Dinitro-2-methylphenol	50	47.2	ug/L	94				62	132	
	N-Nitrosodiphenylamine	50	43.9	ug/L	88				61	109	
	4-Bromophenyl-phenylether	50	44.6	ug/L	89				73	103	
	Hexachlorobenzene	50	46.8	ug/L	94				73	106	
	Atrazine	50	40.6	ug/L	81				76	120	

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Laboratory Control Sample/Laboratory Control Sample Duplicate Summary
SW-846

SDG No.: P1747

Client: LiRo Engineers, Inc.

Analytical Method: 8270E **DataFile:** BG060651.D

Lab Sample ID	Parameter	Spike	Result	Unit	Rec	RPD	Qual	RPD Qual	Limits Low	Limits High	RPD
PB159586BS	Pentachlorophenol	100	91.1	ug/L	91				47	114	
	Phenanthrene	50	43.6	ug/L	87				62	109	
	Anthracene	50	43.9	ug/L	88				65	110	
	Carbazole	50	45.1	ug/L	90				62	106	
	Di-n-butylphthalate	50	45.4	ug/L	91				64	106	
	Fluoranthene	50	43.8	ug/L	88				64	110	
	Pyrene	50	44.3	ug/L	89				71	103	
	Butylbenzylphthalate	50	48.1	ug/L	96				61	105	
	3,3-Dichlorobenzidine	50	33.8	ug/L	68				43	108	
	Benzo(a)anthracene	50	45.4	ug/L	91				62	107	
	Chrysene	50	43.9	ug/L	88				61	108	
	bis(2-Ethylhexyl)phthalate	50	47.7	ug/L	95				59	110	
	Di-n-octyl phthalate	50	49.2	ug/L	98				67	126	
	Benzo(b)fluoranthene	50	51.2	ug/L	102				77	113	
	Benzo(k)fluoranthene	50	48.5	ug/L	97				64	113	
	Benzo(a)pyrene	50	47.2	ug/L	94				72	131	
	Indeno(1,2,3-cd)pyrene	50	50.7	ug/L	101				72	105	
	Dibenz(a,h)anthracene	50	49.4	ug/L	99				78	115	
	Benzo(g,h,i)perylene	50	48.0	ug/L	96				75	118	
	1,2,4,5-Tetrachlorobenzene	50	46.3	ug/L	93				72	101	
	1,4-Dioxane	50	33.6	ug/L	67				38	125	
	2,3,4,6-Tetrachlorophenol	50	48.5	ug/L	97				63	116	

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Laboratory Control Sample/Laboratory Control Sample Duplicate Summary
SW-846

SDG No.: P1747

Client: LiRo Engineers, Inc.

Analytical Method: 8270E **DataFile:** BG060652.D

Lab Sample ID	Parameter	Spike	Result	Unit	Rec	RPD	Qual	RPD Qual	Limits Low	Limits High	RPD
PB159586BSD	Benzaldehyde	50	47.5	ug/L	95	0			15	121	20
	Phenol	50	49.9	ug/L	100	1			66	118	20
	bis(2-Chloroethyl)ether	50	43.0	ug/L	86	5			62	103	20
	2-Chlorophenol	50	50.6	ug/L	101	1			70	117	20
	2-Methylphenol	50	45.1	ug/L	90	0			69	109	20
	2,2-oxybis(1-Chloropropane)	50	42.8	ug/L	86	3			52	103	20
	Acetophenone	50	42.9	ug/L	86	2			60	104	20
	3+4-Methylphenols	50	45.3	ug/L	91	1			67	106	20
	N-Nitroso-di-n-propylamine	50	43.2	ug/L	86	3			57	107	20
	Hexachloroethane	50	45.3	ug/L	91	2			76	118	20
	Nitrobenzene	50	43.5	ug/L	87	2			58	106	20
	Isophorone	50	43.4	ug/L	87	3			61	102	20
	2-Nitrophenol	50	46.8	ug/L	94	2			70	115	20
	2,4-Dimethylphenol	50	39.0	ug/L	78	2			67	130	20
	bis(2-Chloroethoxy)methane	50	43.4	ug/L	87	3			58	109	20
	2,4-Dichlorophenol	50	48.1	ug/L	96	3			66	115	20
	Naphthalene	50	42.4	ug/L	85	3			64	107	20
	4-Chloroaniline	50	14.6	ug/L	29	2			10	85	20
	Hexachlorobutadiene	50	42.7	ug/L	85	1			69	101	20
	Caprolactam	50	46.1	ug/L	92	1			58	128	20
	4-Chloro-3-methylphenol	50	46.1	ug/L	92	2			65	114	20
	2-Methylnaphthalene	50	41.1	ug/L	82	4			64	107	20
	Hexachlorocyclopentadiene	100	100	ug/L	100	0			36	160	20
	2,4,6-Trichlorophenol	50	48.9	ug/L	98	2			61	110	20
	2,4,5-Trichlorophenol	50	43.8	ug/L	88	1			70	106	20
	1,1-Biphenyl	50	45.0	ug/L	90	3			72	98	20
	2-Chloronaphthalene	50	46.0	ug/L	92	3			59	106	20
	2-Nitroaniline	50	48.9	ug/L	98	1			58	107	20
	Dimethylphthalate	50	44.6	ug/L	89	3			64	103	20
	Acenaphthylene	50	47.2	ug/L	94	3			65	108	20
	2,6-Dinitrotoluene	50	49.8	ug/L	100	1			64	110	20
	3-Nitroaniline	50	28.9	ug/L	58	6			28	100	20
	Acenaphthene	50	44.2	ug/L	88	1			59	113	20
	2,4-Dinitrophenol	100	99.5	ug/L	100	1			64	132	20
	4-Nitrophenol	100	100	ug/L	100	0			68	116	20
	Dibenzofuran	50	44.3	ug/L	89	1			65	106	20
	2,4-Dinitrotoluene	50	51.9	ug/L	104	2			60	115	20
	Diethylphthalate	50	44.6	ug/L	89	2			63	105	20
	4-Chlorophenyl-phenylether	50	44.0	ug/L	88	1			61	104	20
	Fluorene	50	44.9	ug/L	90	1			64	107	20
	4-Nitroaniline	50	46.1	ug/L	92	1			69	112	20
	4,6-Dinitro-2-methylphenol	50	47.1	ug/L	94	0			62	132	20
	N-Nitrosodiphenylamine	50	43.1	ug/L	86	2			61	109	20
	4-Bromophenyl-phenylether	50	42.7	ug/L	85	4			73	103	20
	Hexachlorobenzene	50	45.1	ug/L	90	4			73	106	20
	Atrazine	50	40.4	ug/L	81	0			76	120	20

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Laboratory Control Sample/Laboratory Control Sample Duplicate Summary
SW-846

SDG No.: P1747

Client: LiRo Engineers, Inc.

Analytical Method: 8270E **DataFile:** BG060652.D

Lab Sample ID	Parameter	Spike	Result	Unit	Rec	RPD	Qual	RPD Qual	Limits Low	Limits High	RPD
PB159586BSD	Pentachlorophenol	100	88.7	ug/L	89	3			47	114	20
	Phenanthrene	50	43.0	ug/L	86	1			62	109	20
	Anthracene	50	42.7	ug/L	85	3			65	110	20
	Carbazole	50	43.8	ug/L	88	3			62	106	20
	Di-n-butylphthalate	50	44.6	ug/L	89	2			64	106	20
	Fluoranthene	50	43.1	ug/L	86	2			64	110	20
	Pyrene	50	44.2	ug/L	88	0			71	103	20
	Butylbenzylphthalate	50	47.8	ug/L	96	1			61	105	20
	3,3-Dichlorobenzidine	50	32.7	ug/L	65	3			43	108	20
	Benzo(a)anthracene	50	44.6	ug/L	89	2			62	107	20
	Chrysene	50	43.4	ug/L	87	1			61	108	20
	bis(2-Ethylhexyl)phthalate	50	47.4	ug/L	95	1			59	110	20
	Di-n-octyl phthalate	50	48.8	ug/L	98	1			67	126	20
	Benzo(b)fluoranthene	50	49.5	ug/L	99	3			77	113	20
	Benzo(k)fluoranthene	50	47.5	ug/L	95	2			64	113	20
	Benzo(a)pyrene	50	46.0	ug/L	92	3			72	131	20
	Indeno(1,2,3-cd)pyrene	50	49.7	ug/L	99	2			72	105	20
	Dibenz(a,h)anthracene	50	48.4	ug/L	97	2			78	115	20
	Benzo(g,h,i)perylene	50	47.4	ug/L	95	1			75	118	20
	1,2,4,5-Tetrachlorobenzene	50	45.8	ug/L	92	1			72	101	20
	1,4-Dioxane	50	33.1	ug/L	66	1			38	125	20
	2,3,4,6-Tetrachlorophenol	50	47.5	ug/L	95	2			63	116	20

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4B

SEMIVOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

PB159586BL

Lab Name: CHEMTECH Contract: LIRO01

Lab Code: CHEM Case No.: P1747 SAS No.: P1747 SDG NO.: P1747

Lab File ID: BG060650.D Lab Sample ID: PB159586BL

Instrument ID: BNA_G Date Extracted: 03/14/2024

Matrix: (soil/water) Water Date Analyzed: 03/14/2024

Level: (low/med) LOW Time Analyzed: 23:20

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
PB159586BS	PB159586BS	BG060651.D	03/15/2024
PB159586BSD	PB159586BSD	BG060652.D	03/15/2024
MW-01	P1747-01	BG060643.D	03/14/2024
MW-01-DUP	P1747-02	BG060644.D	03/14/2024
MW-02	P1747-04	BG060645.D	03/14/2024
MW-04	P1747-05	BG060646.D	03/14/2024

COMMENTS:

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5B

SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK

DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: CHEMTECH Contract: LIRO01

Lab Code: CHEM SAS No.: P1747 SDG NO.: P1747

Lab File ID: BG060620.D DFTPP Injection Date: 03/13/2024

Instrument ID: BNA_G DFTPP Injection Time: 10:02

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	10.0 - 80.0% of mass 198	47.4
68	Less than 2.0% of mass 69	0.0 (0.0) 1
69	Mass 69 relative abundance	37
70	Less than 2.0% of mass 69	0.2 (0.5) 1
127	10.0 - 80.0% of mass 198	43.8
197	Less than 2.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100
199	5.0 to 9.0% of mass 198	6.9
275	10.0 - 60.0% of mass 198	27.8
365	Greater than 1% of mass 198	4.3
441	Present, but less than mass 443	13.8
442	Greater than 50% of mass 198	100
443	15.0 - 24.0% of mass 442	16.3 (18.9) 2

1-Value is % mass 69 2-Value is % mass 442

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
SSTDICC2.5	SSTDICC2.5	BG060621.D	03/13/2024	10:44
SSTDICC005	SSTDICC005	BG060622.D	03/13/2024	11:24
SSTDICC010	SSTDICC010	BG060623.D	03/13/2024	12:04
SSTDICC020	SSTDICC020	BG060624.D	03/13/2024	12:45
SSTDICCC040	SSTDICCC040	BG060625.D	03/13/2024	13:26
SSTDICC050	SSTDICC050	BG060626.D	03/13/2024	14:06
SSTDICC060	SSTDICC060	BG060627.D	03/13/2024	14:47
SSTDICC080	SSTDICC080	BG060628.D	03/13/2024	15:27

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5B

SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK

DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: CHEMTECH Contract: LIRO01

Lab Code: CHEM SAS No.: P1747 SDG NO.: P1747

Lab File ID: BG060631.D DFTPP Injection Date: 03/14/2024

Instrument ID: BNA_G DFTPP Injection Time: 09:44

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	10.0 - 80.0% of mass 198	47
68	Less than 2.0% of mass 69	0.0 (0.0) 1
69	Mass 69 relative abundance	36.6
70	Less than 2.0% of mass 69	0.2 (0.6) 1
127	10.0 - 80.0% of mass 198	44.1
197	Less than 2.0% of mass 198	0.4
198	Base Peak, 100% relative abundance	100
199	5.0 to 9.0% of mass 198	6.7
275	10.0 - 60.0% of mass 198	29.6
365	Greater than 1% of mass 198	4.2
441	Present, but less than mass 443	15.1
442	Greater than 50% of mass 198	100
443	15.0 - 24.0% of mass 442	17.2 (18.6) 2

1-Value is % mass 69 2-Value is % mass 442

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
SSTDCCC040	SSTDCCC040	BG060632.D	03/14/2024	10:25
MW-01	P1747-01	BG060643.D	03/14/2024	17:55
MW-01-DUP	P1747-02	BG060644.D	03/14/2024	18:36
MW-02	P1747-04	BG060645.D	03/14/2024	19:17
MW-04	P1747-05	BG060646.D	03/14/2024	19:57

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5B

SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK

DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: CHEMTECH Contract: LIRO01

Lab Code: CHEM SAS No.: P1747 SDG NO.: P1747

Lab File ID: BG060648.D DFTPP Injection Date: 03/14/2024

Instrument ID: BNA_G DFTPP Injection Time: 21:59

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	10.0 - 80.0% of mass 198	46.7
68	Less than 2.0% of mass 69	0.2 (0.6) 1
69	Mass 69 relative abundance	37.9
70	Less than 2.0% of mass 69	0.2 (0.5) 1
127	10.0 - 80.0% of mass 198	45.2
197	Less than 2.0% of mass 198	0.4
198	Base Peak, 100% relative abundance	100
199	5.0 to 9.0% of mass 198	6.8
275	10.0 - 60.0% of mass 198	29.3
365	Greater than 1% of mass 198	4.6
441	Present, but less than mass 443	14.6
442	Greater than 50% of mass 198	100
443	15.0 - 24.0% of mass 442	17.2 (18.9) 2

1-Value is % mass 69 2-Value is % mass 442

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
SSTDCCC040	SSTDCCC040	BG060649.D	03/14/2024	22:39
PB159586BL	PB159586BL	BG060650.D	03/14/2024	23:20
PB159586BS	PB159586BS	BG060651.D	03/15/2024	00:00
PB159586BSD	PB159586BSD	BG060652.D	03/15/2024	00:41

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8B

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: CHEMTECH

Lab Code: CHEM Case No.: P1747 SAS No.: P1747 SDG NO.: P1747

EPA Sample No.: SSTDCCC040 Date Analyzed: 03/14/2024

Lab File ID: BG060632.D Time Analyzed: 10:25

Instrument ID: BNA_G GC Column: ZB-GR ID: 0.25 (mm)

		IS1 (DCB) AREA #	RT #	IS2 (NPT) AREA #	RT #	IS3 (ANT) AREA #	RT #
	12 HOUR STD	100214	8.322	455197	11.17	300034	14.95
	UPPER LIMIT	200428	8.822	910394	11.666	600068	15.45
	LOWER LIMIT	50107	7.822	227599	10.666	150017	14.45
	EPA SAMPLE NO.						
01	MW-01	87894	8.32	407330	11.17	278240	14.95
02	MW-01-DUP	95427	8.32	445954	11.17	304535	14.95
03	MW-02	92610	8.32	433473	11.17	306273	14.94
04	MW-04	92415	8.33	426428	11.17	303077	14.95

IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = Naphthalene-d8
IS3 (ANT) = Acenaphthene-d10

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = -50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT UPPER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

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8C

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: CHEMTECH

Lab Code: CHEM Case No.: P1747 SAS No.: P1747 SDG NO.: P1747

EPA Sample No.: SSTDCCC040 Date Analyzed: 03/14/2024

Lab File ID: BG060632.D Time Analyzed: 10:25

Instrument ID: BNA_G GC Column: ZB-GR ID: 0.25 (mm)

		IS4 (PHN) AREA #	RT #	IS5 (CRY) AREA #	RT #	IS6 (PRY) AREA #	RT #
	12 HOUR STD	621112	17.694	570870	22.018	652588	25.567
	UPPER LIMIT	1242220	18.194	1141740	22.518	1305180	26.067
	LOWER LIMIT	310556	17.194	285435	21.518	326294	25.067
	EPA SAMPLE NO.						
01	MW-01	593395	17.69	503937	22.01	579316	25.57
02	MW-01-DUP	669477	17.70	584480	22.01	662527	25.56
03	MW-02	646742	17.69	546831	22.01	624053	25.56
04	MW-04	645630	17.69	577543	22.01	656048	25.56

IS4 (PHN) = Phenanthrene-d10
IS5 (CRY) = Chrysene-d12
IS6 (PRY) = Perylene-d12

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = -50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT UPPER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

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8B

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: CHEMTECH

Lab Code: CHEM Case No.: P1747 SAS No.: P1747 SDG NO.: P1747

EPA Sample No.: SSTDCCC040 Date Analyzed: 03/14/2024

Lab File ID: BG060649.D Time Analyzed: 22:39

Instrument ID: BNA_G GC Column: ZB-GR ID: 0.25 (mm)

		IS1 (DCB) AREA #	RT #	IS2 (NPT) AREA #	RT #	IS3 (ANT) AREA #	RT #
	12 HOUR STD	96079	8.323	434457	11.17	283666	14.95
	UPPER LIMIT	192158	8.823	868914	11.667	567332	15.451
	LOWER LIMIT	48039.5	7.823	217229	10.667	141833	14.451
	EPA SAMPLE NO.						
01	PB159586BL	87880	8.32	398324	11.17	273634	14.95
02	PB159586BS	109222	8.33	513453	11.17	325000	14.95
03	PB159586BSD	104909	8.32	497758	11.17	316713	14.95

IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = Naphthalene-d8
IS3 (ANT) = Acenaphthene-d10

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = -50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT UPPER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

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8C

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: CHEMTECH

Lab Code: CHEM Case No.: P1747 SAS No.: P1747 SDG NO.: P1747

EPA Sample No.: SSTDCCC040 Date Analyzed: 03/14/2024

Lab File ID: BG060649.D Time Analyzed: 22:39

Instrument ID: BNA_G GC Column: ZB-GR ID: 0.25 (mm)

		IS4 (PHN) AREA #	RT #	IS5 (CRY) AREA #	RT #	IS6 (PRY) AREA #	RT #
	12 HOUR STD	613917	17.695	559496	22.019	646720	25.568
	UPPER LIMIT	1227830	18.195	1118990	22.519	1293440	26.068
	LOWER LIMIT	306959	17.195	279748	21.519	323360	25.068
	EPA SAMPLE NO.						
01	PB159586BL	611698	17.70	536075	22.01	604634	25.56
02	PB159586BS	699724	17.70	611265	22.02	651311	25.57
03	PB159586BSD	689764	17.70	597115	22.01	646404	25.57

IS4 (PHN) = Phenanthrene-d10
IS5 (CRY) = Chrysene-d12
IS6 (PRY) = Perylene-d12

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = -50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT UPPER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

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SAMPLE DATA

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Report of Analysis

Client:	LiRo Engineers, Inc.	Date Collected:	03/12/24
Project:	Walter Gladwin Recreation Center, Bronx, NY	Date Received:	03/13/24
Client Sample ID:	MW-01	SDG No.:	P1747
Lab Sample ID:	P1747-01	Matrix:	Water
Analytical Method:	SW8270	% Solid:	0
Sample Wt/Vol:	980 Units: mL	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOC-TCL BNA -20
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :
Prep Method :	SW3510C		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BG060643.D	1	03/14/24 10:06	03/14/24 17:55	PB159586

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units
TARGETS						
100-52-7	Benzaldehyde	4.10	U	4.10	10.2	ug/L
108-95-2	Phenol	0.95	U	0.95	5.10	ug/L
111-44-4	bis(2-Chloroethyl)ether	1.20	U	1.20	5.10	ug/L
95-57-8	2-Chlorophenol	0.72	U	0.72	5.10	ug/L
95-48-7	2-Methylphenol	1.20	U	1.20	5.10	ug/L
108-60-1	2,2-oxybis(1-Chloropropane)	1.40	U	1.40	5.10	ug/L
98-86-2	Acetophenone	1.10	U	1.10	5.10	ug/L
65794-96-9	3+4-Methylphenols	1.20	U	1.20	10.2	ug/L
621-64-7	n-Nitroso-di-n-propylamine	1.50	U	1.50	2.60	ug/L
67-72-1	Hexachloroethane	1.00	U	1.00	5.10	ug/L
98-95-3	Nitrobenzene	1.30	U	1.30	5.10	ug/L
78-59-1	Isophorone	1.20	U	1.20	5.10	ug/L
88-75-5	2-Nitrophenol	2.00	U	2.00	5.10	ug/L
105-67-9	2,4-Dimethylphenol	1.50	U	1.50	5.10	ug/L
111-91-1	bis(2-Chloroethoxy)methane	1.00	U	1.00	5.10	ug/L
120-83-2	2,4-Dichlorophenol	0.90	U	0.90	5.10	ug/L
91-20-3	Naphthalene	1.00	U	1.00	5.10	ug/L
106-47-8	4-Chloroaniline	1.30	U	1.30	5.10	ug/L
87-68-3	Hexachlorobutadiene	1.30	U	1.30	5.10	ug/L
105-60-2	Caprolactam	1.70	U	1.70	10.2	ug/L
59-50-7	4-Chloro-3-methylphenol	0.86	U	0.86	5.10	ug/L
91-57-6	2-Methylnaphthalene	1.20	U	1.20	5.10	ug/L
77-47-4	Hexachlorocyclopentadiene	5.10	U	5.10	10.2	ug/L
88-06-2	2,4,6-Trichlorophenol	0.91	U	0.91	5.10	ug/L
95-95-4	2,4,5-Trichlorophenol	1.00	U	1.00	5.10	ug/L
92-52-4	1,1-Biphenyl	0.93	U	0.93	5.10	ug/L
91-58-7	2-Chloronaphthalene	0.99	U	0.99	5.10	ug/L
88-74-4	2-Nitroaniline	1.40	U	1.40	5.10	ug/L
131-11-3	Dimethylphthalate	0.95	U	0.95	5.10	ug/L
208-96-8	Acenaphthylene	1.10	U	1.10	5.10	ug/L
606-20-2	2,6-Dinitrotoluene	1.30	U	1.30	5.10	ug/L

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Report of Analysis

Client:	LiRo Engineers, Inc.	Date Collected:	03/12/24
Project:	Walter Gladwin Recreation Center, Bronx, NY	Date Received:	03/13/24
Client Sample ID:	MW-01	SDG No.:	P1747
Lab Sample ID:	P1747-01	Matrix:	Water
Analytical Method:	SW8270	% Solid:	0
Sample Wt/Vol:	980 Units: mL	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOC-TCL BNA -20
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :
Prep Method :	SW3510C		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BG060643.D	1	03/14/24 10:06	03/14/24 17:55	PB159586

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units
99-09-2	3-Nitroaniline	1.40	U	1.40	5.10	ug/L
83-32-9	Acenaphthene	0.83	U	0.83	5.10	ug/L
51-28-5	2,4-Dinitrophenol	6.60	U	6.60	10.2	ug/L
100-02-7	4-Nitrophenol	2.00	U	2.00	10.2	ug/L
132-64-9	Dibenzofuran	0.95	U	0.95	5.10	ug/L
121-14-2	2,4-Dinitrotoluene	1.60	U	1.60	5.10	ug/L
84-66-2	Diethylphthalate	1.10	U	1.10	5.10	ug/L
7005-72-3	4-Chlorophenyl-phenylether	1.00	U	1.00	5.10	ug/L
86-73-7	Fluorene	0.98	U	0.98	5.10	ug/L
100-01-6	4-Nitroaniline	2.10	U	2.10	5.10	ug/L
534-52-1	4,6-Dinitro-2-methylphenol	3.10	U	3.10	10.2	ug/L
86-30-6	n-Nitrosodiphenylamine	0.91	U	0.91	5.10	ug/L
101-55-3	4-Bromophenyl-phenylether	0.97	U	0.97	5.10	ug/L
118-74-1	Hexachlorobenzene	1.20	U	1.20	5.10	ug/L
1912-24-9	Atrazine	1.30	U	1.30	5.10	ug/L
87-86-5	Pentachlorophenol	1.90	U	1.90	10.2	ug/L
85-01-8	Phenanthrene	0.91	U	0.91	5.10	ug/L
120-12-7	Anthracene	1.10	U	1.10	5.10	ug/L
86-74-8	Carbazole	1.20	U	1.20	5.10	ug/L
84-74-2	Di-n-butylphthalate	1.50	U	1.50	5.10	ug/L
206-44-0	Fluoranthene	1.30	U	1.30	5.10	ug/L
129-00-0	Pyrene	1.10	U	1.10	5.10	ug/L
85-68-7	Butylbenzylphthalate	2.10	U	2.10	5.10	ug/L
91-94-1	3,3-Dichlorobenzidine	1.30	U	1.30	10.2	ug/L
56-55-3	Benzo(a)anthracene	0.96	U	0.96	5.10	ug/L
218-01-9	Chrysene	0.88	U	0.88	5.10	ug/L
117-81-7	Bis(2-ethylhexyl)phthalate	1.90	U	1.90	5.10	ug/L
117-84-0	Di-n-octyl phthalate	2.60	U	2.60	10.2	ug/L
205-99-2	Benzo(b)fluoranthene	1.20	U	1.20	5.10	ug/L
207-08-9	Benzo(k)fluoranthene	1.20	U	1.20	5.10	ug/L
50-32-8	Benzo(a)pyrene	1.70	U	1.70	5.10	ug/L
193-39-5	Indeno(1,2,3-cd)pyrene	1.00	U	1.00	5.10	ug/L
53-70-3	Dibenzo(a,h)anthracene	1.20	U	1.20	5.10	ug/L

Raw Data: **BG060643.D**

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

Report of Analysis

Client:	LiRo Engineers, Inc.	Date Collected:	03/12/24
Project:	Walter Gladwin Recreation Center, Bronx, NY	Date Received:	03/13/24
Client Sample ID:	MW-01	SDG No.:	P1747
Lab Sample ID:	P1747-01	Matrix:	Water
Analytical Method:	SW8270	% Solid:	0
Sample Wt/Vol:	980 Units: mL	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOC-TCL BNA -20
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :
Prep Method :	SW3510C		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BG060643.D	1	03/14/24 10:06	03/14/24 17:55	PB159586

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units
191-24-2	Benzo(g,h,i)perylene	1.20	U	1.20	5.10	ug/L
95-94-3	1,2,4,5-Tetrachlorobenzene	1.10	U	1.10	5.10	ug/L
123-91-1	1,4-Dioxane	1.30	U	1.30	5.10	ug/L
58-90-2	2,3,4,6-Tetrachlorophenol	0.81	U	0.81	5.10	ug/L
SURROGATES						
367-12-4	2-Fluorophenol	63.7		10 - 139	42%	SPK: 150
13127-88-3	Phenol-d6	38.1		10 - 134	25%	SPK: 150
4165-60-0	Nitrobenzene-d5	93.5		49 - 133	93%	SPK: 100
321-60-8	2-Fluorobiphenyl	90.6		52 - 132	91%	SPK: 100
118-79-6	2,4,6-Tribromophenol	149		32 - 145	99%	SPK: 150
1718-51-0	Terphenyl-d14	92.3		36 - 145	92%	SPK: 100
INTERNAL STANDARDS						
3855-82-1	1,4-Dichlorobenzene-d4	87900	8.322			
1146-65-2	Naphthalene-d8	407000	11.166			
15067-26-2	Acenaphthene-d10	278000	14.95			
1517-22-2	Phenanthrene-d10	593000	17.693			
1719-03-5	Chrysene-d12	504000	22.012			
1520-96-3	Perylene-d12	579000	25.567			
TENTATIVE IDENTIFIED COMPOUNDS						
1000305-58-3	3,5-Dichloro-6-cyanopyridin-2-yl d	4.90	J		12.4	ug/L
031468-12-9	N-Cyclohexyl-N-methylurea, N-met	3.50	J		15.1	ug/L
000134-62-3	Diethyltoluamide	9.00	J		15.7	ug/L
000615-22-5	2-(Methylmercapto)benzothiazole	13.9	J		16.2	ug/L
	unknown17.582	2.80	J		17.9	ug/L
000057-10-3	n-Hexadecanoic acid	2.20	J		18.5	ug/L
002004-39-9	1-Heptacosanol	2.50	J		23.1	ug/L

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Report of Analysis

Client:	LiRo Engineers, Inc.	Date Collected:	03/12/24
Project:	Walter Gladwin Recreation Center, Bronx, NY	Date Received:	03/13/24
Client Sample ID:	MW-01	SDG No.:	P1747
Lab Sample ID:	P1747-01	Matrix:	Water
Analytical Method:	SW8270	% Solid:	0
Sample Wt/Vol:	980 Units: mL	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOC-TCL BNA -20
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :
Prep Method :	SW3510C		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BG060643.D	1	03/14/24 10:06	03/14/24 17:55	PB159586

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
Q = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution
() = Laboratory InHouse Limit
A = Aldol-Condensation Reaction Products

Sample Results: **BG060643.D**

Data Path : Z:\svoasrv\HPCHEM1\BNA_G\Data\BG031424\
Data File : BG060643.D
Acq On : 14 Mar 2024 17:55
Operator : MA/JU
Sample : P1747-01
Misc :
ALS Vial : 13 Sample Multiplier: 1

Instrument :
BNA_G
ClientSampleId :
MW-01

Quant Time: Mar 15 01:36:46 2024
Quant Method : Z:\svoasrv\HPCHEM1\BNA_G\Methods\8270-BG031324.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION
QLast Update : Thu Mar 14 00:45:22 2024
Response via : Initial Calibration

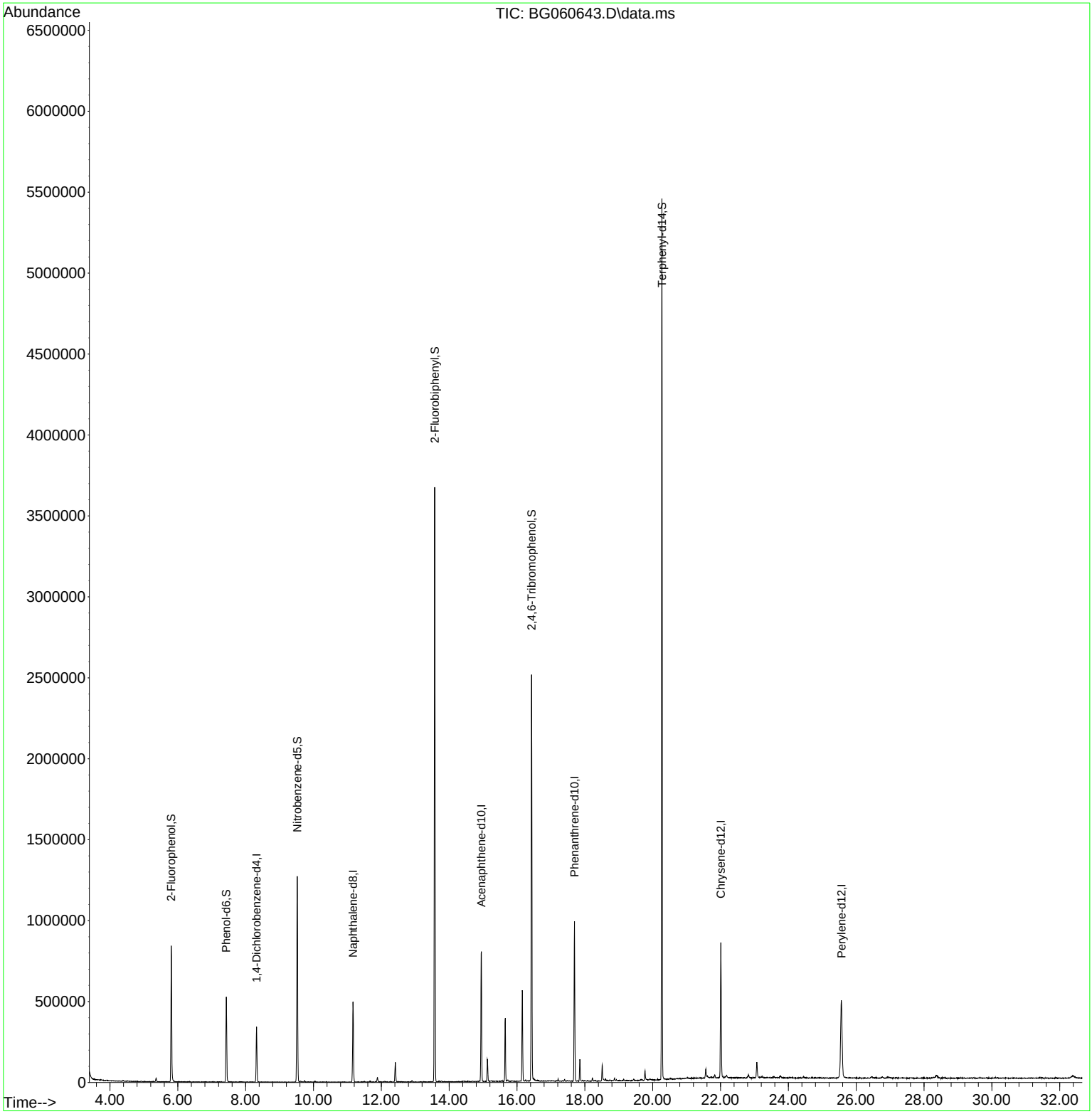
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	8.322	152	87894	20.000	ng	0.00
21) Naphthalene-d8	11.166	136	407330	20.000	ng	0.00
39) Acenaphthene-d10	14.950	164	278240	20.000	ng	0.00
64) Phenanthrene-d10	17.693	188	593395	20.000	ng	0.00
76) Chrysene-d12	22.012	240	503937	20.000	ng	-0.01
86) Perylene-d12	25.567	264	579316	20.000	ng	0.00
System Monitoring Compounds						
5) 2-Fluorophenol	5.807	112	355964	63.664	ng	0.00
7) Phenol-d6	7.429	99	309385	38.145	ng	0.00
23) Nitrobenzene-d5	9.521	82	731619	93.477	ng	0.00
42) 2,4,6-Tribromophenol	16.430	330	479142	148.607	ng	0.00
45) 2-Fluorobiphenyl	13.575	172	1863523	90.553	ng	0.00
79) Terphenyl-d14	20.273	244	2574669	92.349	ng	0.00
Target Compounds						Qvalue

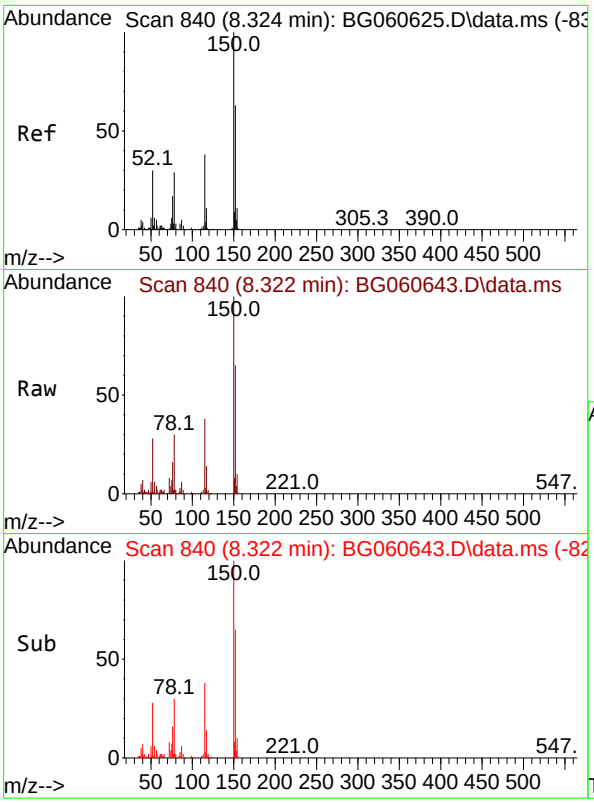
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : Z:\svoasrv\HPCHEM1\BNA_G\Data\BG031424\
Data File : BG060643.D
Acq On : 14 Mar 2024 17:55
Operator : MA/JU
Sample : P1747-01
Misc :
ALS Vial : 13 Sample Multiplier: 1

Instrument :
BNA_G
ClientSampleId :
MW-01

Quant Time: Mar 15 01:36:46 2024
Quant Method : Z:\svoasrv\HPCHEM1\BNA_G\Methods\8270-BG031324.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION
QLast Update : Thu Mar 14 00:45:22 2024
Response via : Initial Calibration



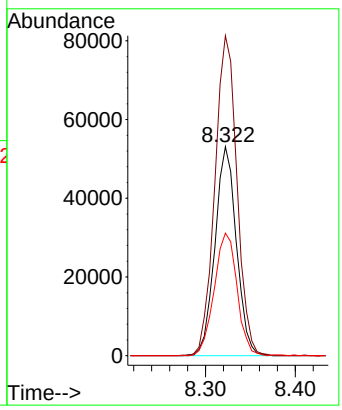


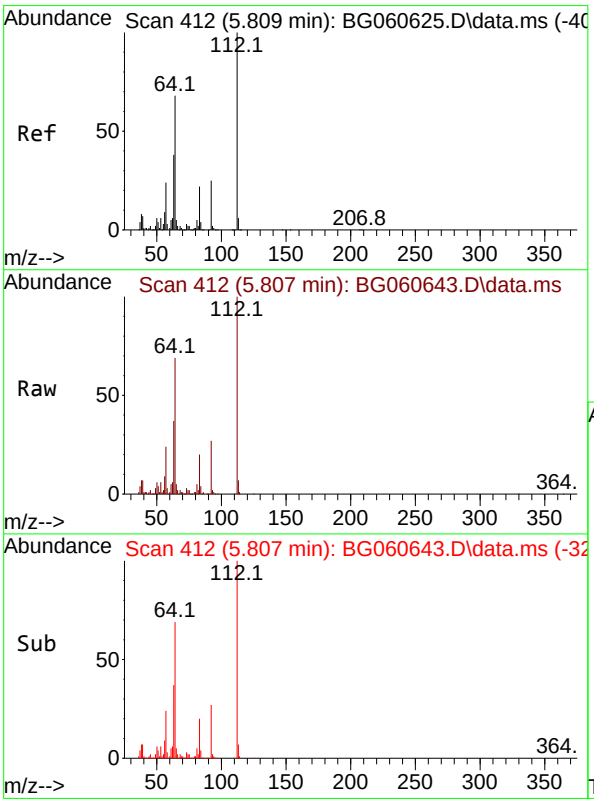
#1
1,4-Dichlorobenzene-d4
Concen: 20.000 ng
RT: 8.322 min Scan# 84
Delta R.T. -0.002 min
Lab File: BG060643.D
Acq: 14 Mar 2024 17:55

Instrument :
BNA_G
ClientSampleId :
MW-01

Tgt Ion:152 Resp: 87894

Ion	Ratio	Lower	Upper
152	100		
150	153.1	126.6	190.0
115	58.6	47.8	71.8

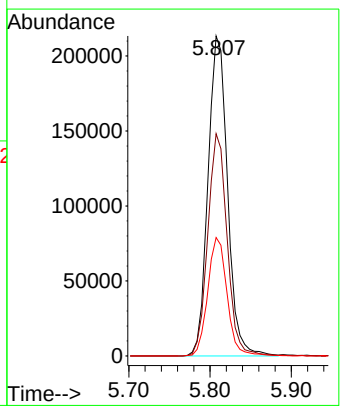


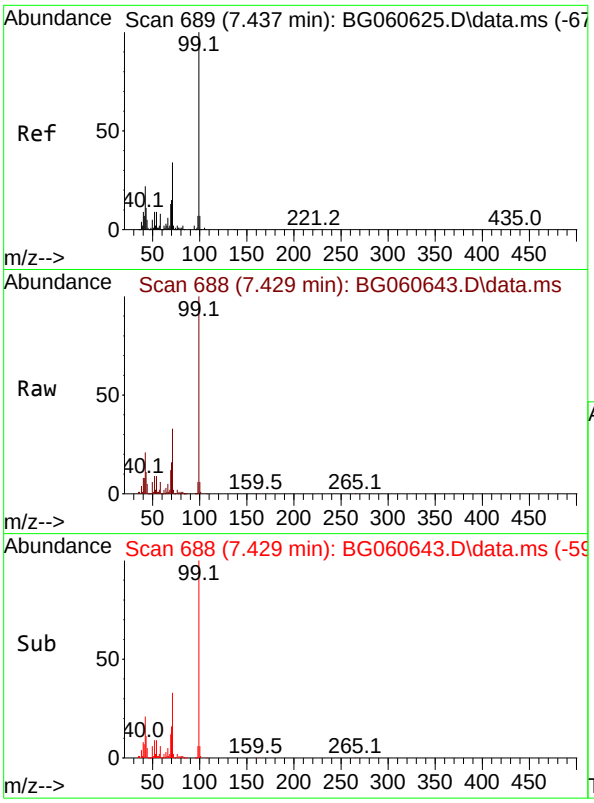


#5
2-Fluorophenol
Concen: 63.664 ng
RT: 5.807 min Scan# 412
Delta R.T. -0.002 min
Lab File: BG060643.D
Acq: 14 Mar 2024 17:55

Tgt Ion:112 Resp: 355964

Ion	Ratio	Lower	Upper
112	100		
64	69.5	54.1	81.1
63	37.0	30.3	45.5



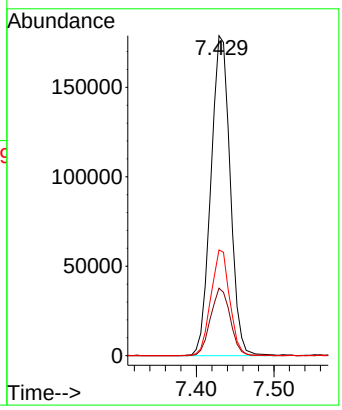


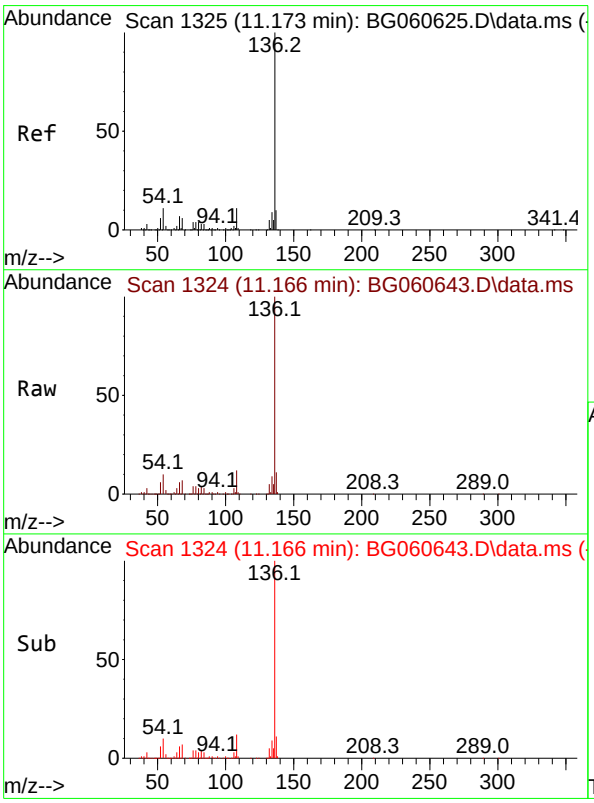
#7
Phenol-d6
Concen: 38.145 ng
RT: 7.429 min Scan# 6
Delta R.T. -0.008 min
Lab File: BG060643.D
Acq: 14 Mar 2024 17:55

Instrument :
BNA_G
ClientSampleId :
MW-01

Tgt Ion: 99 Resp: 309385

Ion	Ratio	Lower	Upper
99	100		
42	21.1	17.5	26.3
71	33.0	27.4	41.0

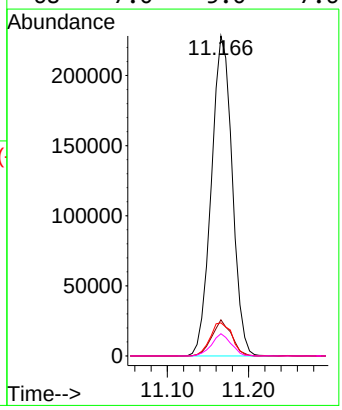


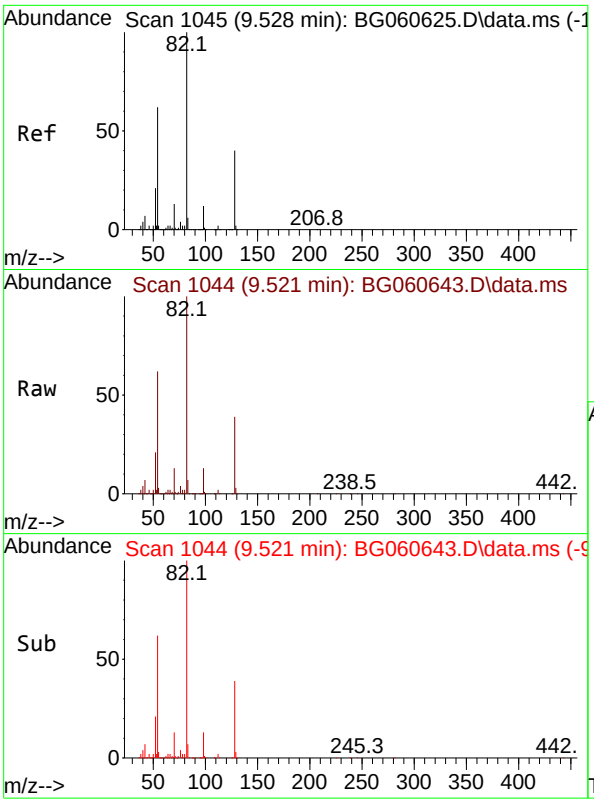


#21
Naphthalene-d8
Concen: 20.000 ng
RT: 11.166 min Scan# 1324
Delta R.T. -0.008 min
Lab File: BG060643.D
Acq: 14 Mar 2024 17:55

Tgt Ion:136 Resp: 407330

Ion	Ratio	Lower	Upper
136	100		
137	11.3	8.4	12.6
54	10.4	8.5	12.7
68	7.0	5.0	7.6



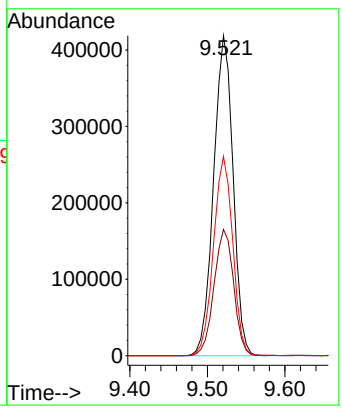


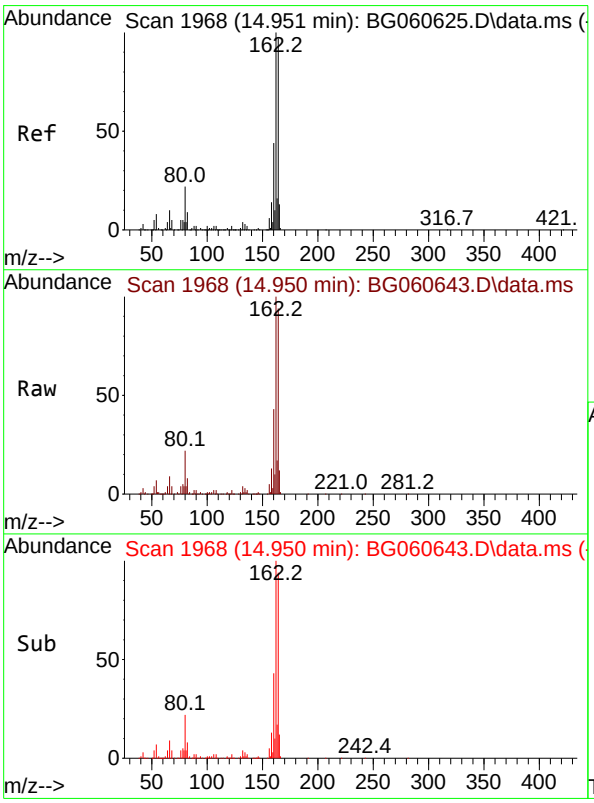
#23
Nitrobenzene-d5
Concen: 93.477 ng
RT: 9.521 min Scan# 1
Delta R.T. -0.008 min
Lab File: BG060643.D
Acq: 14 Mar 2024 17:55

Instrument :
BNA_G
ClientSampleId :
MW-01

Tgt Ion: 82 Resp: 731619

Ion	Ratio	Lower	Upper
82	100		
128	39.5	31.6	47.4
54	62.3	49.3	73.9

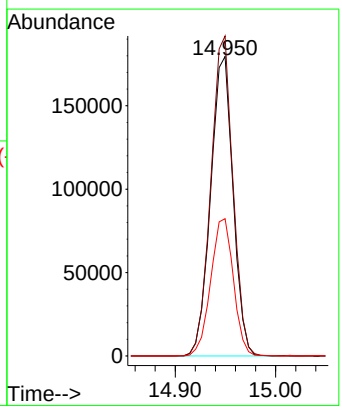


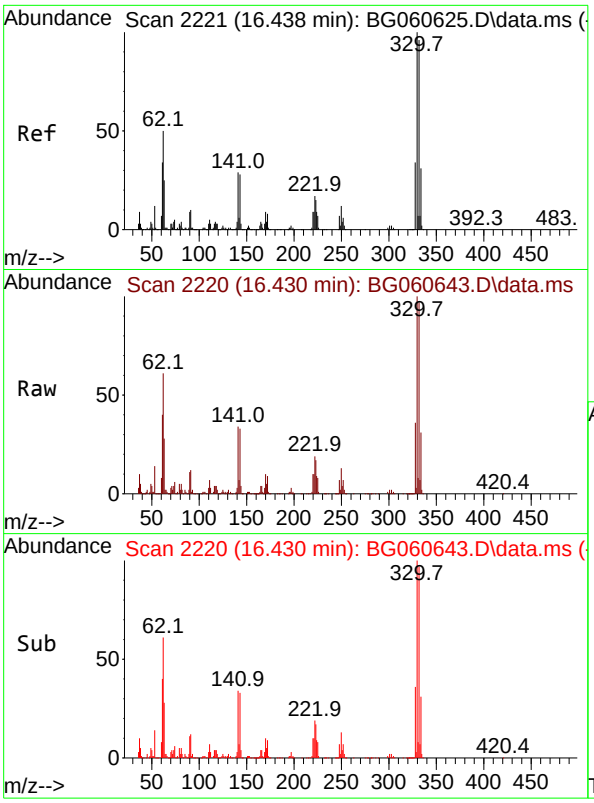


#39
Acenaphthene-d10
Concen: 20.000 ng
RT: 14.950 min Scan# 1968
Delta R.T. -0.002 min
Lab File: BG060643.D
Acq: 14 Mar 2024 17:55

Tgt Ion:164 Resp: 278240

Ion	Ratio	Lower	Upper
164	100		
162	106.8	82.5	123.7
160	45.8	36.4	54.6



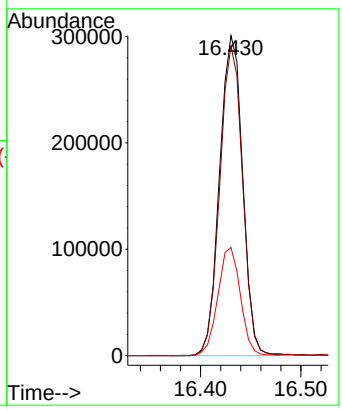


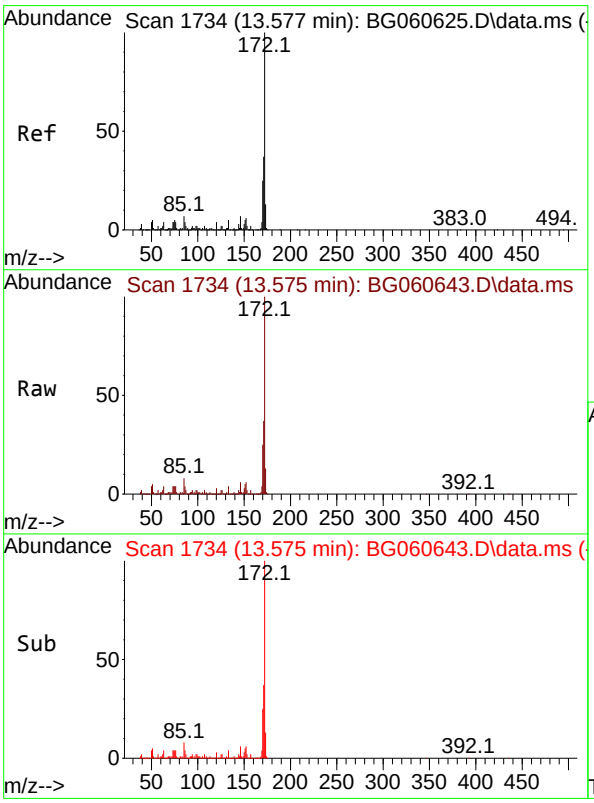
#42
2,4,6-Tribromophenol
Concen: 148.607 ng
RT: 16.430 min Scan# 2
Delta R.T. -0.008 min
Lab File: BG060643.D
Acq: 14 Mar 2024 17:55

Instrument :
BNA_G
ClientSampleId :
MW-01

Tgt Ion:330 Resp: 479142

Ion	Ratio	Lower	Upper
330	100		
332	96.2	77.8	116.8
141	33.3	25.4	38.2

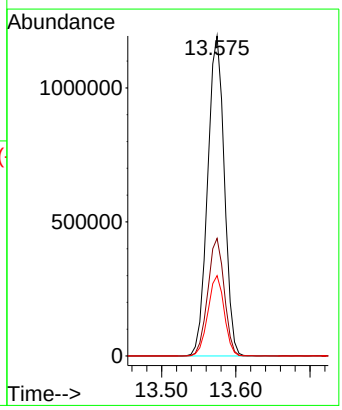


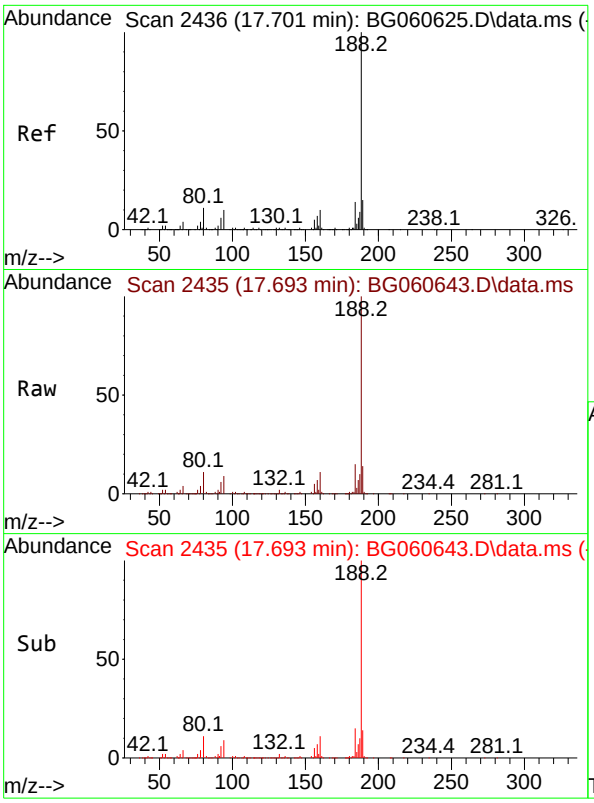


#45
2-Fluorobiphenyl
Concen: 90.553 ng
RT: 13.575 min Scan# 1734
Delta R.T. -0.002 min
Lab File: BG060643.D
Acq: 14 Mar 2024 17:55

Tgt Ion:172 Resp: 1863523

Ion	Ratio	Lower	Upper
172	100		
171	36.8	29.9	44.9
170	25.1	19.8	29.6



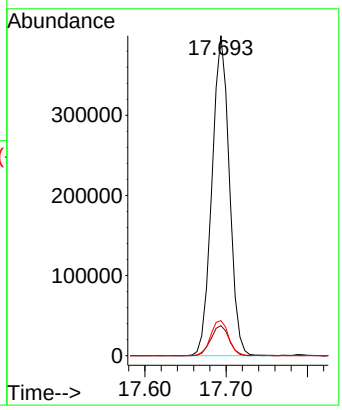


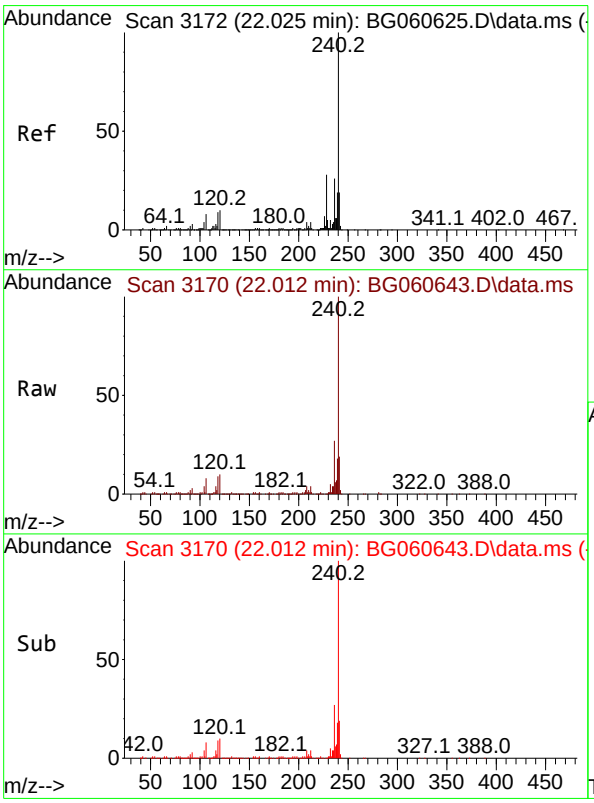
#64
Phenanthrene-d10
Concen: 20.000 ng
RT: 17.693 min Scan# 24
Delta R.T. -0.008 min
Lab File: BG060643.D
Acq: 14 Mar 2024 17:55

Instrument :
BNA_G
ClientSampleId :
MW-01

Tgt Ion:188 Resp: 593395

Ion	Ratio	Lower	Upper
188	100		
94	9.4	7.9	11.9
80	10.9	8.6	13.0

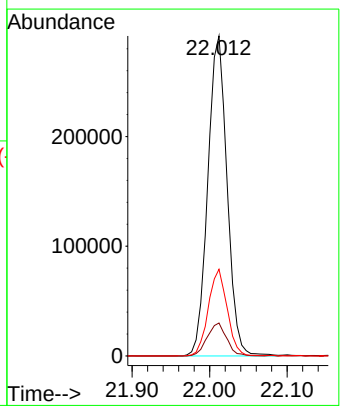


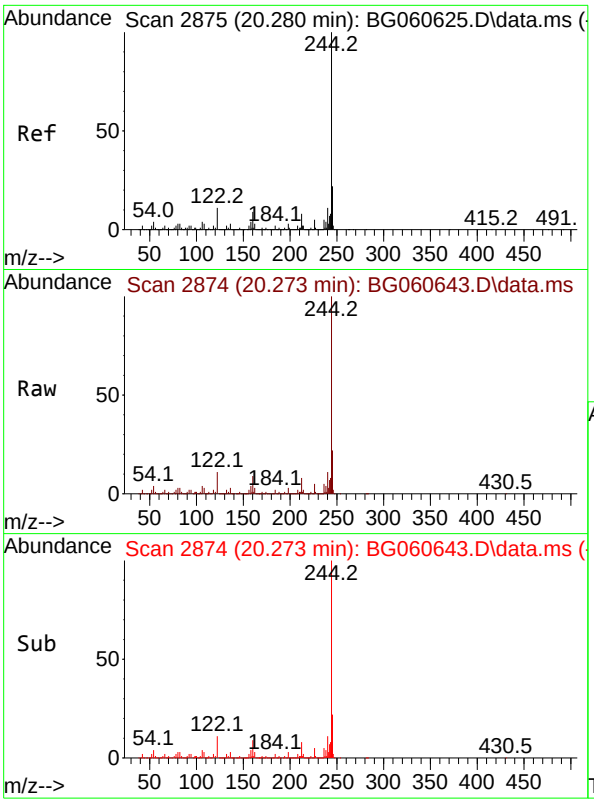


#76
Chrysene-d12
Concen: 20.000 ng
RT: 22.012 min Scan# 3170
Delta R.T. -0.014 min
Lab File: BG060643.D
Acq: 14 Mar 2024 17:55

Tgt Ion:240 Resp: 503937

Ion	Ratio	Lower	Upper
240	100		
120	10.3	7.8	11.8
236	27.1	20.6	31.0



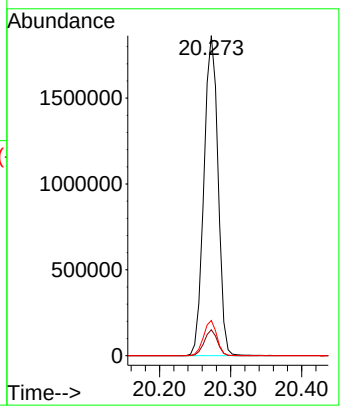


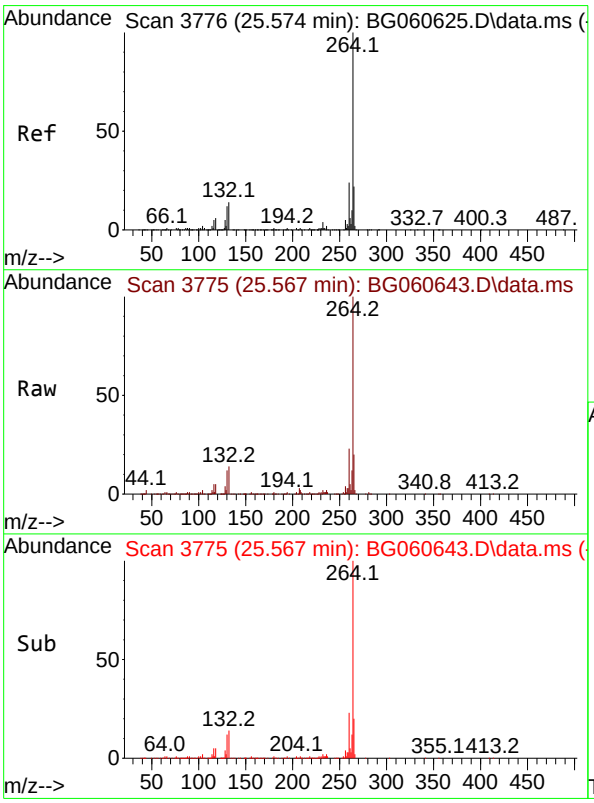
#79
Terphenyl-d14
Concen: 92.349 ng
RT: 20.273 min Scan# 2
Delta R.T. -0.008 min
Lab File: BG060643.D
Acq: 14 Mar 2024 17:55

Instrument :
BNA_G
ClientSampleId :
MW-01

Tgt Ion:244 Resp: 2574669

Ion	Ratio	Lower	Upper
244	100		
212	8.1	6.6	9.8
122	11.0	8.5	12.7

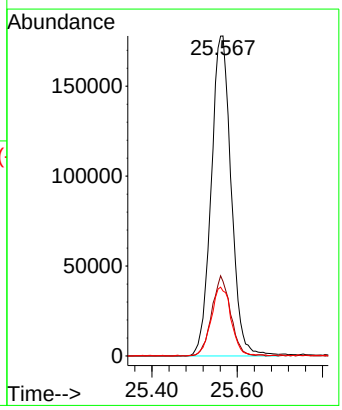




#86
Perylene-d12
Concen: 20.000 ng
RT: 25.567 min Scan# 3775
Delta R.T. -0.008 min
Lab File: BG060643.D
Acq: 14 Mar 2024 17:55

Tgt Ion:264 Resp: 579316

Ion	Ratio	Lower	Upper
264	100		
260	23.3	19.4	29.2
265	20.3	18.1	27.1



Sample Results: **BG060643.D**

Data Path : Z:\svoasrv\HPCHEM1\BNA_G\Data\BG031424\
Data File : BG060643.D
Acq On : 14 Mar 2024 17:55
Operator : MA/JU
Sample : P1747-01
Misc :
ALS Vial : 13 Sample Multiplier: 1

Instrument :
BNA_G
ClientSampleId :
MW-01

Integration Parameters: rteint.p
Integrator: RTE
Smoothing : ON Filtering: 5
Sampling : 1 Min Area: 3 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : Z:\svoasrv\HPCHEM1\BNA_G\Methods\8270-BG031324.M
Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

Signal : TIC: BG060643.D\data.ms

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	5.807	404	412	427	rBV	840914	1394459	19.43%	4.489%
2	7.429	681	688	699	rVB	524911	920712	12.83%	2.964%
3	8.322	832	840	847	rBV	341418	586206	8.17%	1.887%
4	9.521	1035	1044	1054	rBV	1270493	2239680	31.21%	7.210%
5	11.166	1314	1324	1336	rBV	496366	893648	12.45%	2.877%
6	12.411	1527	1536	1545	rBV	121785	213427	2.97%	0.687%
7	13.575	1726	1734	1741	rBV	3671433	5647904	78.70%	18.181%
8	14.950	1961	1968	1977	rVB	801712	1255460	17.49%	4.041%
9	15.126	1993	1998	2008	rBV	137849	214347	2.99%	0.690%
10	15.655	2080	2088	2095	rBV	391624	554852	7.73%	1.786%
11	16.154	2167	2173	2181	rBV	560632	858322	11.96%	2.763%
12	16.430	2212	2220	2227	rBV	2508290	3911560	54.51%	12.591%
13	17.693	2428	2435	2444	rBV	988205	1489926	20.76%	4.796%
14	17.852	2457	2462	2469	rBV3	136262	207687	2.89%	0.669%
15	18.510	2569	2574	2586	rBV	100477	163388	2.28%	0.526%
16	19.773	2785	2789	2795	rBV3	57317	85987	1.20%	0.277%
17	20.273	2867	2874	2880	rBV	5440632	7176501	100.00%	23.101%
18	21.565	3088	3094	3099	rBV5	56902	103184	1.44%	0.332%
19	22.012	3163	3170	3181	rBV	834641	1453325	20.25%	4.678%
20	23.070	3344	3350	3359	rBV2	95228	176927	2.47%	0.570%
21	25.561	3763	3774	3790	rVB2	474590	1517648	21.15%	4.885%

Sum of corrected areas: 31065150

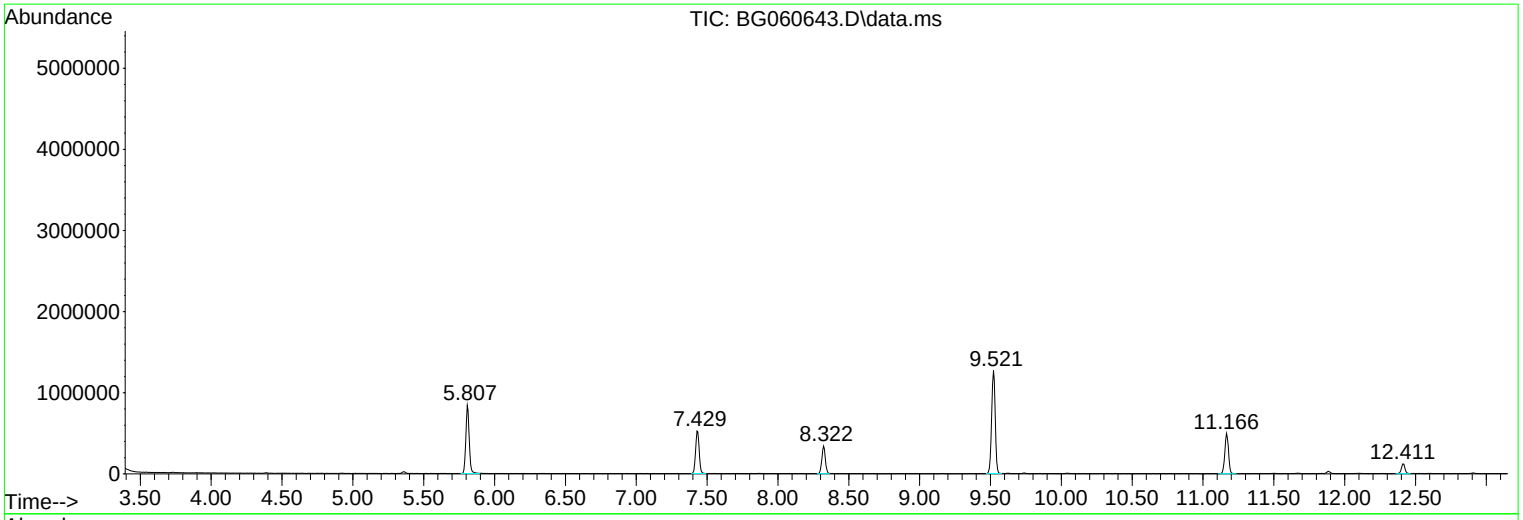
Sample Results: **BG060643.D**

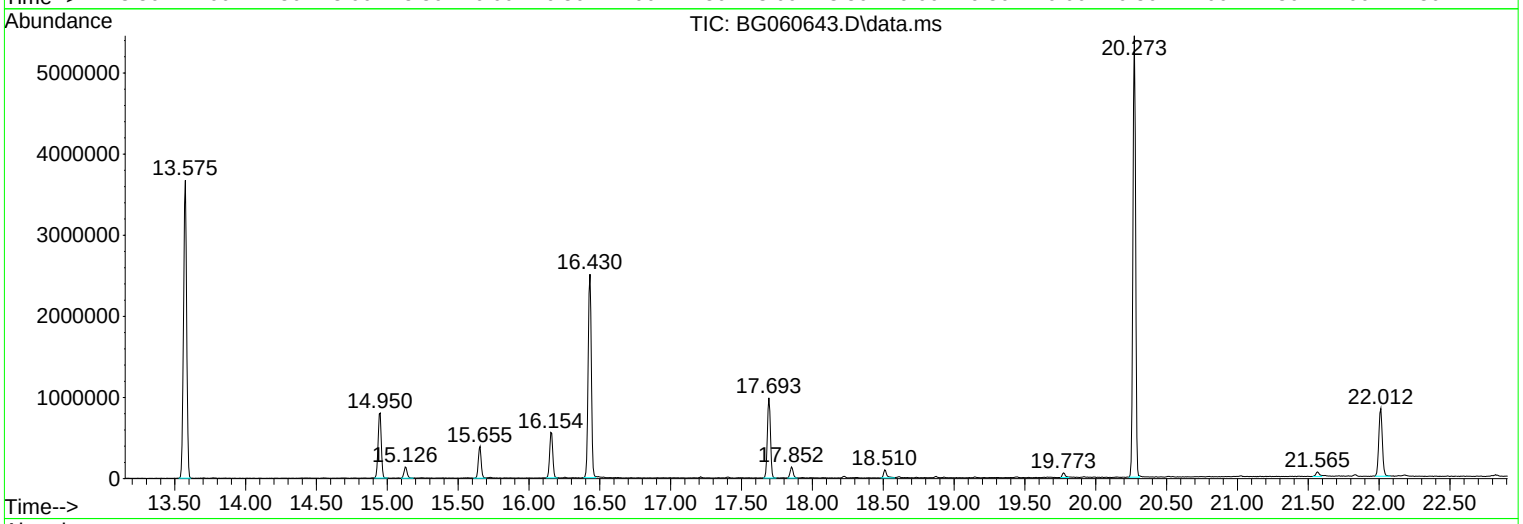
Data Path : Z:\svoasrv\HPCHEM1\BNA_G\Data\BG031424\
Data File : BG060643.D
Acq On : 14 Mar 2024 17:55
Operator : MA/JU
Sample : P1747-01
Misc :
ALS Vial : 13 Sample Multiplier: 1

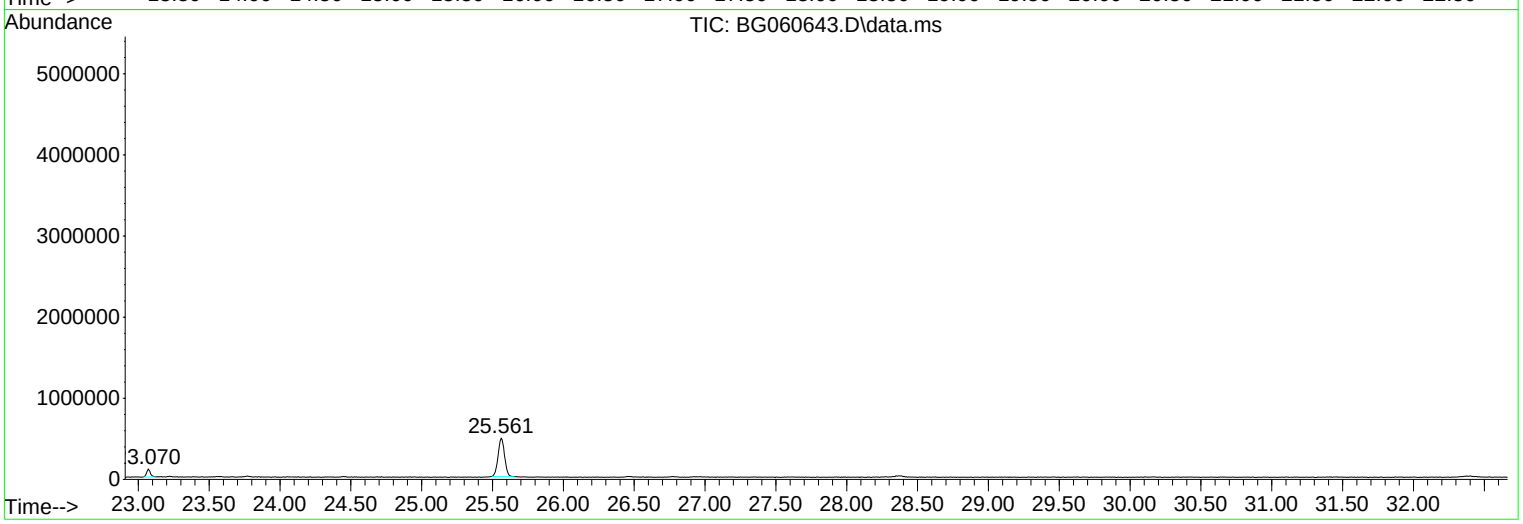
Instrument :
BNA_G
ClientSampleId :
MW-01

Quant Method : Z:\svoasrv\HPCHEM1\BNA_G\Methods\8270-BG031324.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

TIC Library : C:\Database\NIST20.L
TIC Integration Parameters: LSCINT.P







Sample Results: **BG060643.D**

Data Path : Z:\svoasrv\HPCHEM1\BNA_G\Data\BG031424\
Data File : BG060643.D
Acq On : 14 Mar 2024 17:55
Operator : MA/JU
Sample : P1747-01
Misc :
ALS Vial : 13 Sample Multiplier: 1

Instrument :
BNA_G
ClientSampleId :
MW-01

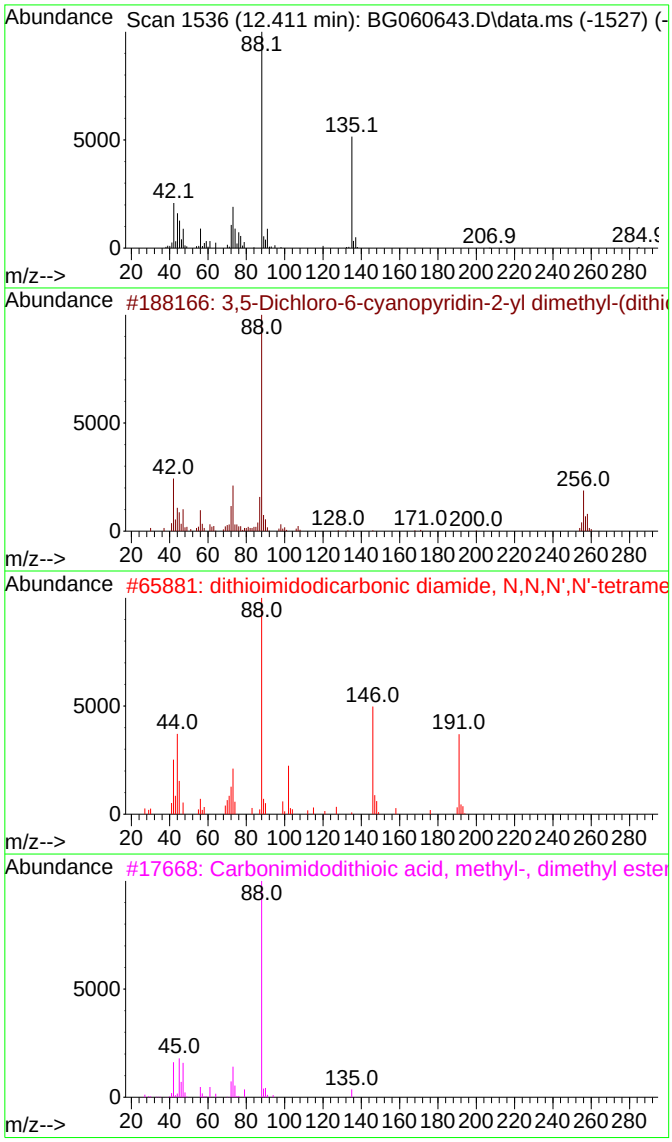
Quant Method : Z:\svoasrv\HPCHEM1\BNA_G\Methods\8270-BG031324.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

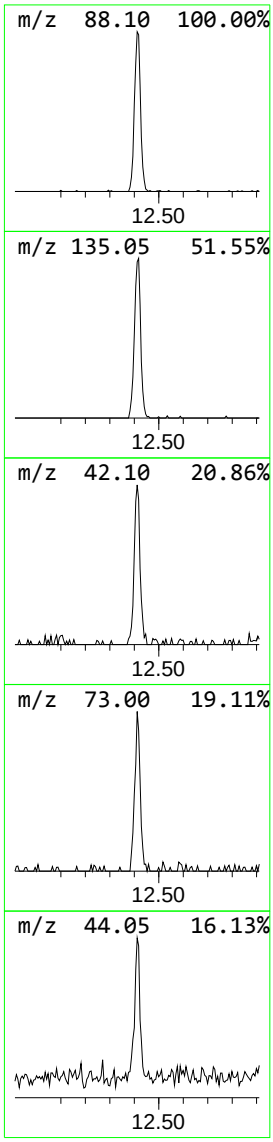
TIC Library : C:\Database\NIST20.L
TIC Integration Parameters: LSCINT.P

****
Peak Number 1 3,5-Dichloro-6-cyanopyridin... Concentration Rank 3

R.T.	EstConc	Area	Relative to ISTD	R.T.
12.411	4.78 ng	213427	Naphthalene-d8	11.166

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	3,5-Dichloro-6-cyanopyridin-2-yl...	291	C9H7Cl2N3S2	1000305-58-3	59
2	dithioimidodicarbonic diamide, N...	191	C6H13N3S2	1000400-23-8	53
3	Carbonimidodithioic acid, methyl...	135	C4H9NS2	018805-25-9	53
4	Bis(dimethylthiocarbamyl) sulfide	208	C6H12N2S3	000097-74-5	50
5	Methyl(methyl-4-deoxy-2-O-methyl...	218	C9H14O6	052545-23-0	43





Data Path : Z:\svoasrv\HPCHEM1\BNA_G\Data\BG031424\
Data File : BG060643.D
Acq On : 14 Mar 2024 17:55
Operator : MA/JU
Sample : P1747-01
Misc :
ALS Vial : 13 Sample Multiplier: 1

Instrument :
BNA_G
ClientSampleId :
MW-01

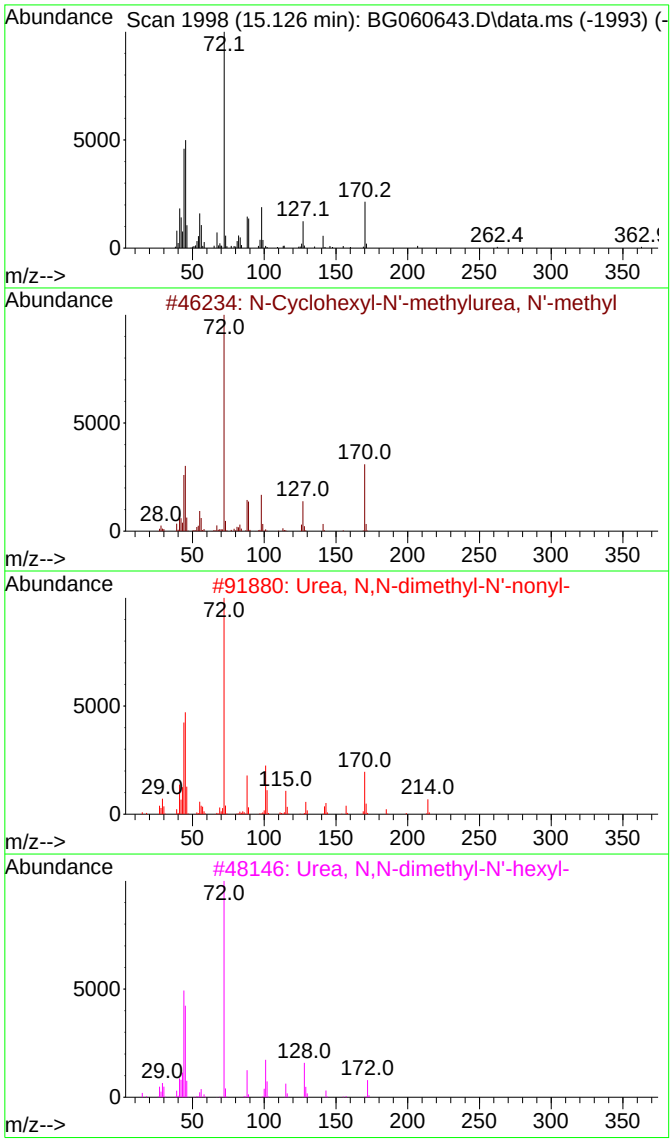
Quant Method : Z:\svoasrv\HPCHEM1\BNA_G\Methods\8270-BG031324.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

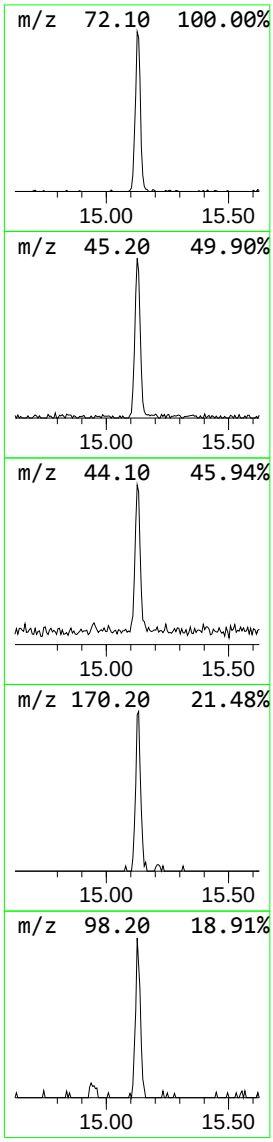
TIC Library : C:\Database\NIST20.L
TIC Integration Parameters: LSCINT.P

****
Peak Number 2 N-Cyclohexyl-N'-methylurea,... Concentration Rank 4

R.T.	EstConc	Area	Relative to ISTD	R.T.
15.126	3.41 ng	214347	Acenaphthene-d10	14.950

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	N-Cyclohexyl-N'-methylurea, N'-m...	170	C9H18N2O	031468-12-9	94
2	Urea, N,N-dimethyl-N'-nonyl-	214	C12H26N2O	1000419-88-7	72
3	Urea, N,N-dimethyl-N'-hexyl-	172	C9H20N2O	1000419-88-3	59
4	Urea, N,N-dimethyl-N'-octyl-	200	C11H24N2O	1000419-88-6	59
5	Urea, N,N-dimethyl-N'-pentyl-	158	C8H18N2O	1000419-88-1	59





Sample Results: **BG060643.D**

Data Path : Z:\svoasrv\HPCHEM1\BNA_G\Data\BG031424\
Data File : BG060643.D
Acq On : 14 Mar 2024 17:55
Operator : MA/JU
Sample : P1747-01
Misc :
ALS Vial : 13 Sample Multiplier: 1

Instrument :
BNA_G
ClientSampleId :
MW-01

Quant Method : Z:\svoasrv\HPCHEM1\BNA_G\Methods\8270-BG031324.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

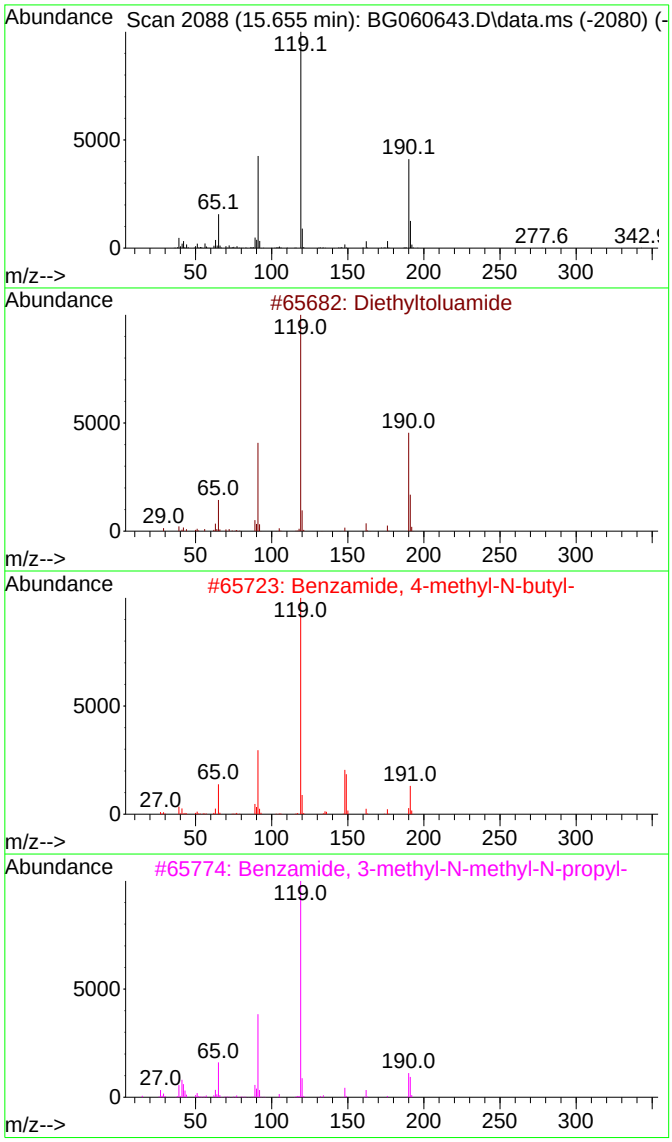
TIC Library : C:\Database\NIST20.L
TIC Integration Parameters: LSCINT.P

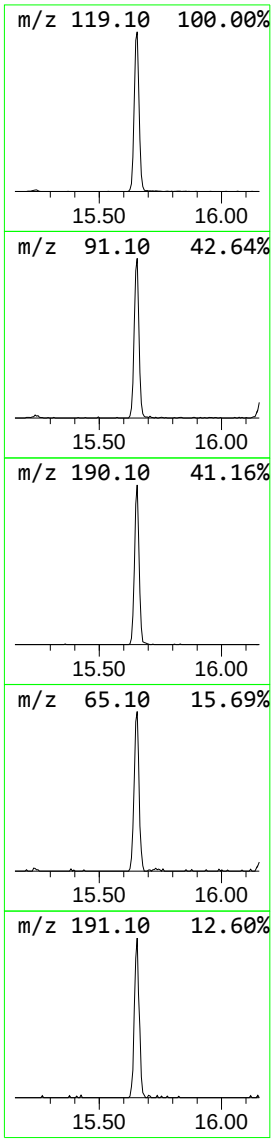
****

Peak Number 3 Diethyltoluamide Concentration Rank 2

R.T.	EstConc	Area	Relative to ISTD	R.T.
15.655	8.84 ng	554852	Acenaphthene-d10	14.950

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Diethyltoluamide	191	C12H17NO	000134-62-3	96
2	Benzamide, 4-methyl-N-butyl-	191	C12H17NO	1000407-46-6	76
3	Benzamide, 3-methyl-N-methyl-N-p...	191	C12H17NO	1000421-46-2	76
4	Benzamide, 3-methyl-N-butyl-	191	C12H17NO	1000407-41-1	76
5	Benzamide, N,N-diethyl-4-methyl-	191	C12H17NO	002728-05-4	76





Data Path : Z:\svoasrv\HPCHEM1\BNA_G\Data\BG031424\
Data File : BG060643.D
Acq On : 14 Mar 2024 17:55
Operator : MA/JU
Sample : P1747-01
Misc :
ALS Vial : 13 Sample Multiplier: 1

Instrument :
BNA_G
ClientSampleId :
MW-01

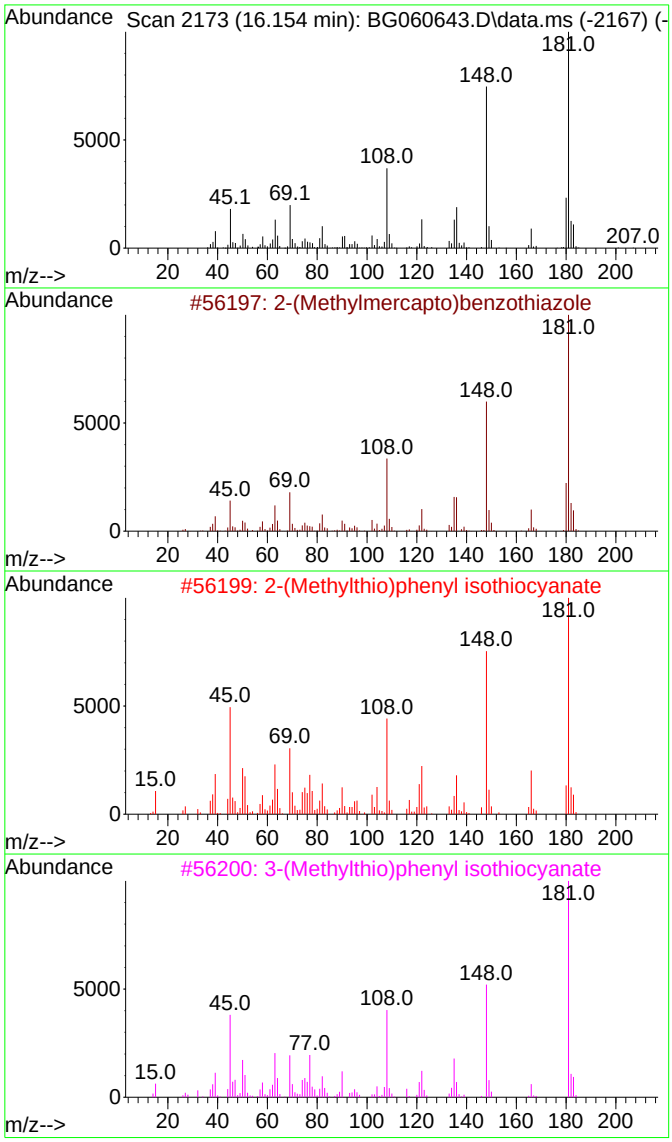
Quant Method : Z:\svoasrv\HPCHEM1\BNA_G\Methods\8270-BG031324.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

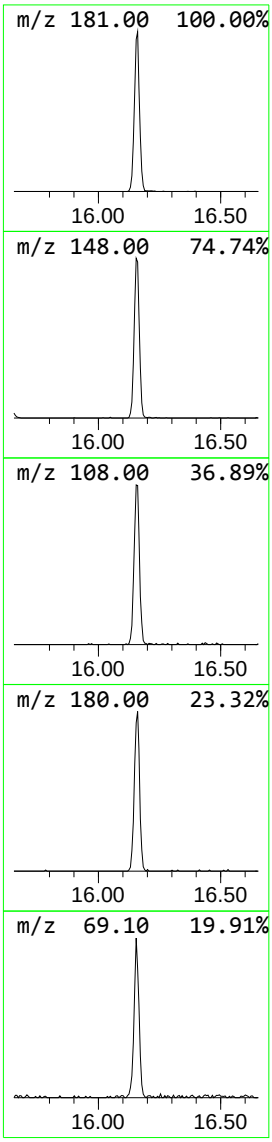
TIC Library : C:\Database\NIST20.L
TIC Integration Parameters: LSCINT.P

****
Peak Number 4 2-(Methylmercapto)benzothia... Concentration Rank 1

R.T.	EstConc	Area	Relative to ISTD	R.T.
16.154	13.67 ng	858322	Acenaphthene-d10	14.950

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	2-(Methylmercapto)benzothiazole	181	C8H7NS2	000615-22-5	99
2	2-(Methylthio)phenyl isothiocyanate	181	C8H7NS2	051333-75-6	80
3	3-(Methylthio)phenyl isothiocyanate	181	C8H7NS2	051333-80-3	68
4	2(3H)-Benzothiazolethione, 3-met...	181	C8H7NS2	002254-94-6	58
5	4-(Methylthio)phenyl isothiocyanate	181	C8H7NS2	015863-41-9	50





Data Path : Z:\svoasrv\HPCHEM1\BNA_G\Data\BG031424\
Data File : BG060643.D
Acq On : 14 Mar 2024 17:55
Operator : MA/JU
Sample : P1747-01
Misc :
ALS Vial : 13 Sample Multiplier: 1

Instrument :
BNA_G
ClientSampleId :
MW-01

Quant Method : Z:\svoasrv\HPCHEM1\BNA_G\Methods\8270-BG031324.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

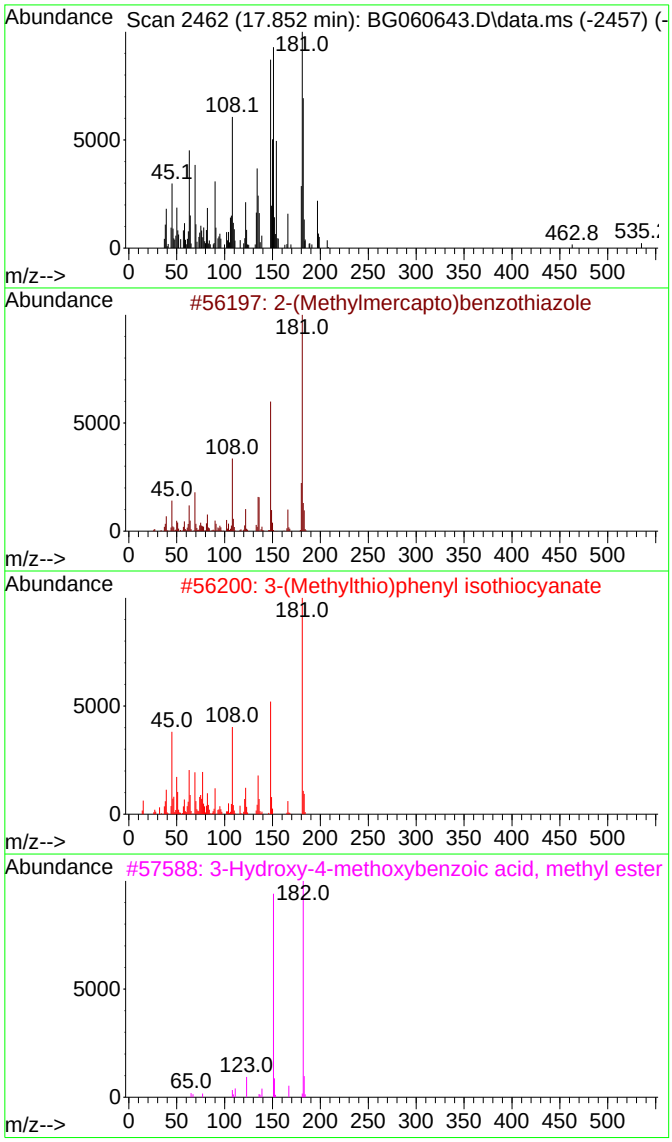
TIC Library : C:\Database\NIST20.L
TIC Integration Parameters: LSCINT.P

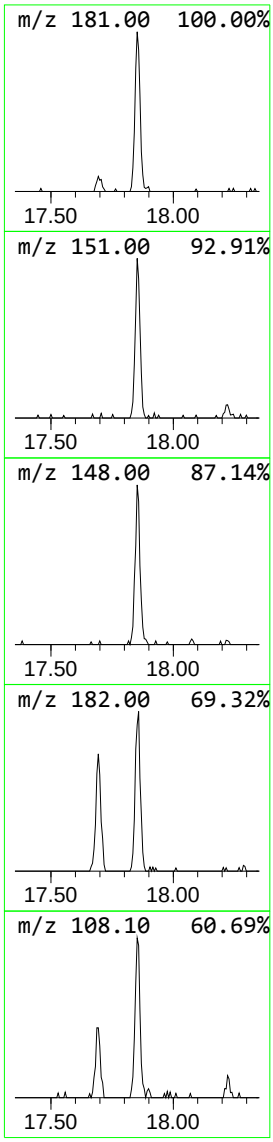
****

Peak Number 5 unknown17.582 Concentration Rank 5

R.T.	EstConc	Area	Relative to ISTD	R.T.
17.852	2.79 ng	207687	Phenanthrene-d10	17.694

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	2-(Methylmercapto)benzothiazole	181	C8H7NS2	000615-22-5	50
2	3-(Methylthio)phenyl isothiocyanate	181	C8H7NS2	051333-80-3	30
3	3-Hydroxy-4-methoxybenzoic acid,...	182	C9H10O4	006702-50-7	18
4	3-Mercaptobenzoic acid, S-methyl...	182	C9H10O2S	090721-40-7	15
5	Benzoic acid, 4-(methylamino)-	151	C8H9NO2	010541-83-0	15





Data Path : Z:\svoasrv\HPCHEM1\BNA_G\Data\BG031424\
Data File : BG060643.D
Acq On : 14 Mar 2024 17:55
Operator : MA/JU
Sample : P1747-01
Misc :
ALS Vial : 13 Sample Multiplier: 1

Instrument :
BNA_G
ClientSampleId :
MW-01

Quant Method : Z:\svoasrv\HPCHEM1\BNA_G\Methods\8270-BG031324.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

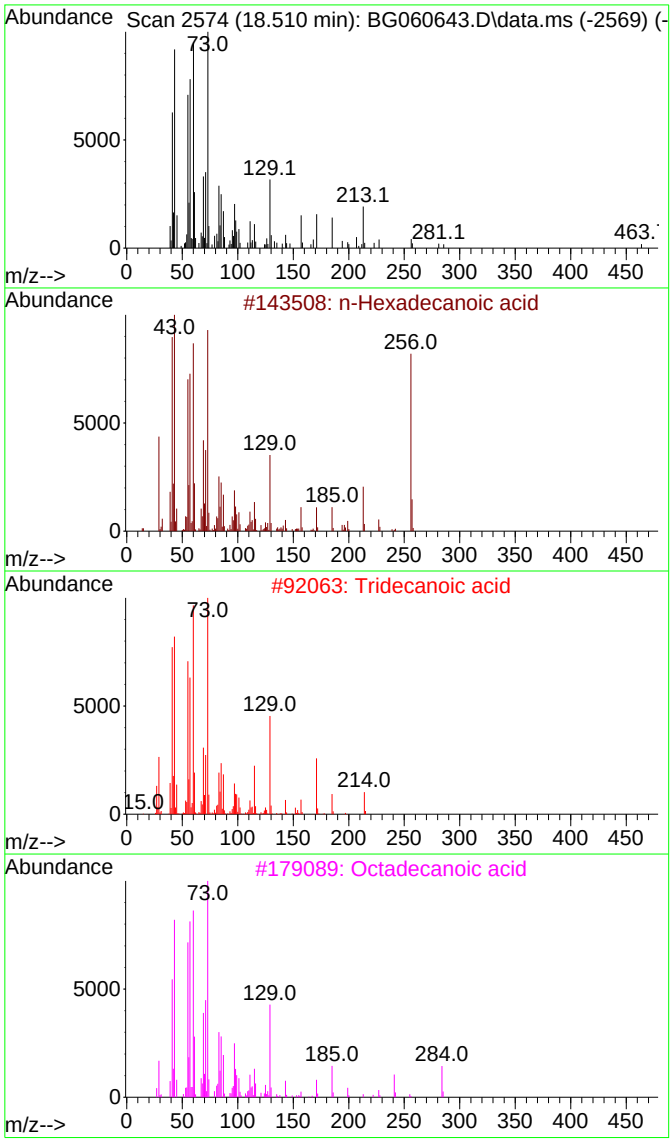
TIC Library : C:\Database\NIST20.L
TIC Integration Parameters: LSCINT.P

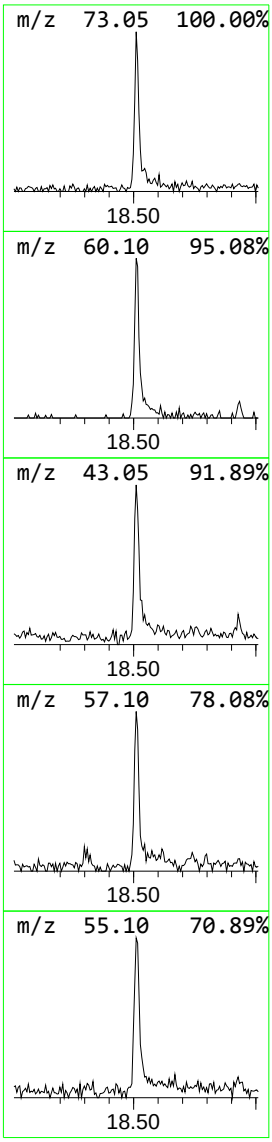
****

Peak Number 6 n-Hexadecanoic acid Concentration Rank 7

R.T.	EstConc	Area	Relative to ISTD	R.T.
18.510	2.19 ng	163388	Phenanthrene-d10	17.694

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	n-Hexadecanoic acid	256	C16H32O2	000057-10-3	98
2	Tridecanoic acid	214	C13H26O2	000638-53-9	90
3	Octadecanoic acid	284	C18H36O2	000057-11-4	87
4	Pentadecanoic acid	242	C15H30O2	001002-84-2	80
5	Tetradecanoic acid	228	C14H28O2	000544-63-8	72





Data Path : Z:\svoasrv\HPCHEM1\BNA_G\Data\BG031424\
Data File : BG060643.D
Acq On : 14 Mar 2024 17:55
Operator : MA/JU
Sample : P1747-01
Misc :
ALS Vial : 13 Sample Multiplier: 1

Instrument :
BNA_G
ClientSampleId :
MW-01

Quant Method : Z:\svoasrv\HPCHEM1\BNA_G\Methods\8270-BG031324.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

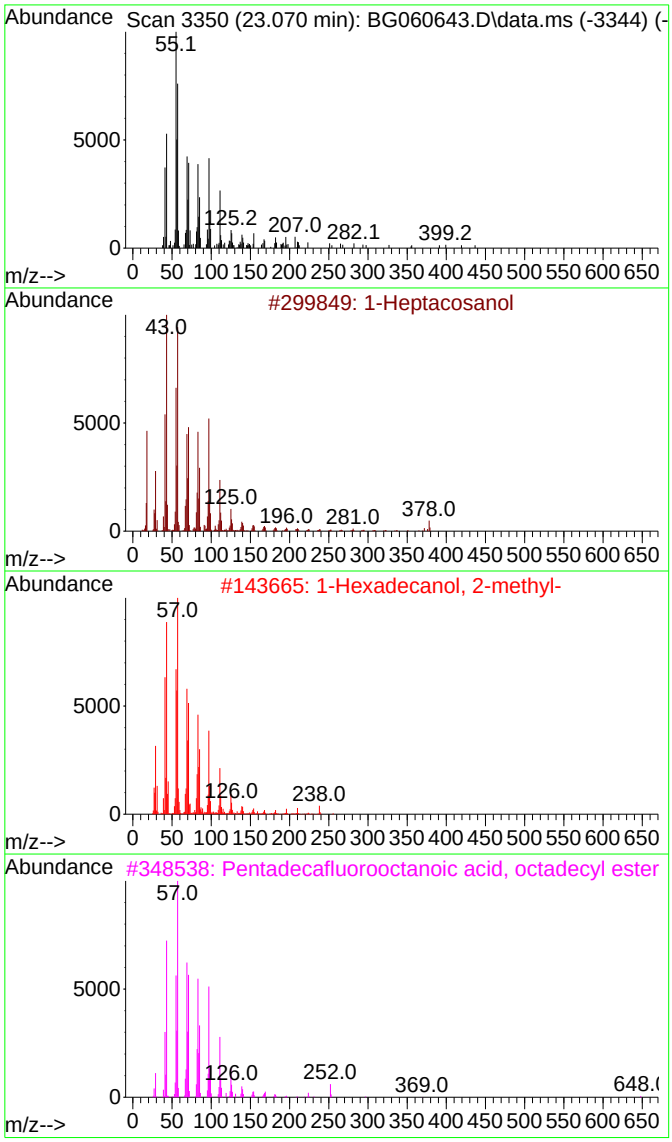
TIC Library : C:\Database\NIST20.L
TIC Integration Parameters: LSCINT.P

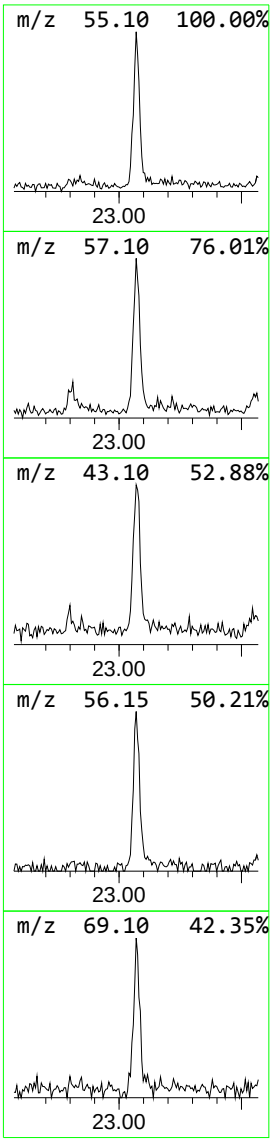
****

Peak Number 7 1-Heptacosanol Concentration Rank 6

R.T.	EstConc	Area	Relative to ISTD	R.T.
23.070	2.43 ng	176927	Chrysene-d12	22.012

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	1-Heptacosanol	396	C27H56O	002004-39-9	83
2	1-Hexadecanol, 2-methyl-	256	C17H36O	002490-48-4	74
3	Pentadecafluorooctanoic acid, oc...	666	C26H37F15O2	1000406-04-8	74
4	Behenic alcohol	326	C22H46O	000661-19-8	72
5	17-Pentatriacontene	491	C35H70	006971-40-0	72





Sample Results: **BG060643.D**

Data Path : Z:\svoasrv\HPCHEM1\BNA_G\Data\BG031424\
Data File : BG060643.D
Acq On : 14 Mar 2024 17:55
Operator : MA/JU
Sample : P1747-01
Misc :
ALS Vial : 13 Sample Multiplier: 1

Instrument :
BNA_G
ClientSampleId :
MW-01

Quant Method : Z:\svoasrv\HPCHEM1\BNA_G\Methods\8270-BG031324.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

TIC Library : C:\Database\NIST20.L
TIC Integration Parameters: LSCINT.P

					Internal Standard			
TIC Top Hit name	RT	EstConc	Units	Response	#	RT	Resp	Conc
3,5-Dichloro-6-...	12.411	4.8	ng	213427	2	11.166	893648	20.0
N-Cyclohexyl-N'...	15.126	3.4	ng	214347	3	14.950	1255460	20.0
Diethyltoluamide	15.655	8.8	ng	554852	3	14.950	1255460	20.0
2-(Methylmercap...	16.154	13.7	ng	858322	3	14.950	1255460	20.0
unknown17.582	17.852	2.8	ng	207687	4	17.694	1489930	20.0
n-Hexadecanoic ...	18.510	2.2	ng	163388	4	17.694	1489930	20.0
1-Heptacosanol	23.070	2.4	ng	176927	5	22.012	1453330	20.0

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

Report of Analysis

Client:	LiRo Engineers, Inc.	Date Collected:	03/12/24
Project:	Walter Gladwin Recreation Center, Bronx, NY	Date Received:	03/13/24
Client Sample ID:	MW-01-DUP	SDG No.:	P1747
Lab Sample ID:	P1747-02	Matrix:	Water
Analytical Method:	SW8270	% Solid:	0
Sample Wt/Vol:	980 Units: mL	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOC-TCL BNA -20
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :
Prep Method :	SW3510C		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BG060644.D	1	03/14/24 10:06	03/14/24 18:36	PB159586

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units
TARGETS						
100-52-7	Benzaldehyde	4.10	U	4.10	10.2	ug/L
108-95-2	Phenol	0.95	U	0.95	5.10	ug/L
111-44-4	bis(2-Chloroethyl)ether	1.20	U	1.20	5.10	ug/L
95-57-8	2-Chlorophenol	0.72	U	0.72	5.10	ug/L
95-48-7	2-Methylphenol	1.20	U	1.20	5.10	ug/L
108-60-1	2,2-oxybis(1-Chloropropane)	1.40	U	1.40	5.10	ug/L
98-86-2	Acetophenone	1.10	U	1.10	5.10	ug/L
65794-96-9	3+4-Methylphenols	1.20	U	1.20	10.2	ug/L
621-64-7	n-Nitroso-di-n-propylamine	1.50	U	1.50	2.60	ug/L
67-72-1	Hexachloroethane	1.00	U	1.00	5.10	ug/L
98-95-3	Nitrobenzene	1.30	U	1.30	5.10	ug/L
78-59-1	Isophorone	1.20	U	1.20	5.10	ug/L
88-75-5	2-Nitrophenol	2.00	U	2.00	5.10	ug/L
105-67-9	2,4-Dimethylphenol	1.50	U	1.50	5.10	ug/L
111-91-1	bis(2-Chloroethoxy)methane	1.00	U	1.00	5.10	ug/L
120-83-2	2,4-Dichlorophenol	0.90	U	0.90	5.10	ug/L
91-20-3	Naphthalene	1.00	U	1.00	5.10	ug/L
106-47-8	4-Chloroaniline	1.30	U	1.30	5.10	ug/L
87-68-3	Hexachlorobutadiene	1.30	U	1.30	5.10	ug/L
105-60-2	Caprolactam	1.70	U	1.70	10.2	ug/L
59-50-7	4-Chloro-3-methylphenol	0.86	U	0.86	5.10	ug/L
91-57-6	2-Methylnaphthalene	1.20	U	1.20	5.10	ug/L
77-47-4	Hexachlorocyclopentadiene	5.10	U	5.10	10.2	ug/L
88-06-2	2,4,6-Trichlorophenol	0.91	U	0.91	5.10	ug/L
95-95-4	2,4,5-Trichlorophenol	1.00	U	1.00	5.10	ug/L
92-52-4	1,1-Biphenyl	0.93	U	0.93	5.10	ug/L
91-58-7	2-Chloronaphthalene	0.99	U	0.99	5.10	ug/L
88-74-4	2-Nitroaniline	1.40	U	1.40	5.10	ug/L
131-11-3	Dimethylphthalate	0.95	U	0.95	5.10	ug/L
208-96-8	Acenaphthylene	1.10	U	1.10	5.10	ug/L
606-20-2	2,6-Dinitrotoluene	1.30	U	1.30	5.10	ug/L

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

Report of Analysis

Client:	LiRo Engineers, Inc.	Date Collected:	03/12/24
Project:	Walter Gladwin Recreation Center, Bronx, NY	Date Received:	03/13/24
Client Sample ID:	MW-01-DUP	SDG No.:	P1747
Lab Sample ID:	P1747-02	Matrix:	Water
Analytical Method:	SW8270	% Solid:	0
Sample Wt/Vol:	980 Units: mL	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOC-TCL BNA -20
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :
Prep Method :	SW3510C		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BG060644.D	1	03/14/24 10:06	03/14/24 18:36	PB159586

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units
99-09-2	3-Nitroaniline	1.40	U	1.40	5.10	ug/L
83-32-9	Acenaphthene	0.83	U	0.83	5.10	ug/L
51-28-5	2,4-Dinitrophenol	6.60	U	6.60	10.2	ug/L
100-02-7	4-Nitrophenol	2.00	U	2.00	10.2	ug/L
132-64-9	Dibenzofuran	0.95	U	0.95	5.10	ug/L
121-14-2	2,4-Dinitrotoluene	1.60	U	1.60	5.10	ug/L
84-66-2	Diethylphthalate	1.10	U	1.10	5.10	ug/L
7005-72-3	4-Chlorophenyl-phenylether	1.00	U	1.00	5.10	ug/L
86-73-7	Fluorene	0.98	U	0.98	5.10	ug/L
100-01-6	4-Nitroaniline	2.10	U	2.10	5.10	ug/L
534-52-1	4,6-Dinitro-2-methylphenol	3.10	U	3.10	10.2	ug/L
86-30-6	n-Nitrosodiphenylamine	0.91	U	0.91	5.10	ug/L
101-55-3	4-Bromophenyl-phenylether	0.97	U	0.97	5.10	ug/L
118-74-1	Hexachlorobenzene	1.20	U	1.20	5.10	ug/L
1912-24-9	Atrazine	1.30	U	1.30	5.10	ug/L
87-86-5	Pentachlorophenol	1.90	U	1.90	10.2	ug/L
85-01-8	Phenanthrene	0.91	U	0.91	5.10	ug/L
120-12-7	Anthracene	1.10	U	1.10	5.10	ug/L
86-74-8	Carbazole	1.20	U	1.20	5.10	ug/L
84-74-2	Di-n-butylphthalate	1.50	U	1.50	5.10	ug/L
206-44-0	Fluoranthene	1.30	U	1.30	5.10	ug/L
129-00-0	Pyrene	1.10	U	1.10	5.10	ug/L
85-68-7	Butylbenzylphthalate	2.10	U	2.10	5.10	ug/L
91-94-1	3,3-Dichlorobenzidine	1.30	U	1.30	10.2	ug/L
56-55-3	Benzo(a)anthracene	0.96	U	0.96	5.10	ug/L
218-01-9	Chrysene	0.88	U	0.88	5.10	ug/L
117-81-7	Bis(2-ethylhexyl)phthalate	1.90	U	1.90	5.10	ug/L
117-84-0	Di-n-octyl phthalate	2.60	U	2.60	10.2	ug/L
205-99-2	Benzo(b)fluoranthene	1.20	U	1.20	5.10	ug/L
207-08-9	Benzo(k)fluoranthene	1.20	U	1.20	5.10	ug/L
50-32-8	Benzo(a)pyrene	1.70	U	1.70	5.10	ug/L
193-39-5	Indeno(1,2,3-cd)pyrene	1.00	U	1.00	5.10	ug/L
53-70-3	Dibenzo(a,h)anthracene	1.20	U	1.20	5.10	ug/L

Raw Data: **BG060644.D**

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Report of Analysis

Client:	LiRo Engineers, Inc.	Date Collected:	03/12/24
Project:	Walter Gladwin Recreation Center, Bronx, NY	Date Received:	03/13/24
Client Sample ID:	MW-01-DUP	SDG No.:	P1747
Lab Sample ID:	P1747-02	Matrix:	Water
Analytical Method:	SW8270	% Solid:	0
Sample Wt/Vol:	980 Units: mL	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOC-TCL BNA -20
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :
Prep Method :	SW3510C		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BG060644.D	1	03/14/24 10:06	03/14/24 18:36	PB159586

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units
191-24-2	Benzo(g,h,i)perylene	1.20	U	1.20	5.10	ug/L
95-94-3	1,2,4,5-Tetrachlorobenzene	1.10	U	1.10	5.10	ug/L
123-91-1	1,4-Dioxane	1.30	U	1.30	5.10	ug/L
58-90-2	2,3,4,6-Tetrachlorophenol	0.81	U	0.81	5.10	ug/L
SURROGATES						
367-12-4	2-Fluorophenol	60.5		10 - 139	40%	SPK: 150
13127-88-3	Phenol-d6	35.7		10 - 134	24%	SPK: 150
4165-60-0	Nitrobenzene-d5	92.7		49 - 133	93%	SPK: 100
321-60-8	2-Fluorobiphenyl	90.1		52 - 132	90%	SPK: 100
118-79-6	2,4,6-Tribromophenol	137		32 - 145	92%	SPK: 150
1718-51-0	Terphenyl-d14	86.1		36 - 145	86%	SPK: 100
INTERNAL STANDARDS						
3855-82-1	1,4-Dichlorobenzene-d4	95400	8.323			
1146-65-2	Naphthalene-d8	446000	11.167			
15067-26-2	Acenaphthene-d10	305000	14.945			
1517-22-2	Phenanthrene-d10	669000	17.695			
1719-03-5	Chrysene-d12	584000	22.007			
1520-96-3	Perylene-d12	663000	25.562			
TENTATIVE IDENTIFIED COMPOUNDS						
	unknown12.413	5.10	J		12.4	ug/L
031468-12-9	N-Cyclohexyl-N-methylurea, N-met	3.40	J		15.1	ug/L
1000421-46-2	Benzamide, 3-methyl-N-methyl-N-pr(	9.30	J		15.7	ug/L
000615-22-5	2-(Methylmercapto)benzothiazole	14.4	J		16.2	ug/L
	unknown17.853	3.00	J		17.9	ug/L
000057-10-3	n-Hexadecanoic acid	2.20	J		18.5	ug/L
1000406-04-8	Pentadecafluorooctanoic acid, octa	2.10	J		23.1	ug/L

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Report of Analysis

Client:	LiRo Engineers, Inc.	Date Collected:	03/12/24
Project:	Walter Gladwin Recreation Center, Bronx, NY	Date Received:	03/13/24
Client Sample ID:	MW-01-DUP	SDG No.:	P1747
Lab Sample ID:	P1747-02	Matrix:	Water
Analytical Method:	SW8270	% Solid:	0
Sample Wt/Vol:	980 Units: mL	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOC-TCL BNA -20
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup : N	PH :
Prep Method :	SW3510C		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BG060644.D	1	03/14/24 10:06	03/14/24 18:36	PB159586

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
Q = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution
() = Laboratory InHouse Limit
A = Aldol-Condensation Reaction Products

Sample Results: **BG060644.D**

Data Path : Z:\svoasrv\HPCHEM1\BNA_G\Data\BG031424\
Data File : BG060644.D
Acq On : 14 Mar 2024 18:36
Operator : MA/JU
Sample : P1747-02
Misc :
ALS Vial : 14 Sample Multiplier: 1

Instrument :
BNA_G
ClientSampleId :
MW-01-DUP

Quant Time: Mar 15 01:37:01 2024
Quant Method : Z:\svoasrv\HPCHEM1\BNA_G\Methods\8270-BG031324.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION
QLast Update : Thu Mar 14 00:45:22 2024
Response via : Initial Calibration

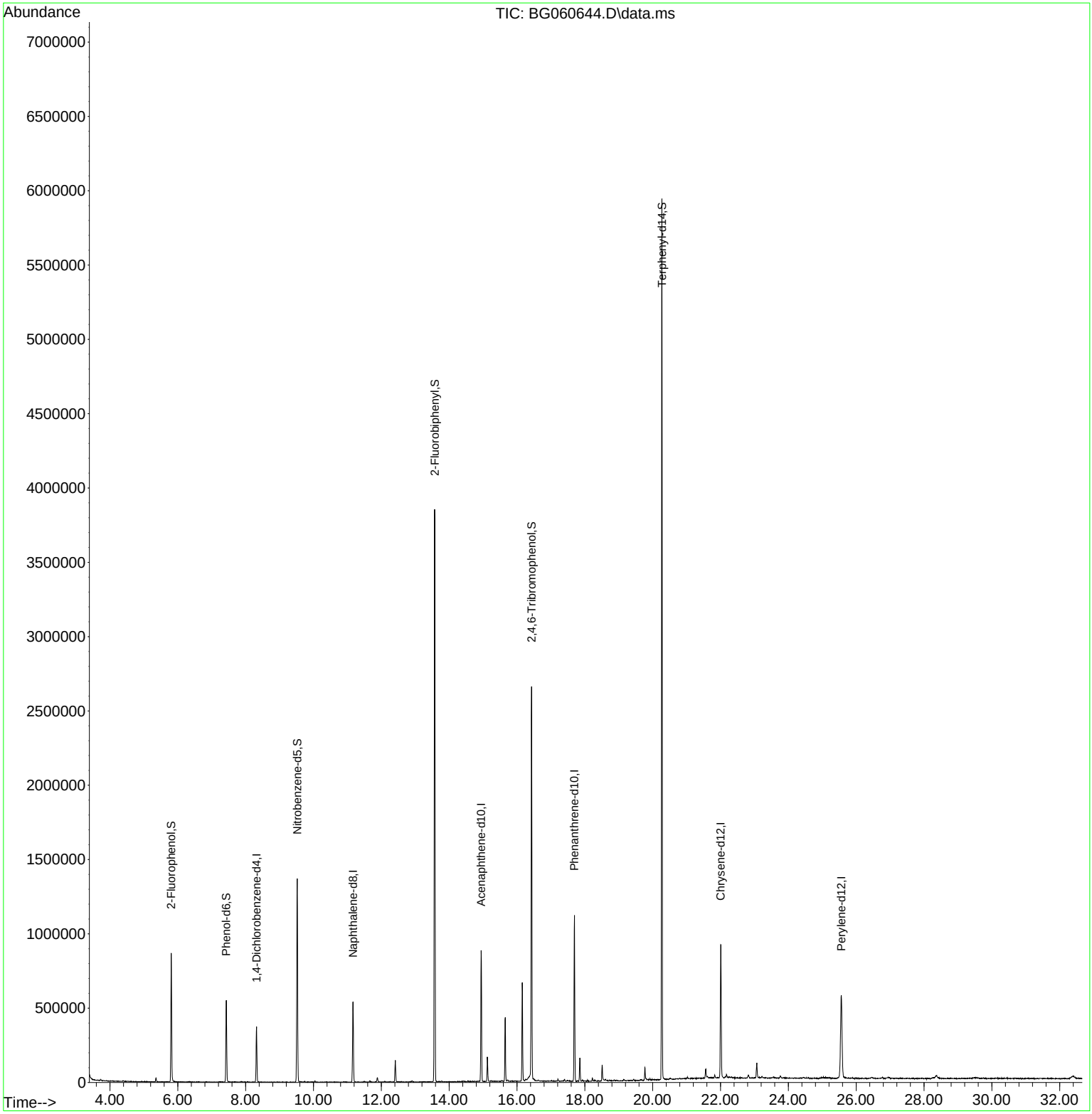
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	8.323	152	95427	20.000	ng	0.00
21) Naphthalene-d8	11.167	136	445954	20.000	ng	0.00
39) Acenaphthene-d10	14.945	164	304535	20.000	ng	0.00
64) Phenanthrene-d10	17.695	188	669477	20.000	ng	0.00
76) Chrysene-d12	22.007	240	584480	20.000	ng	-0.02
86) Perylene-d12	25.562	264	662527	20.000	ng	-0.01
System Monitoring Compounds						
5) 2-Fluorophenol	5.809	112	367414	60.525	ng	0.00
7) Phenol-d6	7.430	99	314059	35.665	ng	0.00
23) Nitrobenzene-d5	9.522	82	794648	92.737	ng	0.00
42) 2,4,6-Tribromophenol	16.431	330	484867	137.398	ng	0.00
45) 2-Fluorobiphenyl	13.576	172	2030489	90.147	ng	0.00
79) Terphenyl-d14	20.274	244	2782609	86.054	ng	0.00
Target Compounds						Qvalue

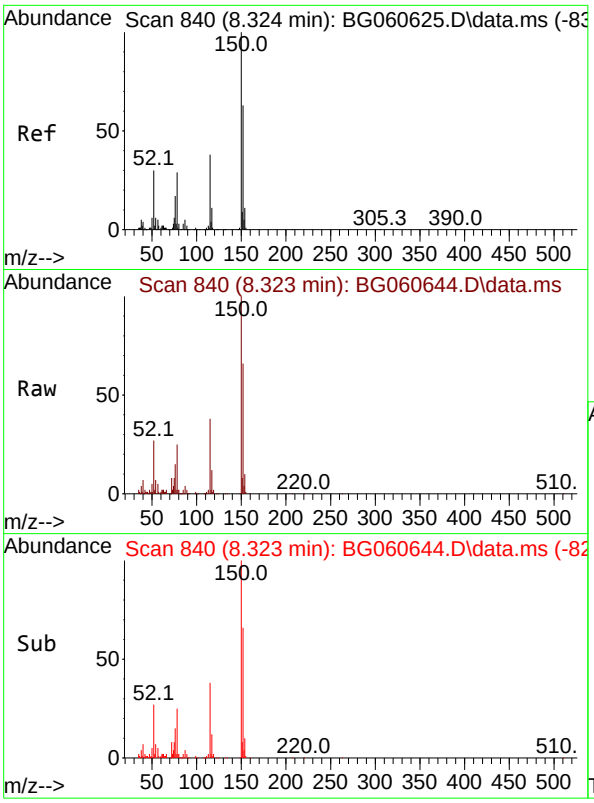
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : Z:\svoasrv\HPCHEM1\BNA_G\Data\BG031424\
Data File : BG060644.D
Acq On : 14 Mar 2024 18:36
Operator : MA/JU
Sample : P1747-02
Misc :
ALS Vial : 14 Sample Multiplier: 1

Instrument :
BNA_G
ClientSampleId :
MW-01-DUP

Quant Time: Mar 15 01:37:01 2024
Quant Method : Z:\svoasrv\HPCHEM1\BNA_G\Methods\8270-BG031324.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION
QLast Update : Thu Mar 14 00:45:22 2024
Response via : Initial Calibration



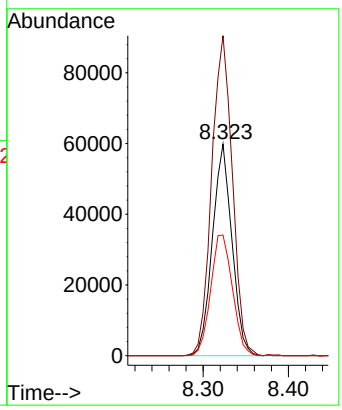


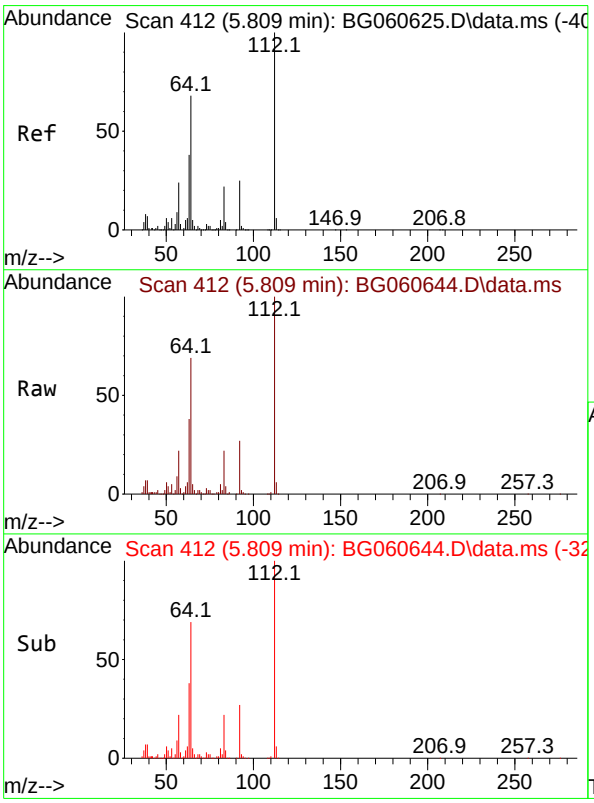
#1
1,4-Dichlorobenzene-d4
Concen: 20.000 ng
RT: 8.323 min Scan# 84
Delta R.T. -0.001 min
Lab File: BG060644.D
Acq: 14 Mar 2024 18:36

Instrument :
BNA_G
ClientSampleId :
MW-01-DUP

Tgt Ion:152 Resp: 95427

Ion	Ratio	Lower	Upper
152	100		
150	151.2	126.6	190.0
115	57.0	47.8	71.8

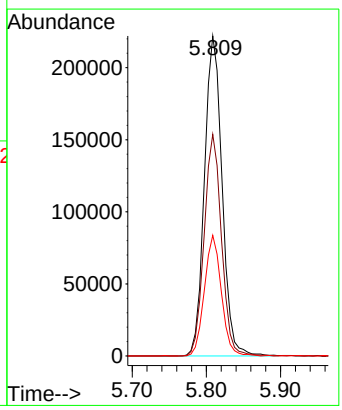


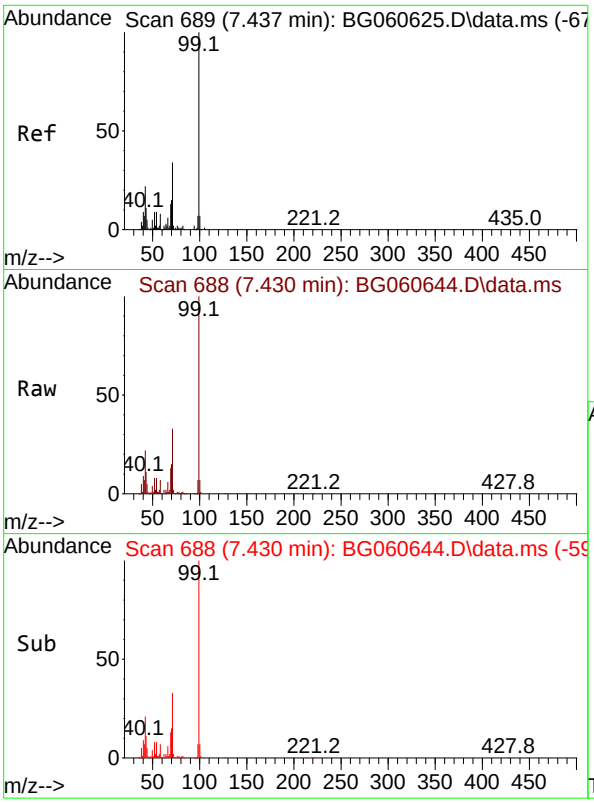


#5
2-Fluorophenol
Concen: 60.525 ng
RT: 5.809 min Scan# 412
Delta R.T. -0.001 min
Lab File: BG060644.D
Acq: 14 Mar 2024 18:36

Tgt Ion:112 Resp: 367414

Ion	Ratio	Lower	Upper
112	100		
64	69.2	54.1	81.1
63	37.7	30.3	45.5



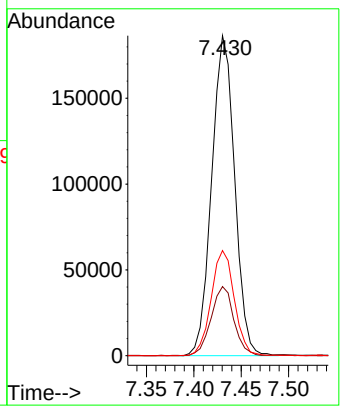


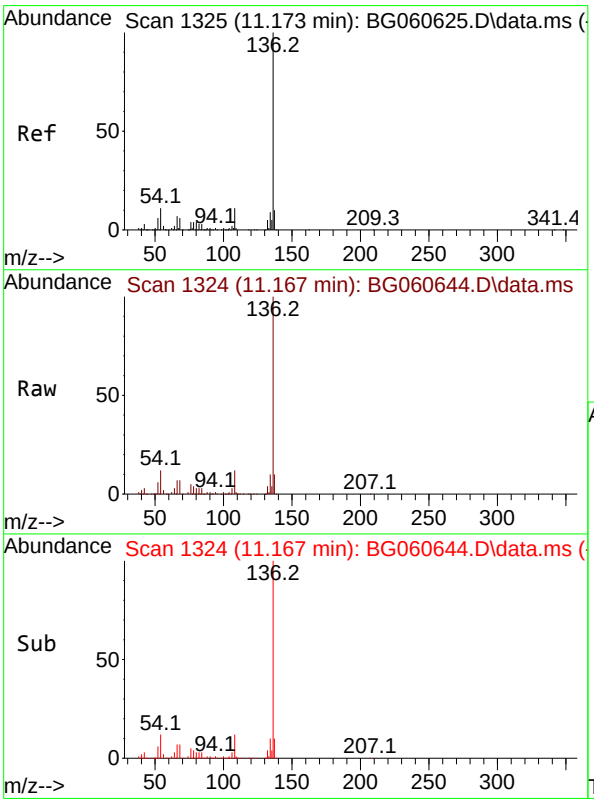
#7
Phenol-d6
Concen: 35.665 ng
RT: 7.430 min Scan# 6
Delta R.T. -0.006 min
Lab File: BG060644.D
Acq: 14 Mar 2024 18:36

Instrument :
BNA_G
ClientSampleId :
MW-01-DUP

Tgt Ion: 99 Resp: 314059

Ion	Ratio	Lower	Upper
99	100		
42	21.6	17.5	26.3
71	32.8	27.4	41.0

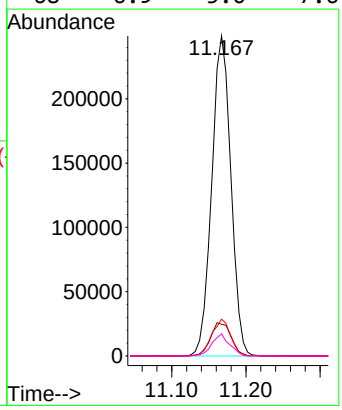


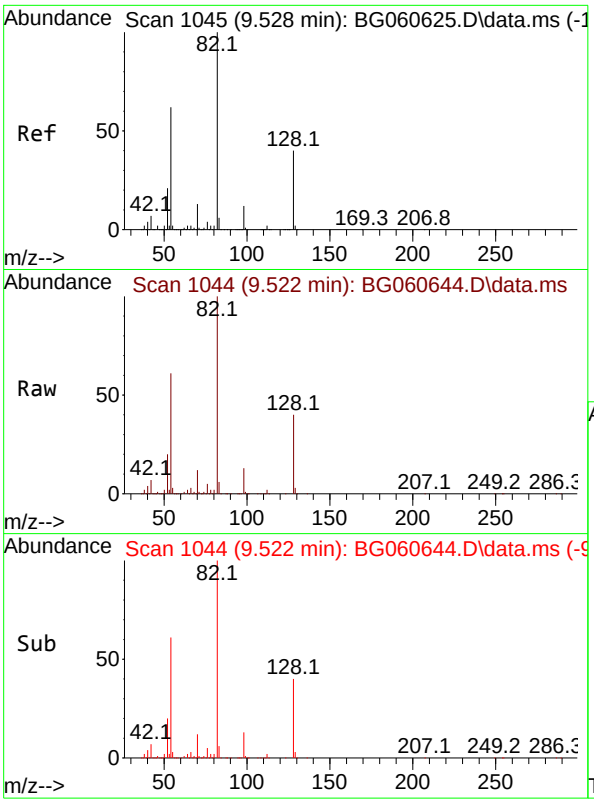


#21
Naphthalene-d8
Concen: 20.000 ng
RT: 11.167 min Scan# 1324
Delta R.T. -0.006 min
Lab File: BG060644.D
Acq: 14 Mar 2024 18:36

Tgt Ion:136 Resp: 445954

Ion	Ratio	Lower	Upper
136	100		
137	9.9	8.4	12.6
54	11.5	8.5	12.7
68	6.9	5.0	7.6



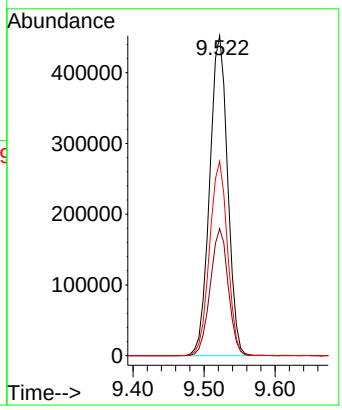


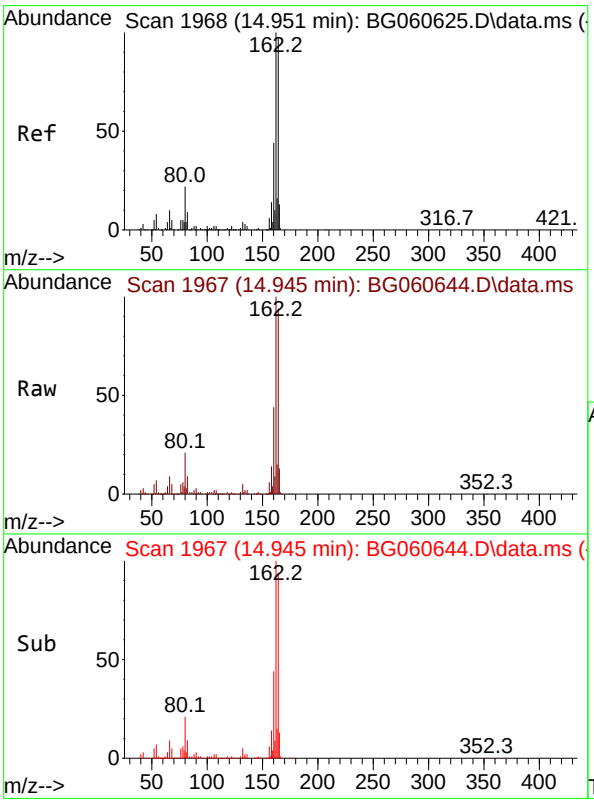
#23
Nitrobenzene-d5
Concen: 92.737 ng
RT: 9.522 min Scan# 1
Delta R.T. -0.006 min
Lab File: BG060644.D
Acq: 14 Mar 2024 18:36

Instrument :
BNA_G
ClientSampleId :
MW-01-DUP

Tgt Ion: 82 Resp: 794648

Ion	Ratio	Lower	Upper
82	100		
128	39.7	31.6	47.4
54	60.8	49.3	73.9

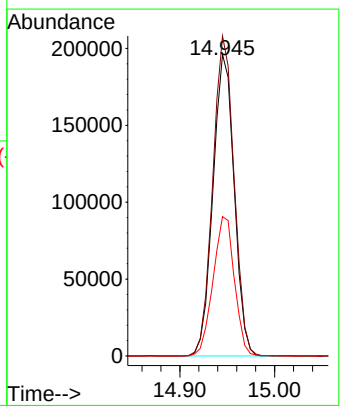


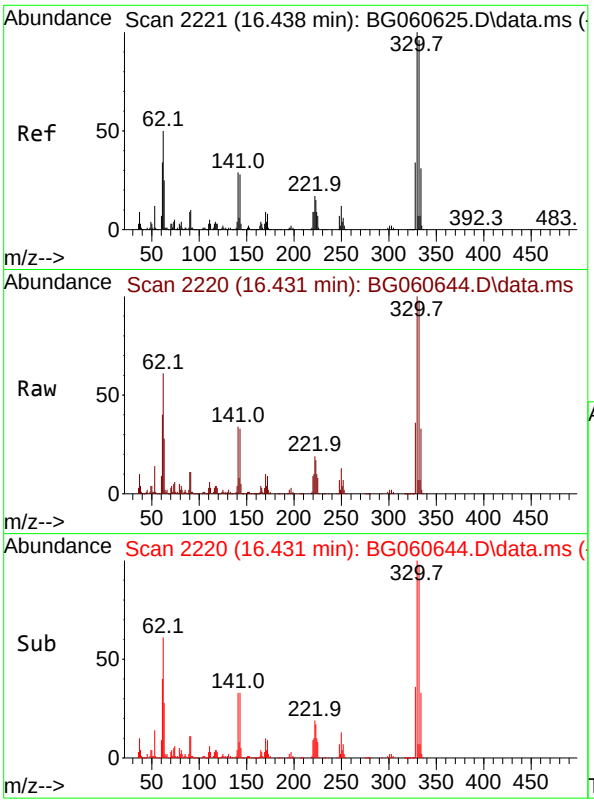


#39
Acenaphthene-d10
Concen: 20.000 ng
RT: 14.945 min Scan# 1967
Delta R.T. -0.006 min
Lab File: BG060644.D
Acq: 14 Mar 2024 18:36

Tgt Ion:164 Resp: 304535

Ion	Ratio	Lower	Upper
164	100		
162	106.2	82.5	123.7
160	46.2	36.4	54.6



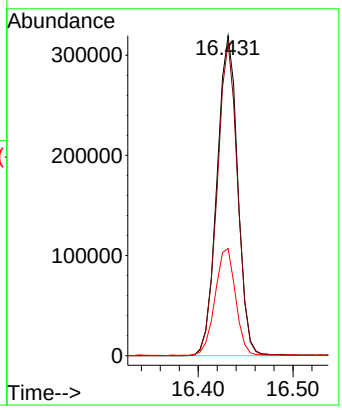


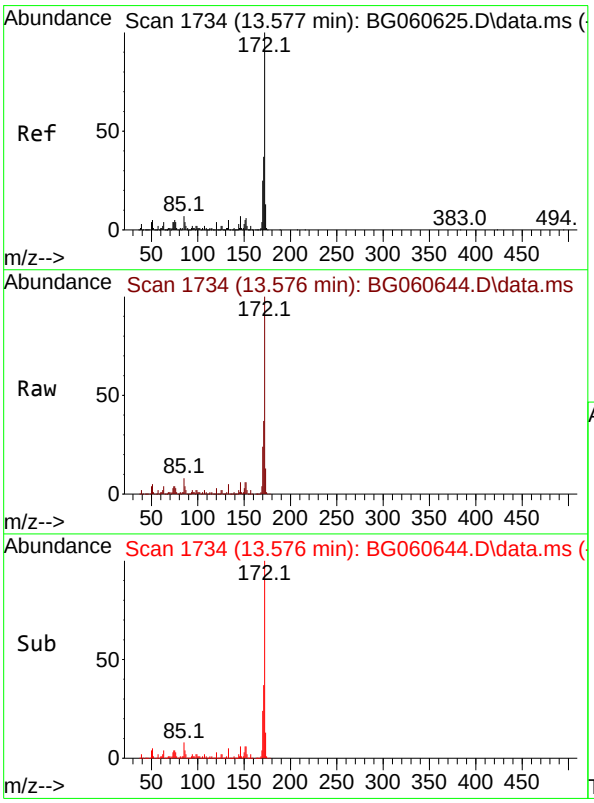
#42
2,4,6-Tribromophenol
Concen: 137.398 ng
RT: 16.431 min Scan# 2
Delta R.T. -0.006 min
Lab File: BG060644.D
Acq: 14 Mar 2024 18:36

Instrument :
BNA_G
ClientSampleId :
MW-01-DUP

Tgt Ion:330 Resp: 484867

Ion	Ratio	Lower	Upper
330	100		
332	96.6	77.8	116.8
141	33.0	25.4	38.2

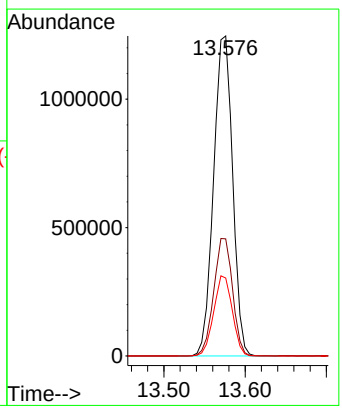


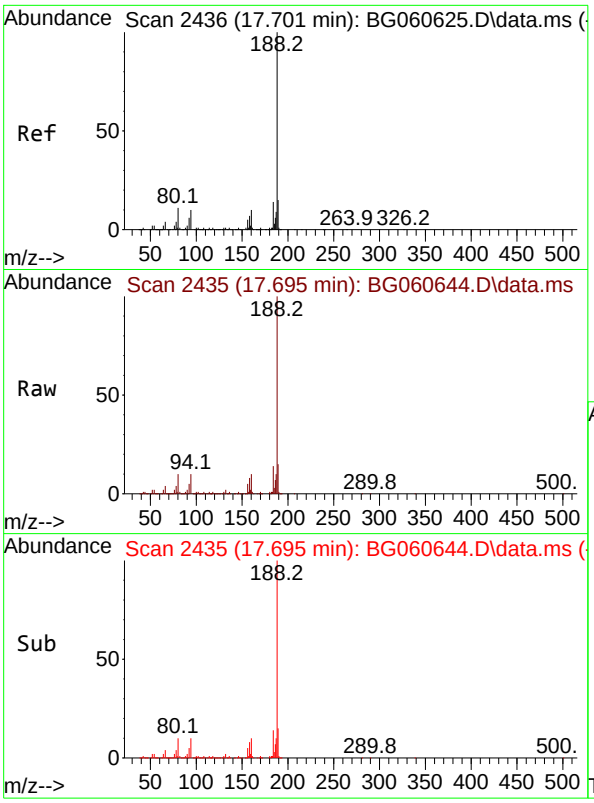


#45
2-Fluorobiphenyl
Concen: 90.147 ng
RT: 13.576 min Scan# 1734
Delta R.T. -0.001 min
Lab File: BG060644.D
Acq: 14 Mar 2024 18:36

Tgt Ion:172 Resp: 2030489

Ion	Ratio	Lower	Upper
172	100		
171	36.6	29.9	44.9
170	24.3	19.8	29.6



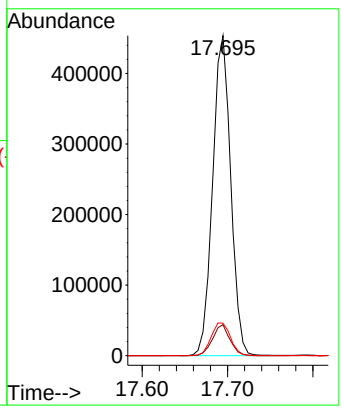


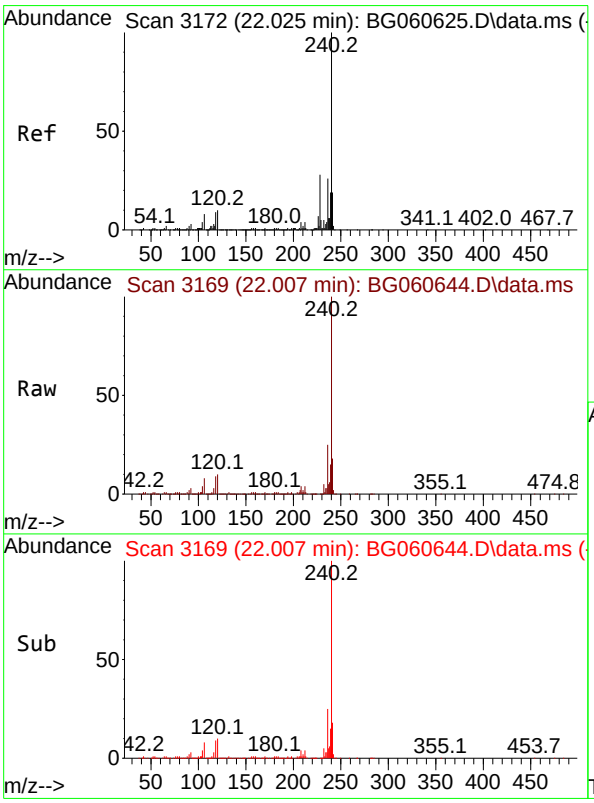
#64
Phenanthrene-d10
Concen: 20.000 ng
RT: 17.695 min Scan# 24
Delta R.T. -0.006 min
Lab File: BG060644.D
Acq: 14 Mar 2024 18:36

Instrument :
BNA_G
ClientSampleId :
MW-01-DUP

Tgt Ion:188 Resp: 669477

Ion	Ratio	Lower	Upper
188	100		
94	9.7	7.9	11.9
80	10.2	8.6	13.0

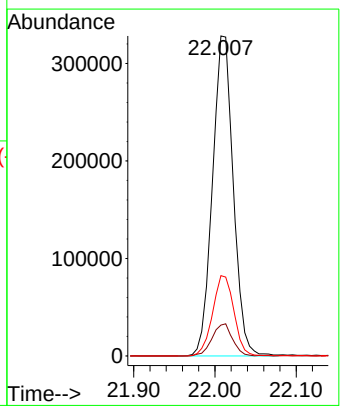


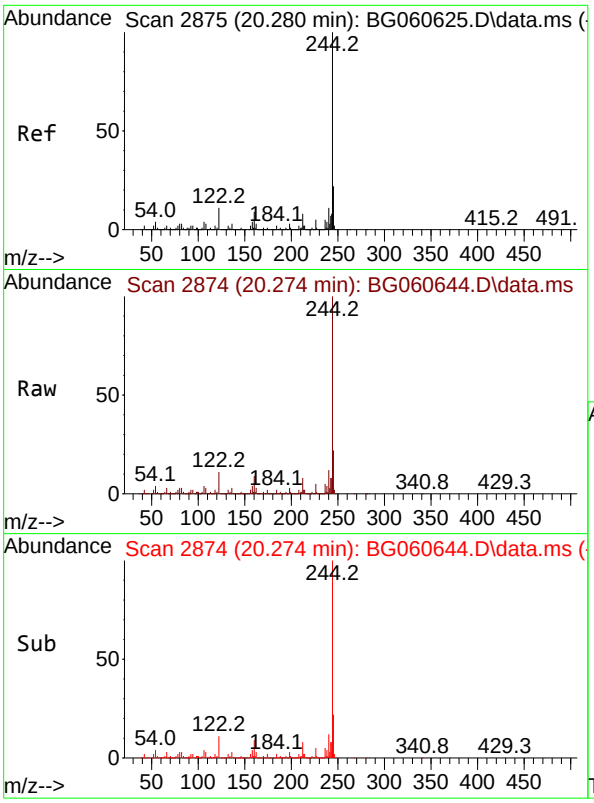


#76
Chrysene-d12
Concen: 20.000 ng
RT: 22.007 min Scan# 3169
Delta R.T. -0.018 min
Lab File: BG060644.D
Acq: 14 Mar 2024 18:36

Tgt Ion:240 Resp: 584480

Ion	Ratio	Lower	Upper
240	100		
120	9.7	7.8	11.8
236	25.1	20.6	31.0



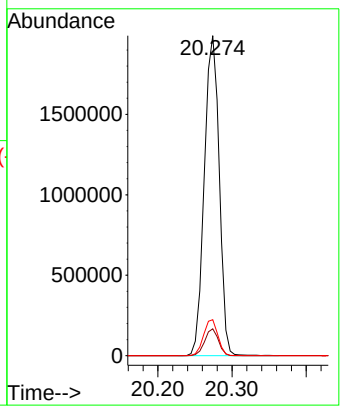


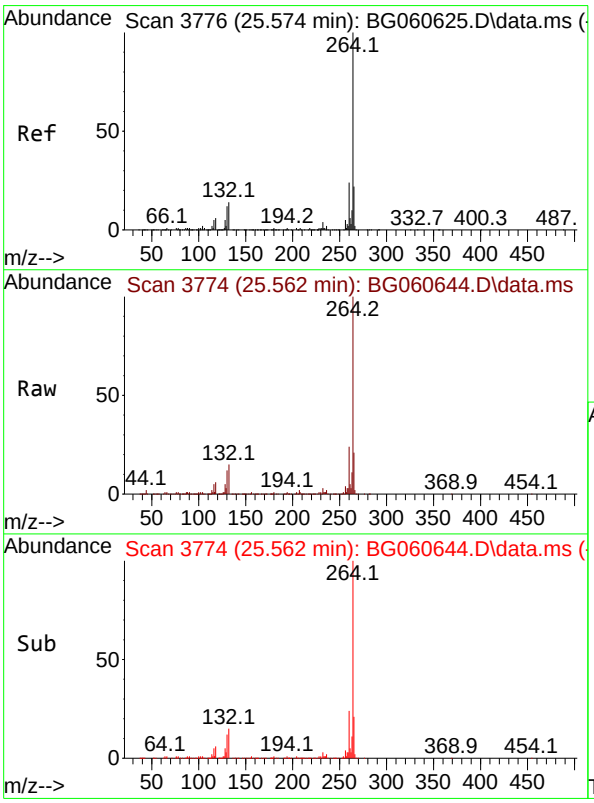
#79
Terphenyl-d14
Concen: 86.054 ng
RT: 20.274 min Scan# 2
Delta R.T. -0.006 min
Lab File: BG060644.D
Acq: 14 Mar 2024 18:36

Instrument :
BNA_G
ClientSampleId :
MW-01-DUP

Tgt Ion:244 Resp: 2782609

Ion	Ratio	Lower	Upper
244	100		
212	8.4	6.6	9.8
122	11.3	8.5	12.7

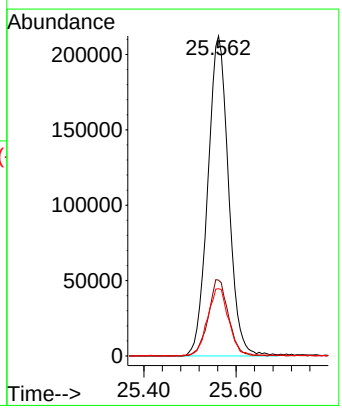




#86
Perylene-d12
Concen: 20.000 ng
RT: 25.562 min Scan# 3774
Delta R.T. -0.012 min
Lab File: BG060644.D
Acq: 14 Mar 2024 18:36

Tgt Ion:264 Resp: 662527

Ion	Ratio	Lower	Upper
264	100		
260	23.7	19.4	29.2
265	21.0	18.1	27.1



Sample Results: **BG060644.D**

Data Path : Z:\svoasrv\HPCHEM1\BNA_G\Data\BG031424\
Data File : BG060644.D
Acq On : 14 Mar 2024 18:36
Operator : MA/JU
Sample : P1747-02
Misc :
ALS Vial : 14 Sample Multiplier: 1

Instrument :
BNA_G
ClientSampleId :
MW-01-DUP

Integration Parameters: rteint.p
Integrator: RTE
Smoothing : ON Filtering: 5
Sampling : 1 Min Area: 3 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : Z:\svoasrv\HPCHEM1\BNA_G\Methods\8270-BG031324.M
Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

Signal : TIC: BG060644.D\data.ms

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	5.809	405	412	424	rBV	864795	1408358	17.83%	4.170%
2	7.430	681	688	697	rBV	550000	953413	12.07%	2.823%
3	8.323	832	840	848	rVB	372103	635271	8.04%	1.881%
4	9.522	1036	1044	1052	rBV	1369162	2422800	30.67%	7.174%
5	11.167	1316	1324	1335	rBV	540511	972862	12.31%	2.881%
6	12.413	1529	1536	1545	rBV	147147	241621	3.06%	0.715%
7	13.570	1726	1733	1741	rVB	3848965	6143470	77.76%	18.192%
8	14.945	1960	1967	1974	rBV	880878	1387889	17.57%	4.110%
9	15.127	1993	1998	2006	rBV	164879	232254	2.94%	0.688%
10	15.656	2081	2088	2095	rBV	430463	633270	8.02%	1.875%
11	16.155	2167	2173	2180	rBV	661798	982151	12.43%	2.908%
12	16.431	2213	2220	2228	rVB	2640951	3988985	50.49%	11.812%
13	17.695	2427	2435	2446	rVB	1117634	1675836	21.21%	4.962%
14	17.853	2455	2462	2472	rBV2	158194	242971	3.08%	0.719%
15	18.511	2569	2574	2586	rBV2	108464	178202	2.26%	0.528%
16	19.769	2784	2788	2794	rBV	85617	121272	1.54%	0.359%
17	20.274	2867	2874	2881	rBV	5924862	7900327	100.00%	23.394%
18	21.567	3089	3094	3100	rBV3	61109	102753	1.30%	0.304%
19	22.007	3162	3169	3186	rVB2	897679	1657278	20.98%	4.908%
20	23.071	3344	3350	3357	rBV2	101220	173731	2.20%	0.514%
21	25.562	3761	3774	3786	rBV	553867	1715458	21.71%	5.080%

Sum of corrected areas: 33770172

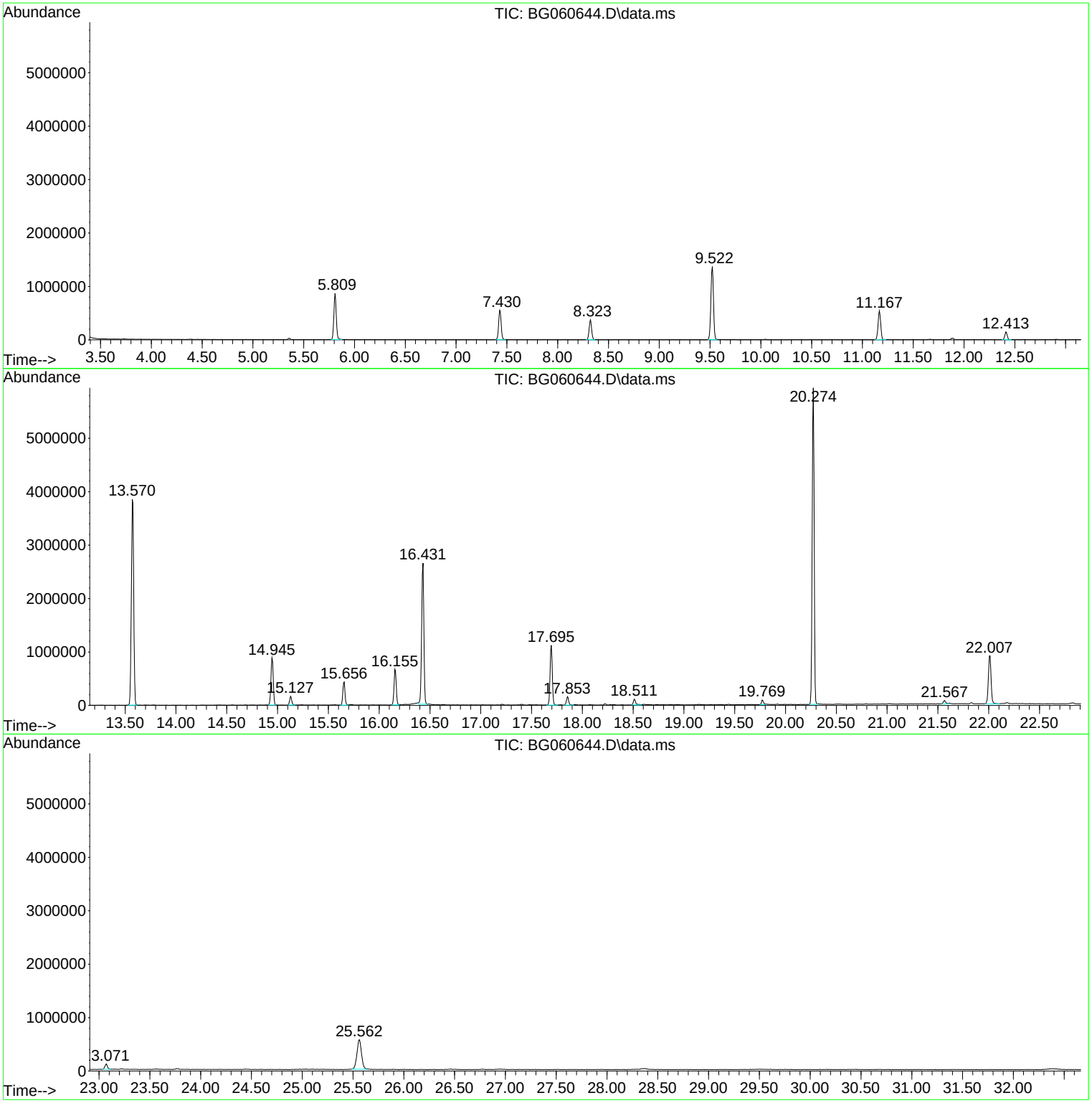
Sample Results: **BG060644.D**

Data Path : Z:\svoasrv\HPCHEM1\BNA_G\Data\BG031424\
Data File : BG060644.D
Acq On : 14 Mar 2024 18:36
Operator : MA/JU
Sample : P1747-02
Misc :
ALS Vial : 14 Sample Multiplier: 1

Instrument :
BNA_G
ClientSampleId :
MW-01-DUP

Quant Method : Z:\svoasrv\HPCHEM1\BNA_G\Methods\8270-BG031324.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

TIC Library : C:\Database\NIST20.L
TIC Integration Parameters: LSCINT.P



Sample Results: **BG060644.D**

Data Path : Z:\svoasrv\HPCHEM1\BNA_G\Data\BG031424\
Data File : BG060644.D
Acq On : 14 Mar 2024 18:36
Operator : MA/JU
Sample : P1747-02
Misc :
ALS Vial : 14 Sample Multiplier: 1

Instrument :
BNA_G
ClientSampleId :
MW-01-DUP

Quant Method : Z:\svoasrv\HPCHEM1\BNA_G\Methods\8270-BG031324.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

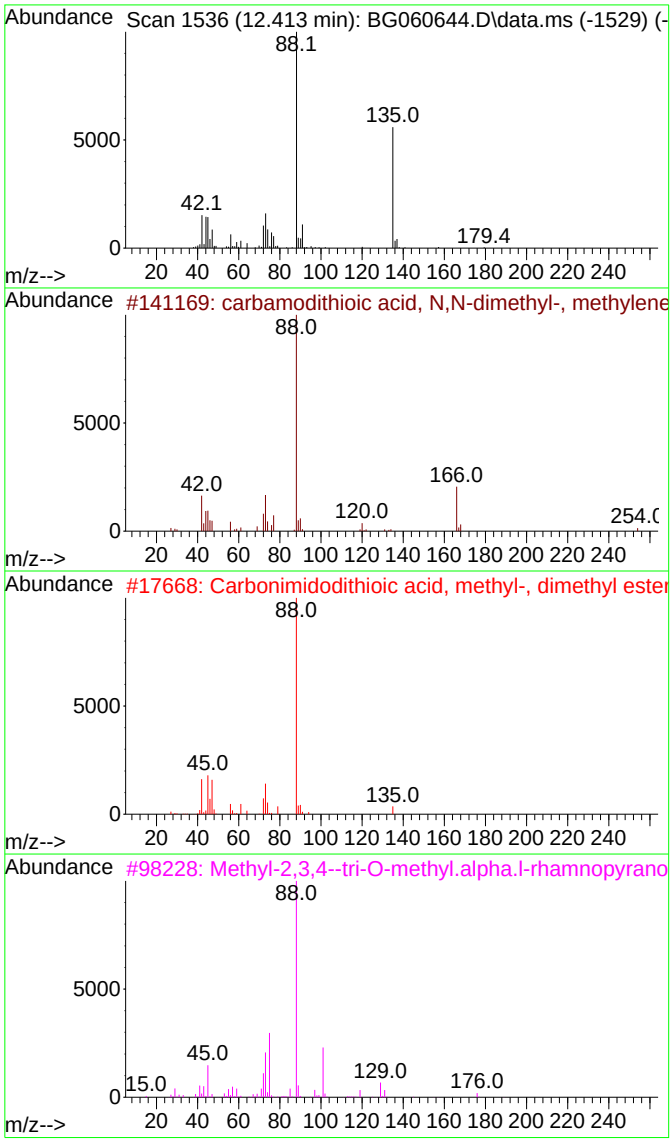
TIC Library : C:\Database\NIST20.L
TIC Integration Parameters: LSCINT.P

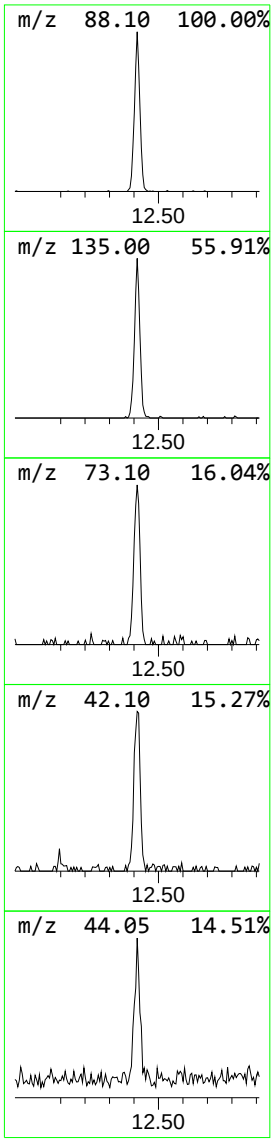
****

Peak Number 1 unknown12.413 Concentration Rank 3

R.T.	EstConc	Area	Relative to ISTD	R.T.
12.413	4.97 ng	241621	Naphthalene-d8	11.167

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	carbamodithioic acid, N,N-dimeth...	254	C7H14N2S4	1000401-44-5	47
2	Carbonimidodithioic acid, methyl...	135	C4H9NS2	018805-25-9	40
3	Methyl-2,3,4--tri-O-methyl.alpha...	220	C10H20O5	003253-23-4	38
4	Dithiocarbamic acid, N,N-dimethy...	164	C5H12N2S2	002801-22-1	37
5	Methyl 4-O-acetyl-2,3-di-O-methy...	248	C11H20O6	072945-56-3	32





Data Path : Z:\svoasrv\HPCHEM1\BNA_G\Data\BG031424\
Data File : BG060644.D
Acq On : 14 Mar 2024 18:36
Operator : MA/JU
Sample : P1747-02
Misc :
ALS Vial : 14 Sample Multiplier: 1

Instrument :
BNA_G
ClientSampleId :
MW-01-DUP

Quant Method : Z:\svoasrv\HPCHEM1\BNA_G\Methods\8270-BG031324.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

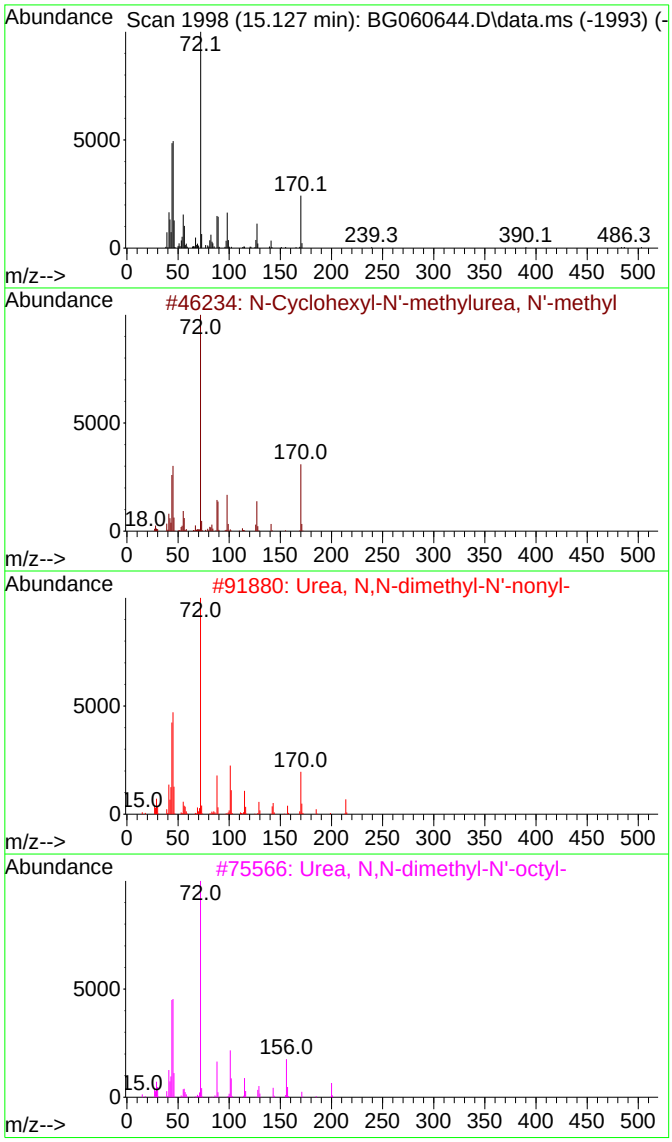
TIC Library : C:\Database\NIST20.L
TIC Integration Parameters: LSCINT.P

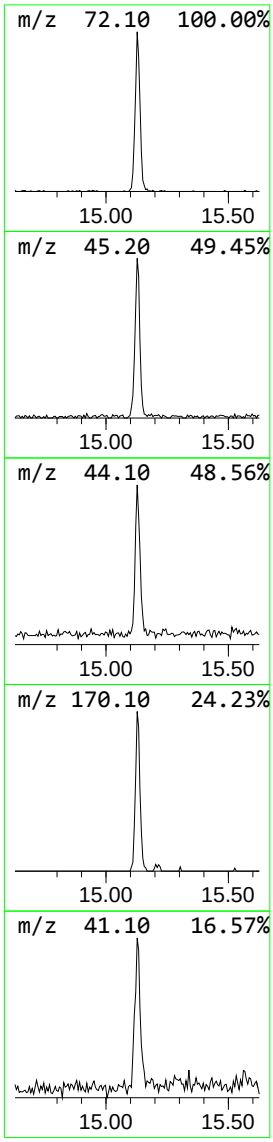
****

Peak Number 2 N-Cyclohexyl-N'-methylurea,... Concentration Rank 4

R.T.	EstConc	Area	Relative to ISTD	R.T.
15.127	3.35 ng	232254	Acenaphthene-d10	14.945

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	N-Cyclohexyl-N'-methylurea, N'-m...	170	C9H18N2O	031468-12-9	91
2	Urea, N,N-dimethyl-N'-nonyl-	214	C12H26N2O	1000419-88-7	72
3	Urea, N,N-dimethyl-N'-octyl-	200	C11H24N2O	1000419-88-6	59
4	Urea, N,N-dimethyl-N'-pentyl-	158	C8H18N2O	1000419-88-1	59
5	Urea, N,N-dimethyl-N'-hexyl-	172	C9H20N2O	1000419-88-3	45





Sample Results: **BG060644.D**

Data Path : Z:\svoasrv\HPCHEM1\BNA_G\Data\BG031424\
Data File : BG060644.D
Acq On : 14 Mar 2024 18:36
Operator : MA/JU
Sample : P1747-02
Misc :
ALS Vial : 14 Sample Multiplier: 1

Instrument :
BNA_G
ClientSampleId :
MW-01-DUP

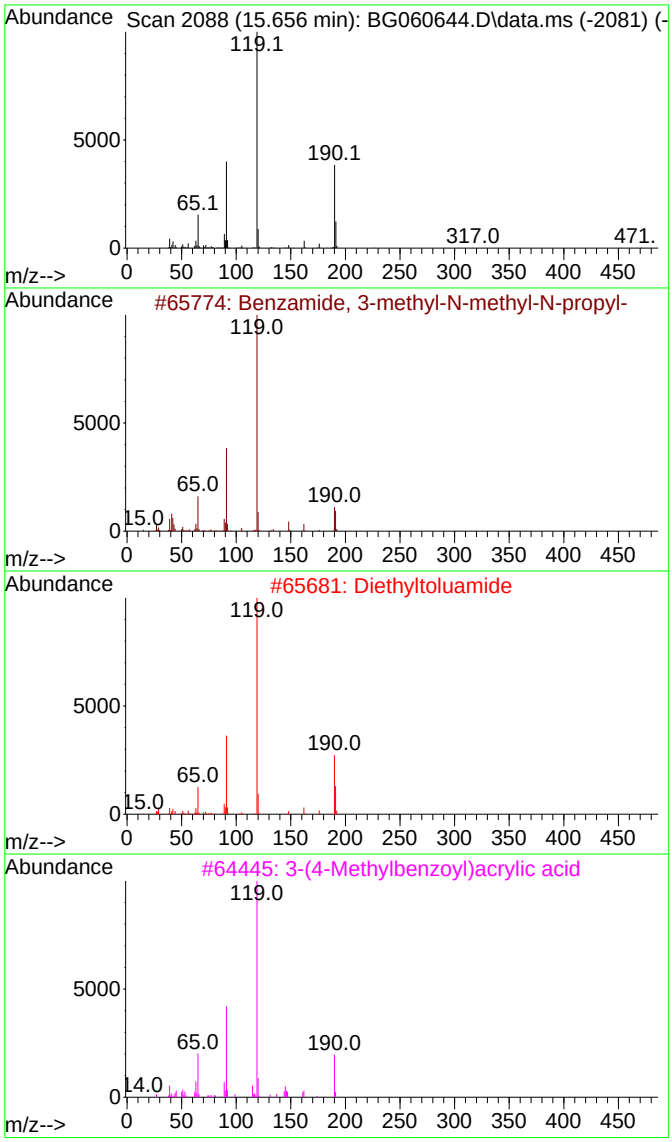
Quant Method : Z:\svoasrv\HPCHEM1\BNA_G\Methods\8270-BG031324.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

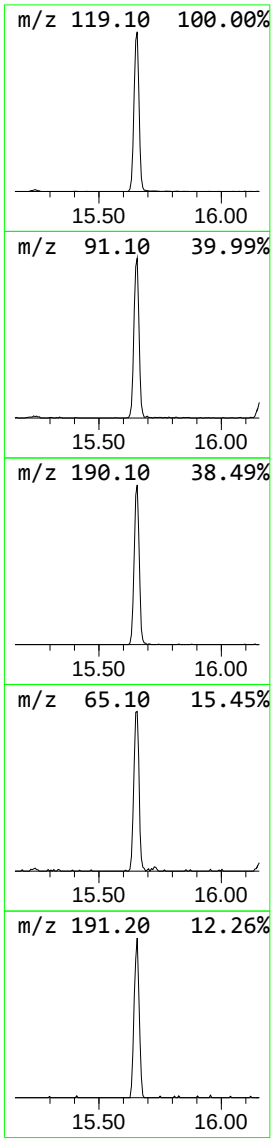
TIC Library : C:\Database\NIST20.L
TIC Integration Parameters: LSCINT.P

****
Peak Number 3 Benzamide, 3-methyl-N-methy... Concentration Rank 2

R.T.	EstConc	Area	Relative to ISTD	R.T.
15.656	9.13 ng	633270	Acenaphthene-d10	14.945

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Benzamide, 3-methyl-N-methyl-N-p...	191	C12H17NO	1000421-46-2	93
2	Diethyltoluamide	191	C12H17NO	000134-62-3	91
3	3-(4-Methylbenzoyl)acrylic acid	190	C11H10O3	020972-36-5	78
4	Benzamide, 3-methyl-N-butyl-	191	C12H17NO	1000407-41-1	64
5	Benzamide, 4-methyl-N-butyl-	191	C12H17NO	1000407-46-6	64





Data Path : Z:\svoasrv\HPCHEM1\BNA_G\Data\BG031424\
Data File : BG060644.D
Acq On : 14 Mar 2024 18:36
Operator : MA/JU
Sample : P1747-02
Misc :
ALS Vial : 14 Sample Multiplier: 1

Instrument :
BNA_G
ClientSampleId :
MW-01-DUP

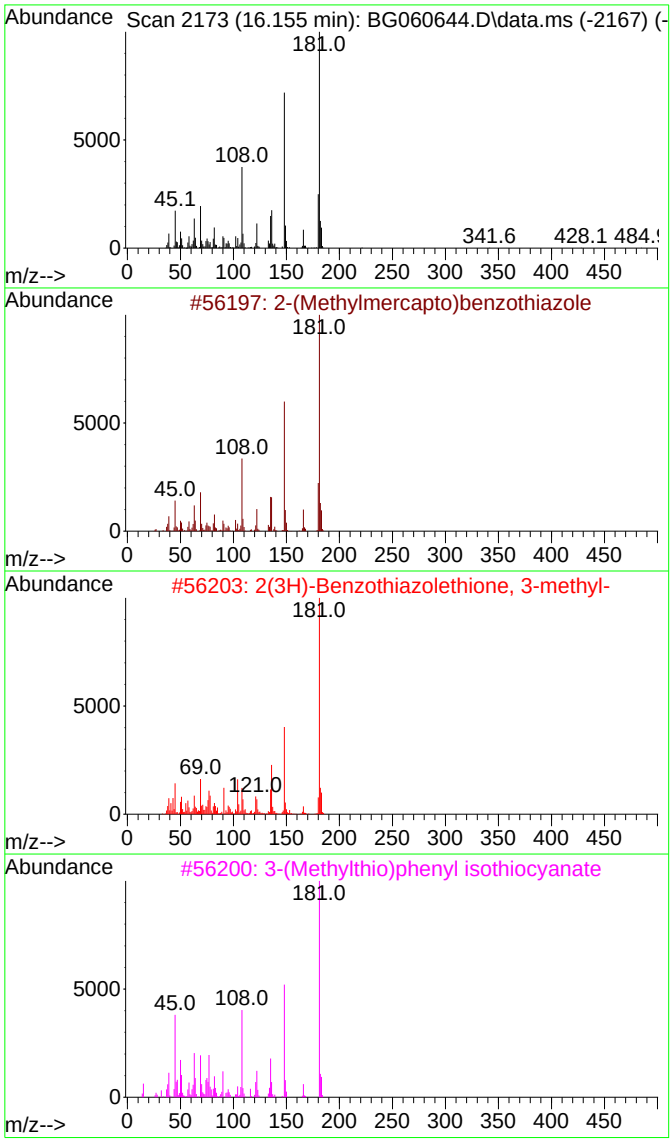
Quant Method : Z:\svoasrv\HPCHEM1\BNA_G\Methods\8270-BG031324.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

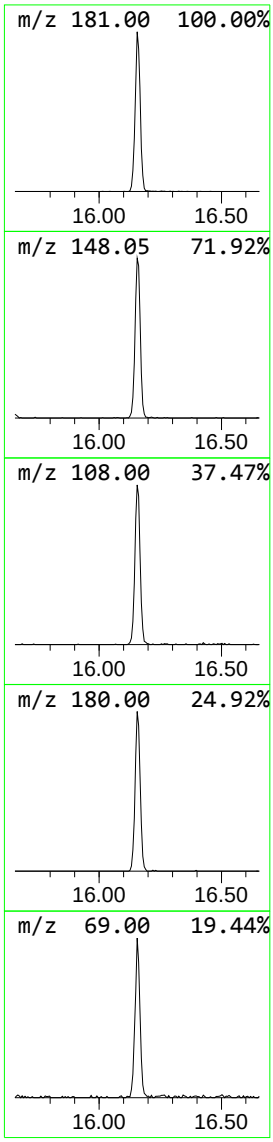
TIC Library : C:\Database\NIST20.L
TIC Integration Parameters: LSCINT.P

****
Peak Number 4 2-(Methylmercapto)benzothia... Concentration Rank 1

R.T.	EstConc	Area	Relative to ISTD	R.T.
16.155	14.15 ng	982151	Acenaphthene-d10	14.945

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	2-(Methylmercapto)benzothiazole	181	C8H7NS2	000615-22-5	99
2	2(3H)-Benzothiazolethione, 3-met...	181	C8H7NS2	002254-94-6	83
3	3-(Methylthio)phenyl isothiocyanate	181	C8H7NS2	051333-80-3	83
4	2-(Methylthio)phenyl isothiocyanate	181	C8H7NS2	051333-75-6	74
5	4-(Methylthio)phenyl isothiocyanate	181	C8H7NS2	015863-41-9	60





Data Path : Z:\svoasrv\HPCHEM1\BNA_G\Data\BG031424\
Data File : BG060644.D
Acq On : 14 Mar 2024 18:36
Operator : MA/JU
Sample : P1747-02
Misc :
ALS Vial : 14 Sample Multiplier: 1

Instrument :
BNA_G
ClientSampleId :
MW-01-DUP

Quant Method : Z:\svoasrv\HPCHEM1\BNA_G\Methods\8270-BG031324.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

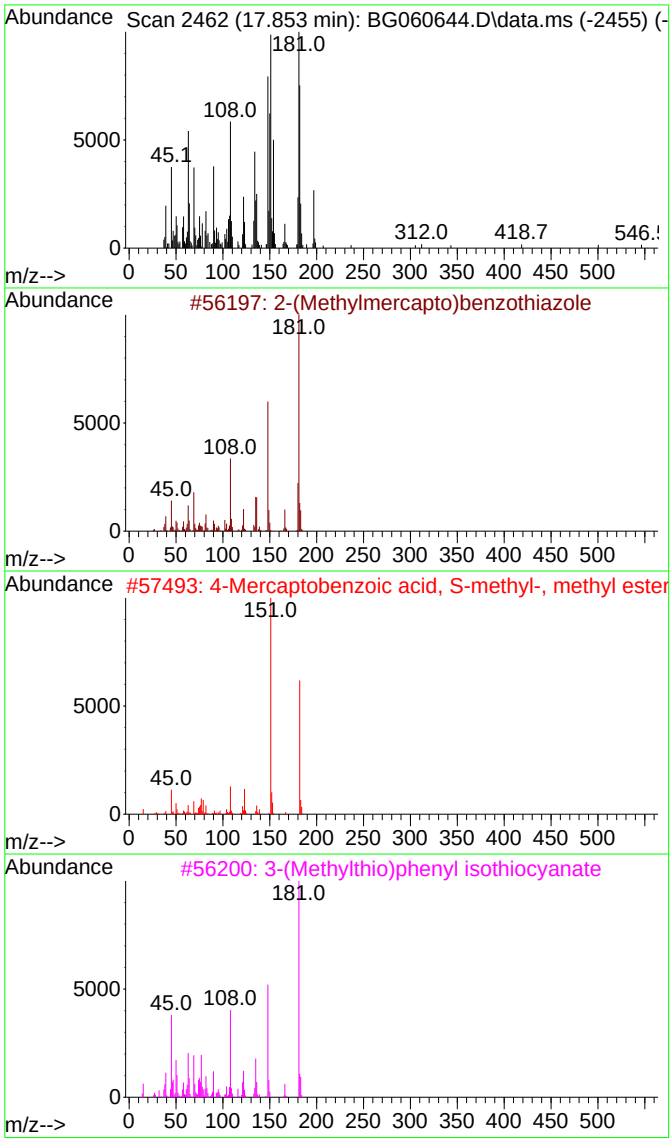
TIC Library : C:\Database\NIST20.L
TIC Integration Parameters: LSCINT.P

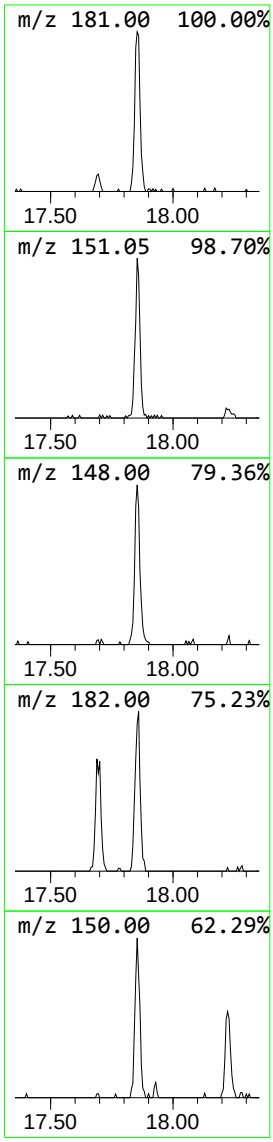
****

Peak Number 5 unknown17.853 Concentration Rank 5

R.T.	EstConc	Area	Relative to ISTD	R.T.
17.853	2.90 ng	242971	Phenanthrene-d10	17.695

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	2-(Methylmercapto)benzothiazole	181	C8H7NS2	000615-22-5	47
2	4-Mercaptobenzoic acid, S-methyl...	182	C9H10O2S	003795-79-7	25
3	3-(Methylthio)phenyl isothiocyanate	181	C8H7NS2	051333-80-3	18
4	Benzoic acid, 4-(methylamino)-	151	C8H9NO2	010541-83-0	15
5	2,6-Pyridinedimethanol, 4-(dimet...	182	C9H14N2O2	001882-25-3	14





Data Path : Z:\svoasrv\HPCHEM1\BNA_G\Data\BG031424\
Data File : BG060644.D
Acq On : 14 Mar 2024 18:36
Operator : MA/JU
Sample : P1747-02
Misc :
ALS Vial : 14 Sample Multiplier: 1

Instrument :
BNA_G
ClientSampleId :
MW-01-DUP

Quant Method : Z:\svoasrv\HPCHEM1\BNA_G\Methods\8270-BG031324.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

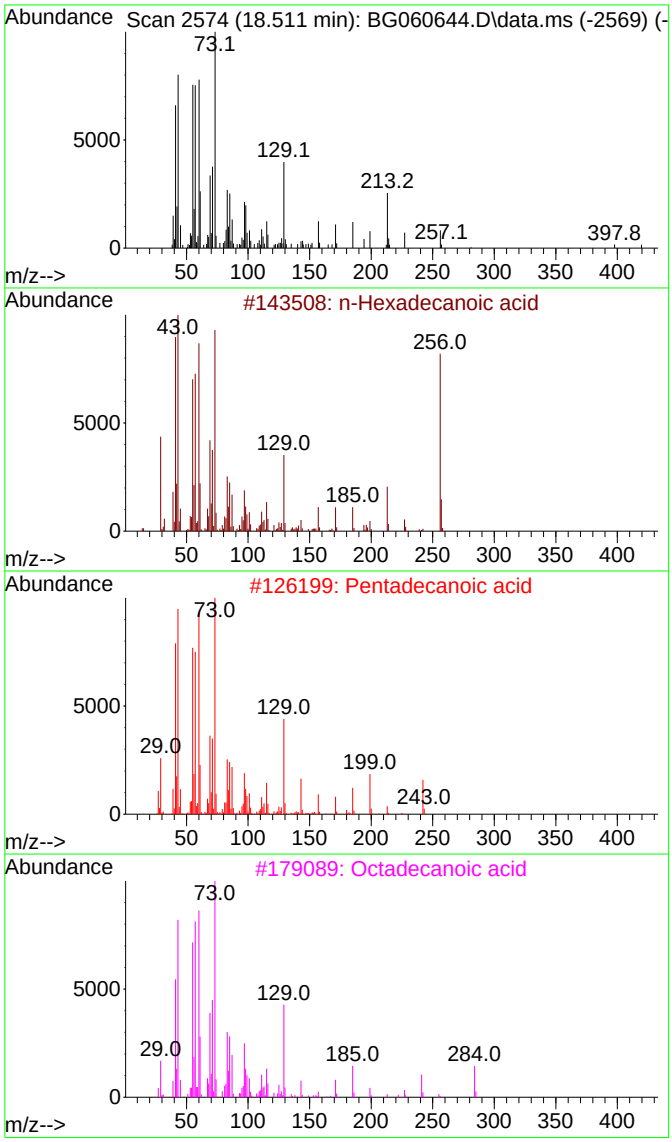
TIC Library : C:\Database\NIST20.L
TIC Integration Parameters: LSCINT.P

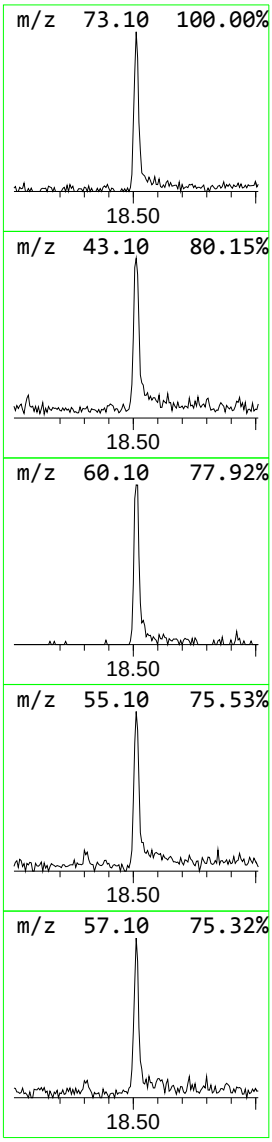
****

Peak Number 6 n-Hexadecanoic acid Concentration Rank 6

R.T.	EstConc	Area	Relative to ISTD	R.T.
18.511	2.13 ng	178202	Phenanthrene-d10	17.695

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	n-Hexadecanoic acid	256	C16H32O2	000057-10-3	97
2	Pentadecanoic acid	242	C15H30O2	001002-84-2	83
3	Octadecanoic acid	284	C18H36O2	000057-11-4	81
4	Tridecanoic acid	214	C13H26O2	000638-53-9	59
5	Tetradecanoic acid	228	C14H28O2	000544-63-8	53





Data Path : Z:\svoasrv\HPCHEM1\BNA_G\Data\BG031424\
Data File : BG060644.D
Acq On : 14 Mar 2024 18:36
Operator : MA/JU
Sample : P1747-02
Misc :
ALS Vial : 14 Sample Multiplier: 1

Instrument :
BNA_G
ClientSampleId :
MW-01-DUP

Quant Method : Z:\svoasrv\HPCHEM1\BNA_G\Methods\8270-BG031324.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

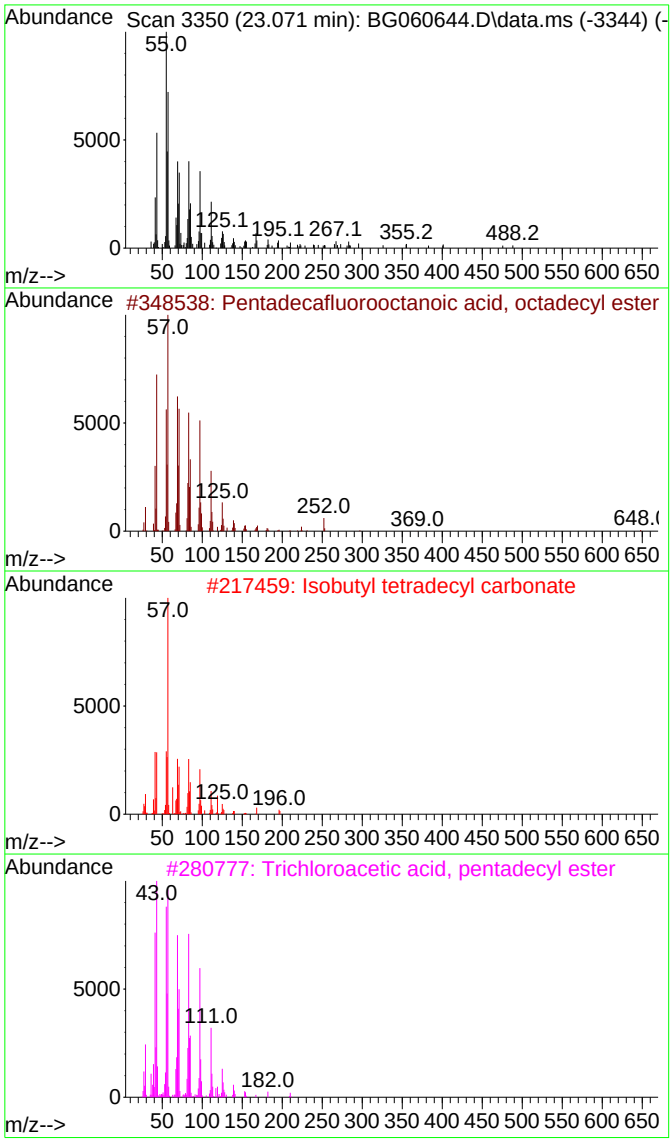
TIC Library : C:\Database\NIST20.L
TIC Integration Parameters: LSCINT.P

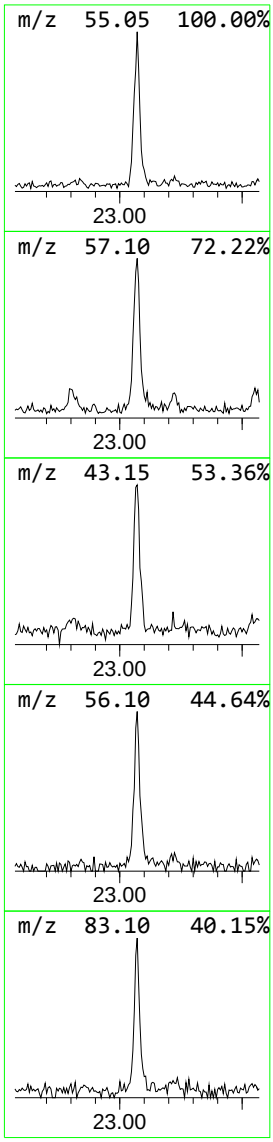
****

Peak Number 7 Pentadecafluorooctanoic aci... Concentration Rank 7

R.T.	EstConc	Area	Relative to ISTD	R.T.
23.071	2.10 ng	173731	Chrysene-d12	22.007

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Pentadecafluorooctanoic acid, oc...	666	C26H37F15O2	1000406-04-8	93
2	Isobutyl tetradecyl carbonate	314	C19H38O3	959275-58-2	87
3	Trichloroacetic acid, pentadecyl...	372	C17H31Cl3O2	074339-53-0	81
4	Oxirane, [(dodecyloxy)methyl]-	242	C15H30O2	002461-18-9	74
5	Cyclooctacosane	392	C28H56	000297-24-5	72





Sample Results: **BG060644.D**

Data Path : Z:\svoasrv\HPCHEM1\BNA_G\Data\BG031424\
Data File : BG060644.D
Acq On : 14 Mar 2024 18:36
Operator : MA/JU
Sample : P1747-02
Misc :
ALS Vial : 14 Sample Multiplier: 1

Instrument :
BNA_G
ClientSampleId :
MW-01-DUP

Quant Method : Z:\svoasrv\HPCHEM1\BNA_G\Methods\8270-BG031324.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

TIC Library : C:\Database\NIST20.L
TIC Integration Parameters: LSCINT.P

					--Internal Standard---			
TIC Top Hit name	RT	EstConc	Units	Response	#	RT	Resp	Conc
unknown12.413	12.413	5.0	ng	241621	2	11.167	972862	20.0
N-Cyclohexyl-N'...	15.127	3.4	ng	232254	3	14.945	1387890	20.0
Benzamide, 3-me...	15.656	9.1	ng	633270	3	14.945	1387890	20.0
2-(Methylmercap...	16.155	14.2	ng	982151	3	14.945	1387890	20.0
unknown17.853	17.853	2.9	ng	242971	4	17.695	1675840	20.0
n-Hexadecanoic ...	18.511	2.1	ng	178202	4	17.695	1675840	20.0
Pentadecafluoro...	23.071	2.1	ng	173731	5	22.007	1657280	20.0

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Report of Analysis

Client:	LiRo Engineers, Inc.	Date Collected:	03/12/24
Project:	Walter Gladwin Recreation Center, Bronx, NY	Date Received:	03/13/24
Client Sample ID:	MW-02	SDG No.:	P1747
Lab Sample ID:	P1747-04	Matrix:	Water
Analytical Method:	SW8270	% Solid:	0
Sample Wt/Vol:	990 Units: mL	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOC-TCL BNA -20
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :
Prep Method :	SW3510C		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BG060645.D	1	03/14/24 10:06	03/14/24 19:17	PB159586

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units
TARGETS						
100-52-7	Benzaldehyde	4.00	U	4.00	10.1	ug/L
108-95-2	Phenol	0.94	U	0.94	5.10	ug/L
111-44-4	bis(2-Chloroethyl)ether	1.20	U	1.20	5.10	ug/L
95-57-8	2-Chlorophenol	0.72	U	0.72	5.10	ug/L
95-48-7	2-Methylphenol	1.10	U	1.10	5.10	ug/L
108-60-1	2,2-oxybis(1-Chloropropane)	1.40	U	1.40	5.10	ug/L
98-86-2	Acetophenone	1.10	U	1.10	5.10	ug/L
65794-96-9	3+4-Methylphenols	1.20	U	1.20	10.1	ug/L
621-64-7	n-Nitroso-di-n-propylamine	1.50	U	1.50	2.50	ug/L
67-72-1	Hexachloroethane	1.00	U	1.00	5.10	ug/L
98-95-3	Nitrobenzene	1.30	U	1.30	5.10	ug/L
78-59-1	Isophorone	1.20	U	1.20	5.10	ug/L
88-75-5	2-Nitrophenol	2.00	U	2.00	5.10	ug/L
105-67-9	2,4-Dimethylphenol	1.50	U	1.50	5.10	ug/L
111-91-1	bis(2-Chloroethoxy)methane	1.00	U	1.00	5.10	ug/L
120-83-2	2,4-Dichlorophenol	0.89	U	0.89	5.10	ug/L
91-20-3	Naphthalene	1.00	U	1.00	5.10	ug/L
106-47-8	4-Chloroaniline	1.30	U	1.30	5.10	ug/L
87-68-3	Hexachlorobutadiene	1.30	U	1.30	5.10	ug/L
105-60-2	Caprolactam	1.70	U	1.70	10.1	ug/L
59-50-7	4-Chloro-3-methylphenol	0.85	U	0.85	5.10	ug/L
91-57-6	2-Methylnaphthalene	1.10	U	1.10	5.10	ug/L
77-47-4	Hexachlorocyclopentadiene	5.10	U	5.10	10.1	ug/L
88-06-2	2,4,6-Trichlorophenol	0.90	U	0.90	5.10	ug/L
95-95-4	2,4,5-Trichlorophenol	1.00	U	1.00	5.10	ug/L
92-52-4	1,1-Biphenyl	0.92	U	0.92	5.10	ug/L
91-58-7	2-Chloronaphthalene	0.98	U	0.98	5.10	ug/L
88-74-4	2-Nitroaniline	1.40	U	1.40	5.10	ug/L
131-11-3	Dimethylphthalate	0.94	U	0.94	5.10	ug/L
208-96-8	Acenaphthylene	1.10	U	1.10	5.10	ug/L
606-20-2	2,6-Dinitrotoluene	1.30	U	1.30	5.10	ug/L

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Report of Analysis

Client:	LiRo Engineers, Inc.	Date Collected:	03/12/24
Project:	Walter Gladwin Recreation Center, Bronx, NY	Date Received:	03/13/24
Client Sample ID:	MW-02	SDG No.:	P1747
Lab Sample ID:	P1747-04	Matrix:	Water
Analytical Method:	SW8270	% Solid:	0
Sample Wt/Vol:	990 Units: mL	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOC-TCL BNA -20
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :
Prep Method :	SW3510C		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BG060645.D	1	03/14/24 10:06	03/14/24 19:17	PB159586

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units
99-09-2	3-Nitroaniline	1.40	U	1.40	5.10	ug/L
83-32-9	Acenaphthene	0.82	U	0.82	5.10	ug/L
51-28-5	2,4-Dinitrophenol	6.50	U	6.50	10.1	ug/L
100-02-7	4-Nitrophenol	2.00	U	2.00	10.1	ug/L
132-64-9	Dibenzofuran	0.94	U	0.94	5.10	ug/L
121-14-2	2,4-Dinitrotoluene	1.50	U	1.50	5.10	ug/L
84-66-2	Diethylphthalate	1.10	U	1.10	5.10	ug/L
7005-72-3	4-Chlorophenyl-phenylether	0.99	U	0.99	5.10	ug/L
86-73-7	Fluorene	0.97	U	0.97	5.10	ug/L
100-01-6	4-Nitroaniline	2.10	U	2.10	5.10	ug/L
534-52-1	4,6-Dinitro-2-methylphenol	3.10	U	3.10	10.1	ug/L
86-30-6	n-Nitrosodiphenylamine	0.90	U	0.90	5.10	ug/L
101-55-3	4-Bromophenyl-phenylether	0.96	U	0.96	5.10	ug/L
118-74-1	Hexachlorobenzene	1.20	U	1.20	5.10	ug/L
1912-24-9	Atrazine	1.30	U	1.30	5.10	ug/L
87-86-5	Pentachlorophenol	1.90	U	1.90	10.1	ug/L
85-01-8	Phenanthrene	0.90	U	0.90	5.10	ug/L
120-12-7	Anthracene	1.10	U	1.10	5.10	ug/L
86-74-8	Carbazole	1.20	U	1.20	5.10	ug/L
84-74-2	Di-n-butylphthalate	1.50	U	1.50	5.10	ug/L
206-44-0	Fluoranthene	1.30	U	1.30	5.10	ug/L
129-00-0	Pyrene	1.10	U	1.10	5.10	ug/L
85-68-7	Butylbenzylphthalate	2.10	U	2.10	5.10	ug/L
91-94-1	3,3-Dichlorobenzidine	1.30	U	1.30	10.1	ug/L
56-55-3	Benzo(a)anthracene	0.95	U	0.95	5.10	ug/L
218-01-9	Chrysene	0.87	U	0.87	5.10	ug/L
117-81-7	Bis(2-ethylhexyl)phthalate	1.90	U	1.90	5.10	ug/L
117-84-0	Di-n-octyl phthalate	2.50	U	2.50	10.1	ug/L
205-99-2	Benzo(b)fluoranthene	1.20	U	1.20	5.10	ug/L
207-08-9	Benzo(k)fluoranthene	1.20	U	1.20	5.10	ug/L
50-32-8	Benzo(a)pyrene	1.70	U	1.70	5.10	ug/L
193-39-5	Indeno(1,2,3-cd)pyrene	1.00	U	1.00	5.10	ug/L
53-70-3	Dibenzo(a,h)anthracene	1.20	U	1.20	5.10	ug/L

Raw Data: **BG060645.D**

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Report of Analysis

Client:	LiRo Engineers, Inc.	Date Collected:	03/12/24
Project:	Walter Gladwin Recreation Center, Bronx, NY	Date Received:	03/13/24
Client Sample ID:	MW-02	SDG No.:	P1747
Lab Sample ID:	P1747-04	Matrix:	Water
Analytical Method:	SW8270	% Solid:	0
Sample Wt/Vol:	990 Units: mL	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOC-TCL BNA -20
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :
Prep Method :	SW3510C		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BG060645.D	1	03/14/24 10:06	03/14/24 19:17	PB159586

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units
191-24-2	Benzo(g,h,i)perylene	1.20	U	1.20	5.10	ug/L
95-94-3	1,2,4,5-Tetrachlorobenzene	1.10	U	1.10	5.10	ug/L
123-91-1	1,4-Dioxane	1.30	U	1.30	5.10	ug/L
58-90-2	2,3,4,6-Tetrachlorophenol	0.80	U	0.80	5.10	ug/L
SURROGATES						
367-12-4	2-Fluorophenol	49.2		10 - 139	33%	SPK: 150
13127-88-3	Phenol-d6	28.4		10 - 134	19%	SPK: 150
4165-60-0	Nitrobenzene-d5	90.1		49 - 133	90%	SPK: 100
321-60-8	2-Fluorobiphenyl	85.2		52 - 132	85%	SPK: 100
118-79-6	2,4,6-Tribromophenol	103		32 - 145	69%	SPK: 150
1718-51-0	Terphenyl-d14	90.3		36 - 145	90%	SPK: 100
INTERNAL STANDARDS						
3855-82-1	1,4-Dichlorobenzene-d4	92600	8.322			
1146-65-2	Naphthalene-d8	433000	11.166			
15067-26-2	Acenaphthene-d10	306000	14.944			
1517-22-2	Phenanthrene-d10	647000	17.694			
1719-03-5	Chrysene-d12	547000	22.012			
1520-96-3	Perylene-d12	624000	25.561			
TENTATIVE IDENTIFIED COMPOUNDS						
000057-10-3	n-Hexadecanoic acid	2.50	J		18.5	ug/L

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
Q = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution
() = Laboratory InHouse Limit
A = Aldol-Condensation Reaction Products

Sample Results: **BG060645.D**

Data Path : Z:\svoasrv\HPCHEM1\BNA_G\Data\BG031424\
Data File : BG060645.D
Acq On : 14 Mar 2024 19:17
Operator : MA/JU
Sample : P1747-04
Misc :
ALS Vial : 15 Sample Multiplier: 1

Instrument :
BNA_G
ClientSampleId :
MW-02

Quant Time: Mar 15 01:37:16 2024
Quant Method : Z:\svoasrv\HPCHEM1\BNA_G\Methods\8270-BG031324.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION
QLast Update : Thu Mar 14 00:45:22 2024
Response via : Initial Calibration

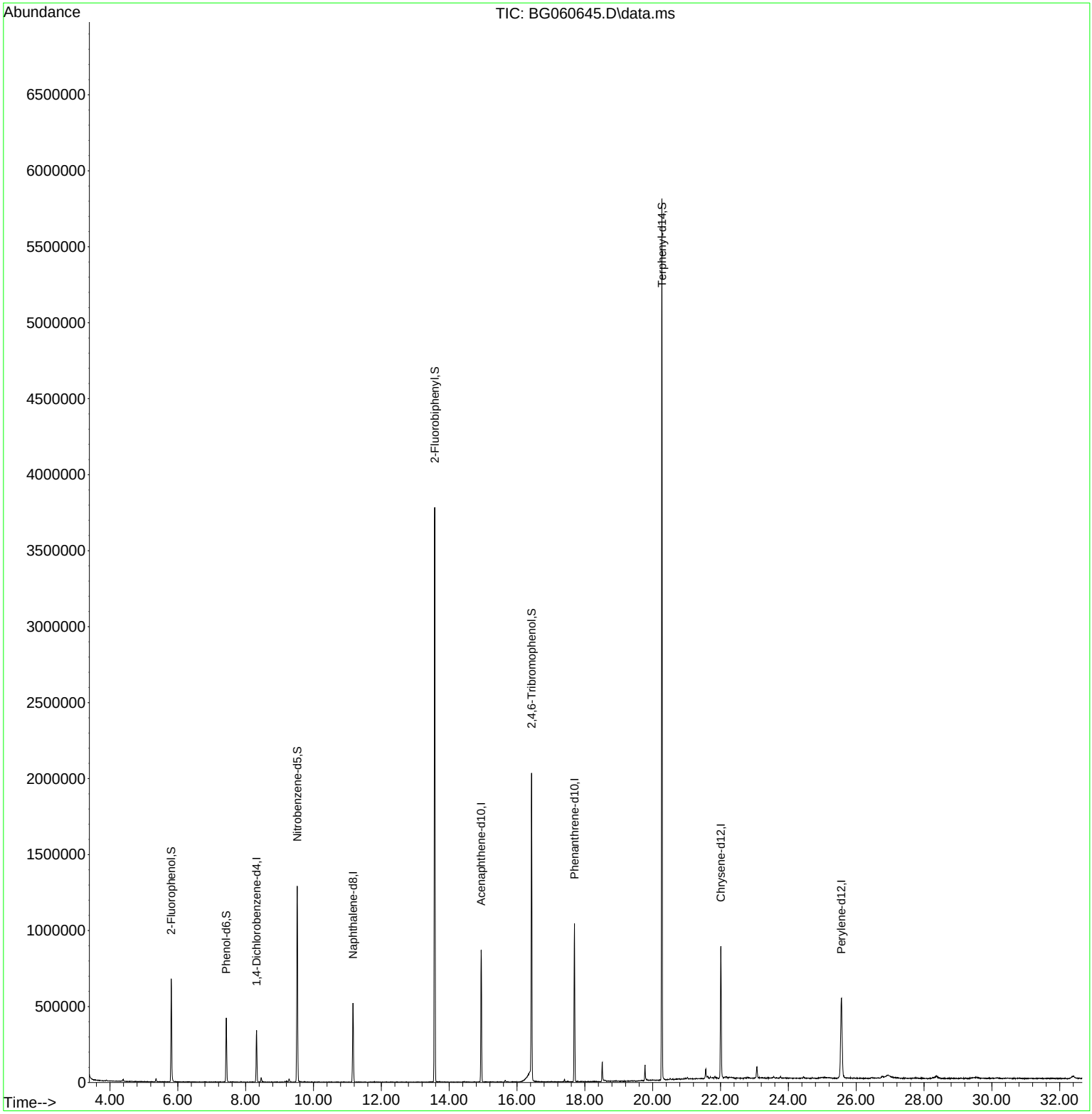
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	8.322	152	92610	20.000	ng	0.00
21) Naphthalene-d8	11.166	136	433473	20.000	ng	0.00
39) Acenaphthene-d10	14.944	164	306273	20.000	ng	0.00
64) Phenanthrene-d10	17.694	188	646742	20.000	ng	0.00
76) Chrysene-d12	22.012	240	546831	20.000	ng	-0.01
86) Perylene-d12	25.561	264	624053	20.000	ng	-0.01
System Monitoring Compounds						
5) 2-Fluorophenol	5.808	112	289651	49.166	ng	0.00
7) Phenol-d6	7.429	99	242288	28.351	ng	0.00
23) Nitrobenzene-d5	9.521	82	750647	90.124	ng	0.00
42) 2,4,6-Tribromophenol	16.430	330	366079	103.148	ng	0.00
45) 2-Fluorobiphenyl	13.575	172	1929764	85.189	ng	0.00
79) Terphenyl-d14	20.273	244	2730966	90.272	ng	0.00
Target Compounds						Qvalue

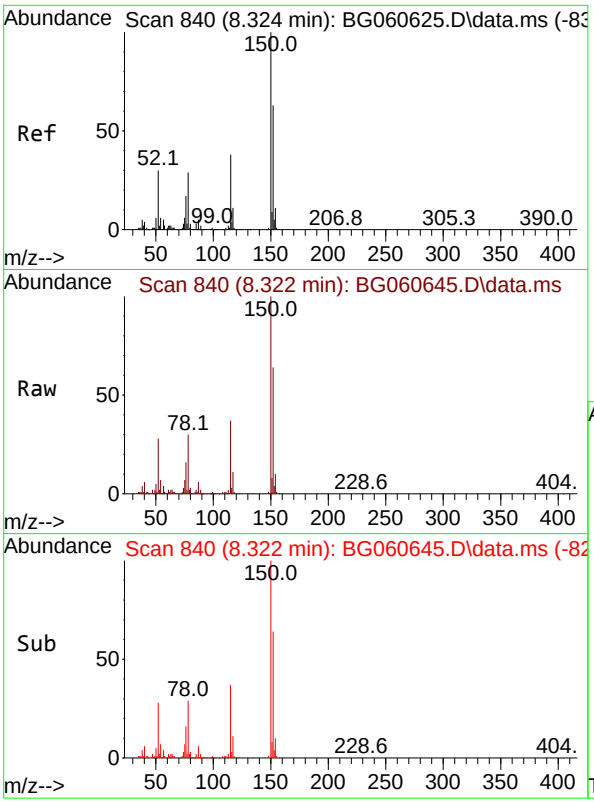
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : Z:\svoasrv\HPCHEM1\BNA_G\Data\BG031424\
Data File : BG060645.D
Acq On : 14 Mar 2024 19:17
Operator : MA/JU
Sample : P1747-04
Misc :
ALS Vial : 15 Sample Multiplier: 1

Instrument :
BNA_G
ClientSampleId :
MW-02

Quant Time: Mar 15 01:37:16 2024
Quant Method : Z:\svoasrv\HPCHEM1\BNA_G\Methods\8270-BG031324.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION
QLast Update : Thu Mar 14 00:45:22 2024
Response via : Initial Calibration



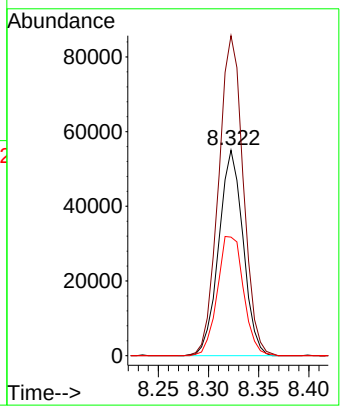


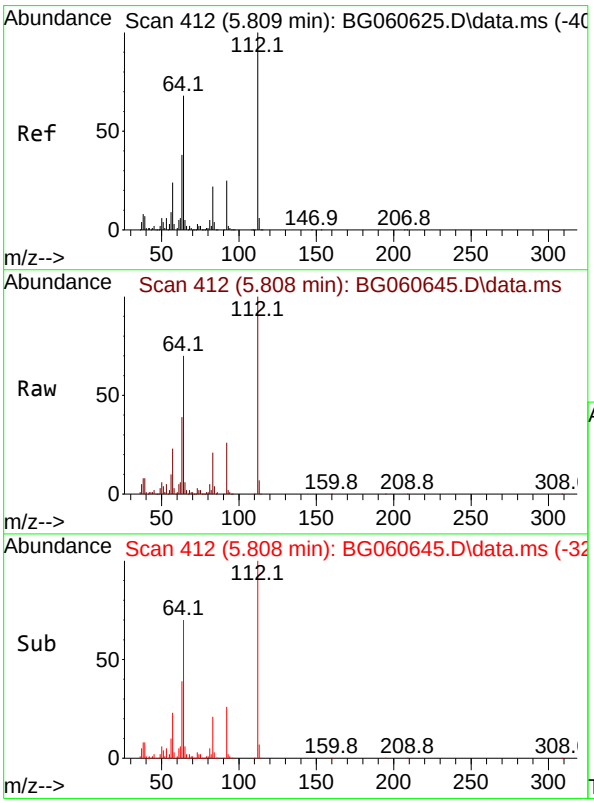
#1
1,4-Dichlorobenzene-d4
Concen: 20.000 ng
RT: 8.322 min Scan# 84
Delta R.T. -0.002 min
Lab File: BG060645.D
Acq: 14 Mar 2024 19:17

Instrument :
BNA_G
ClientSampleId :
MW-02

Tgt Ion:152 Resp: 92610

Ion	Ratio	Lower	Upper
152	100		
150	155.8	126.6	190.0
115	57.7	47.8	71.8

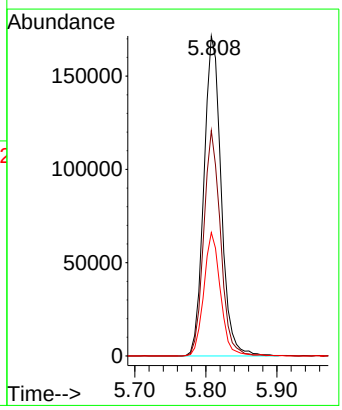


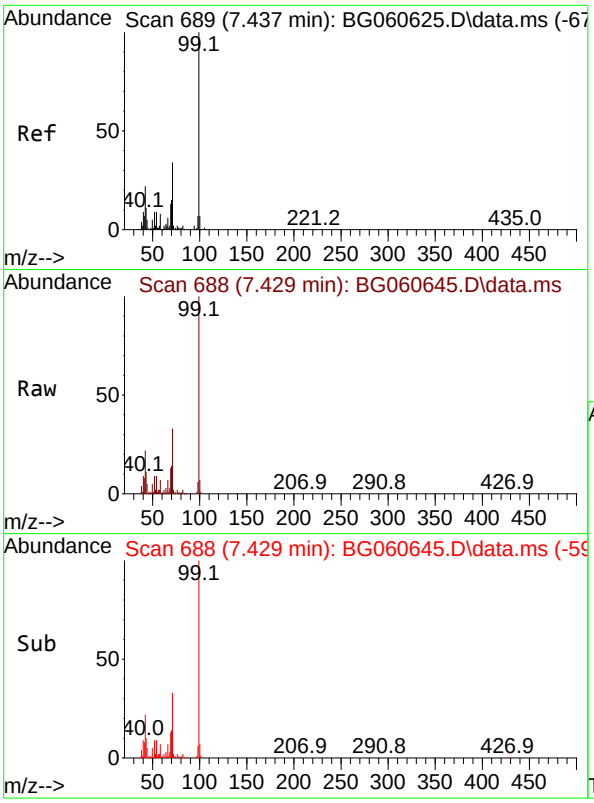


#5
2-Fluorophenol
Concen: 49.166 ng
RT: 5.808 min Scan# 412
Delta R.T. -0.002 min
Lab File: BG060645.D
Acq: 14 Mar 2024 19:17

Tgt Ion:112 Resp: 289651

Ion	Ratio	Lower	Upper
112	100		
64	70.4	54.1	81.1
63	38.6	30.3	45.5



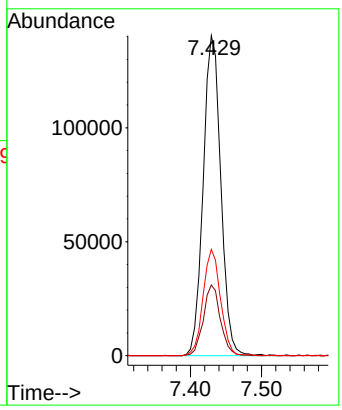


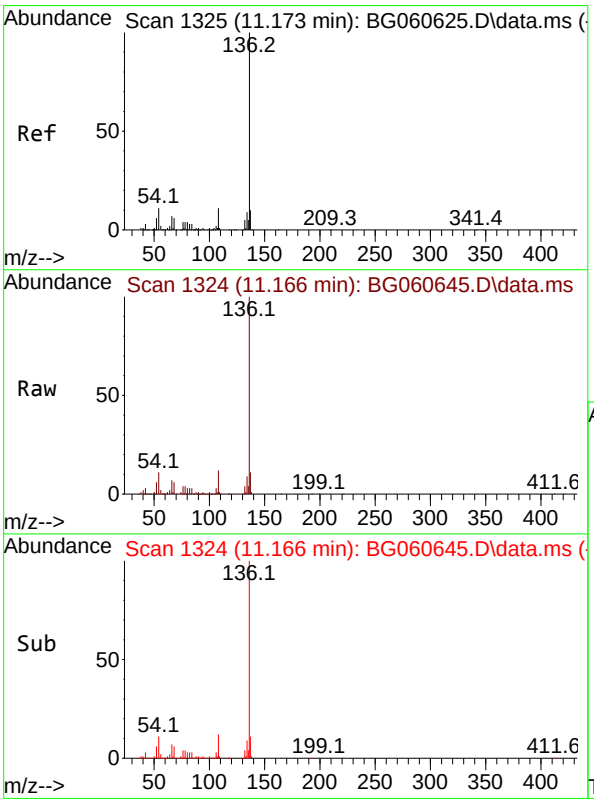
#7
Phenol-d6
Concen: 28.351 ng
RT: 7.429 min Scan# 6
Delta R.T. -0.007 min
Lab File: BG060645.D
Acq: 14 Mar 2024 19:17

Instrument :
BNA_G
ClientSampleId :
MW-02

Tgt Ion: 99 Resp: 242288

Ion	Ratio	Lower	Upper
99	100		
42	22.1	17.5	26.3
71	33.2	27.4	41.0

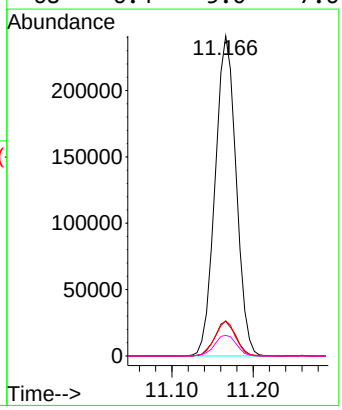


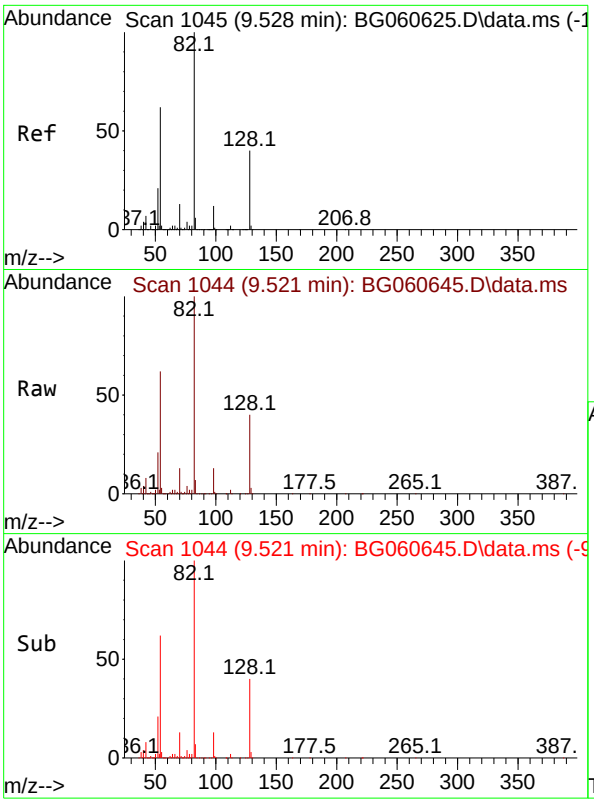


#21
Naphthalene-d8
Concen: 20.000 ng
RT: 11.166 min Scan# 1324
Delta R.T. -0.007 min
Lab File: BG060645.D
Acq: 14 Mar 2024 19:17

Tgt Ion:136 Resp: 433473

Ion	Ratio	Lower	Upper
136	100		
137	10.9	8.4	12.6
54	11.0	8.5	12.7
68	6.4	5.0	7.6



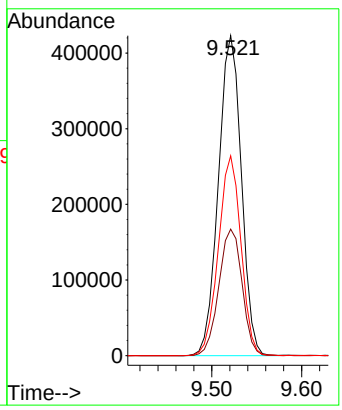


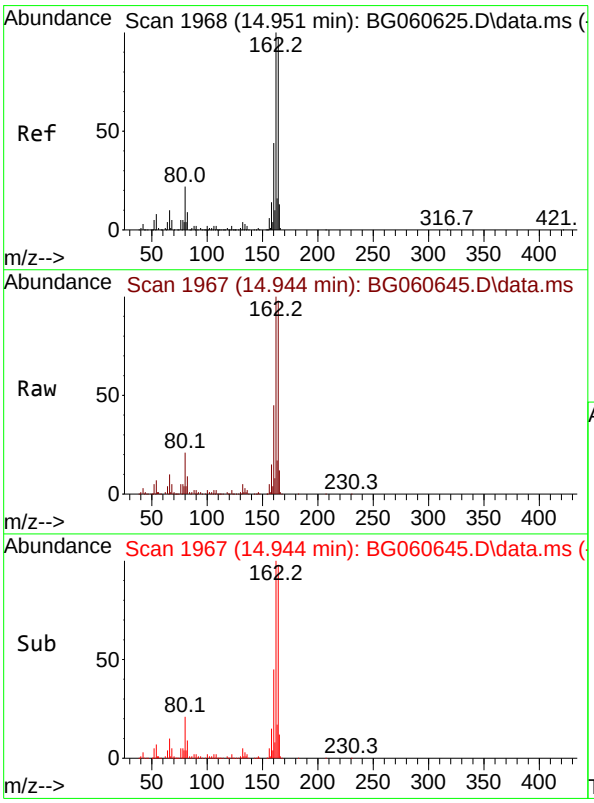
#23
Nitrobenzene-d5
Concen: 90.124 ng
RT: 9.521 min Scan# 1
Delta R.T. -0.007 min
Lab File: BG060645.D
Acq: 14 Mar 2024 19:17

Instrument :
BNA_G
ClientSampleId :
MW-02

Tgt Ion: 82 Resp: 750647

Ion	Ratio	Lower	Upper
82	100		
128	39.5	31.6	47.4
54	62.4	49.3	73.9

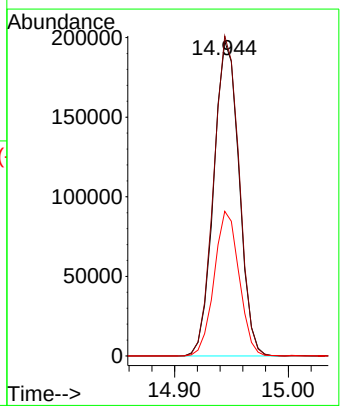


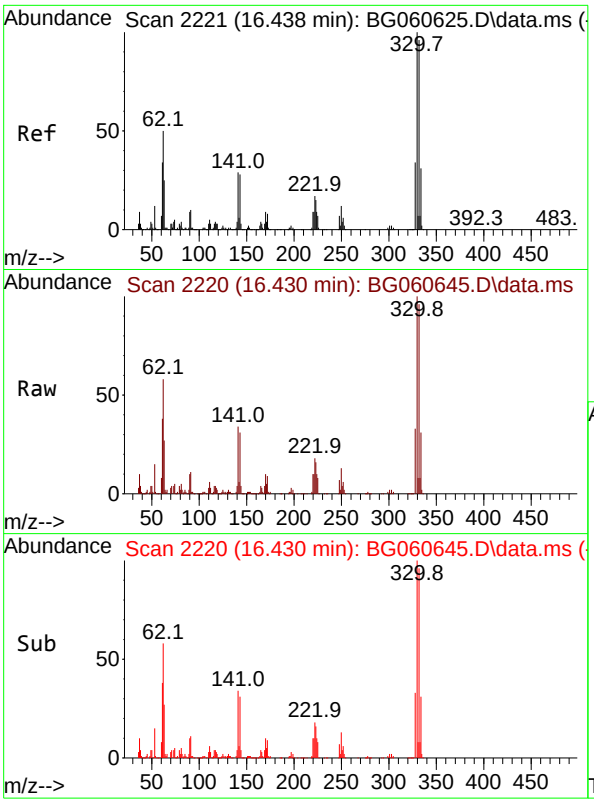


#39
Acenaphthene-d10
Concen: 20.000 ng
RT: 14.944 min Scan# 1967
Delta R.T. -0.007 min
Lab File: BG060645.D
Acq: 14 Mar 2024 19:17

Tgt Ion:164 Resp: 306273

Ion	Ratio	Lower	Upper
164	100		
162	101.7	82.5	123.7
160	46.0	36.4	54.6



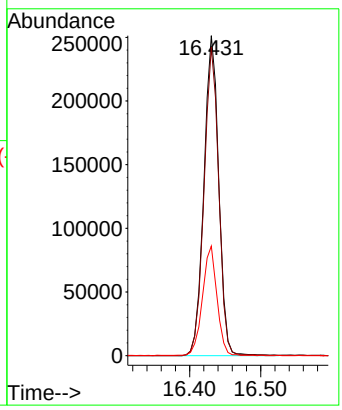


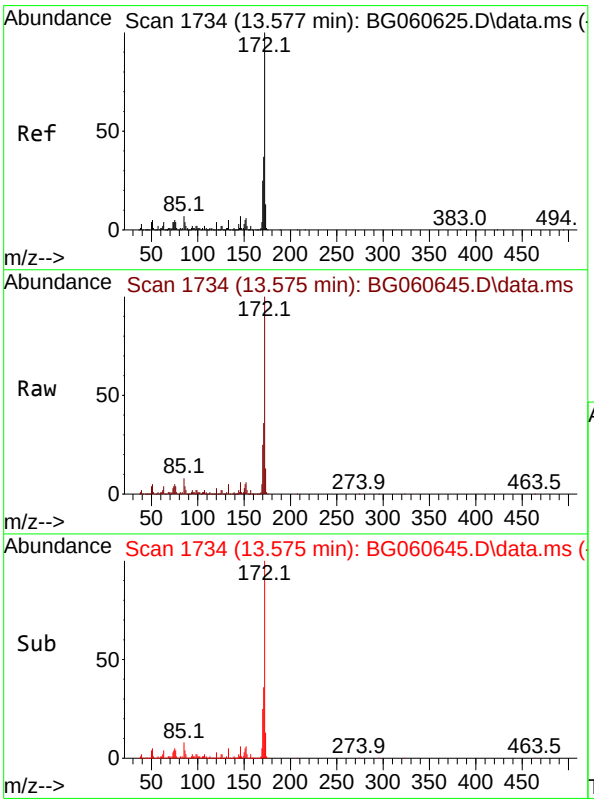
#42
2,4,6-Tribromophenol
Concen: 103.148 ng
RT: 16.430 min Scan# 2
Delta R.T. -0.007 min
Lab File: BG060645.D
Acq: 14 Mar 2024 19:17

Instrument :
BNA_G
ClientSampleId :
MW-02

Tgt Ion:330 Resp: 366079

Ion	Ratio	Lower	Upper
330	100		
332	95.5	77.8	116.8
141	33.5	25.4	38.2

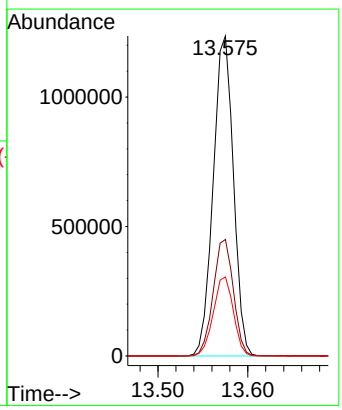


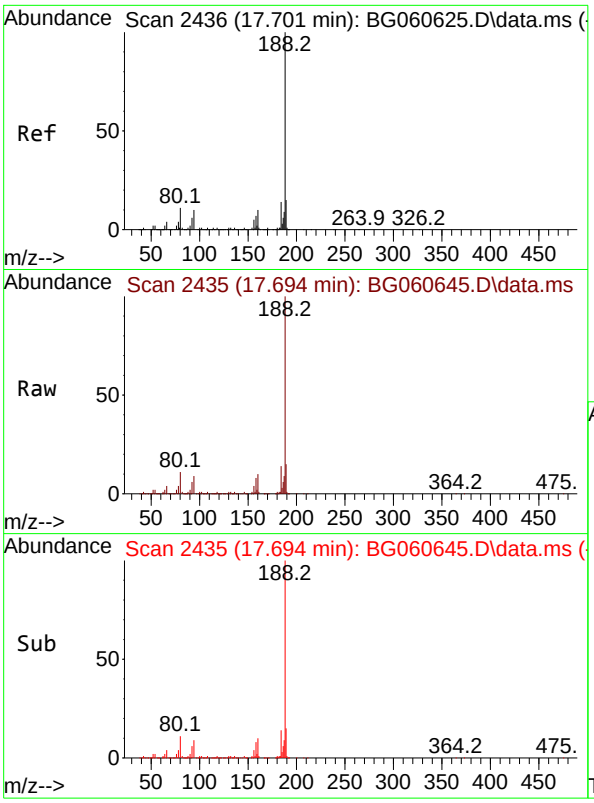


#45
2-Fluorobiphenyl
Concen: 85.189 ng
RT: 13.575 min Scan# 1734
Delta R.T. -0.002 min
Lab File: BG060645.D
Acq: 14 Mar 2024 19:17

Tgt Ion:172 Resp: 1929764

Ion	Ratio	Lower	Upper
172	100		
171	36.4	29.9	44.9
170	24.7	19.8	29.6



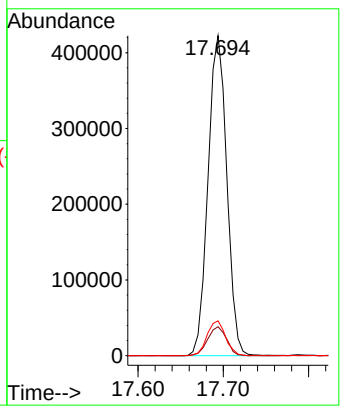


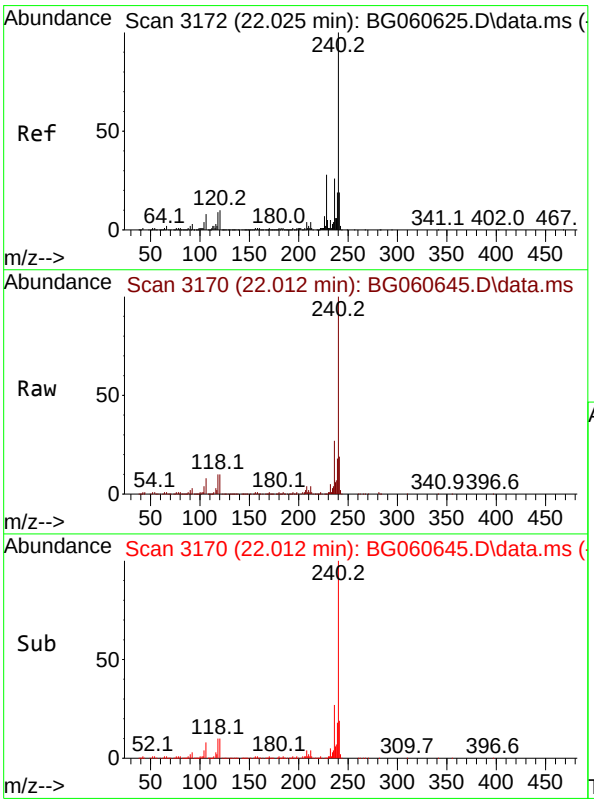
#64
Phenanthrene-d10
Concen: 20.000 ng
RT: 17.694 min Scan# 24
Delta R.T. -0.007 min
Lab File: BG060645.D
Acq: 14 Mar 2024 19:17

Instrument :
BNA_G
ClientSampleId :
MW-02

Tgt Ion:188 Resp: 646742

Ion	Ratio	Lower	Upper
188	100		
94	9.1	7.9	11.9
80	10.9	8.6	13.0

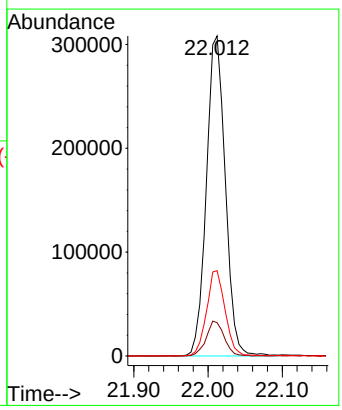


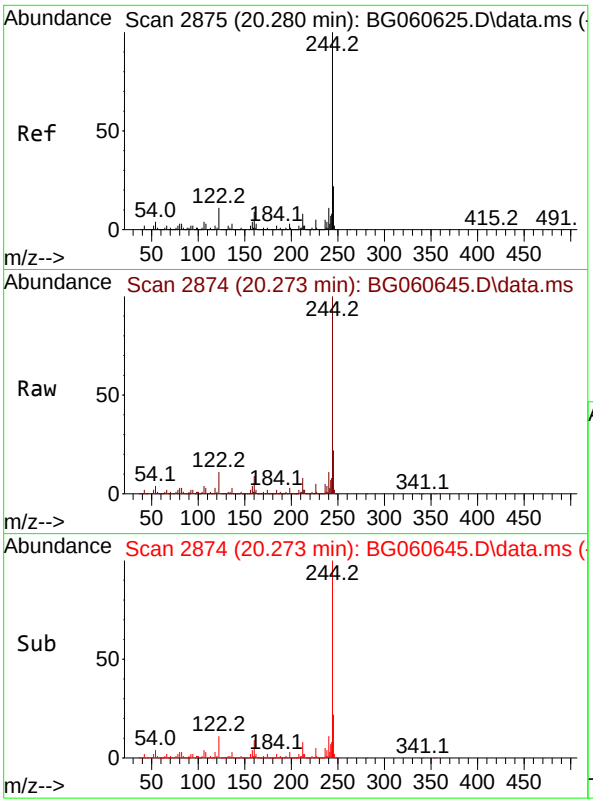


#76
Chrysene-d12
Concen: 20.000 ng
RT: 22.012 min Scan# 3170
Delta R.T. -0.013 min
Lab File: BG060645.D
Acq: 14 Mar 2024 19:17

Tgt Ion:240 Resp: 546831

Ion	Ratio	Lower	Upper
240	100		
120	10.4	7.8	11.8
236	26.6	20.6	31.0



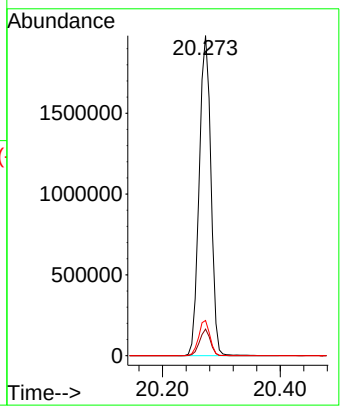


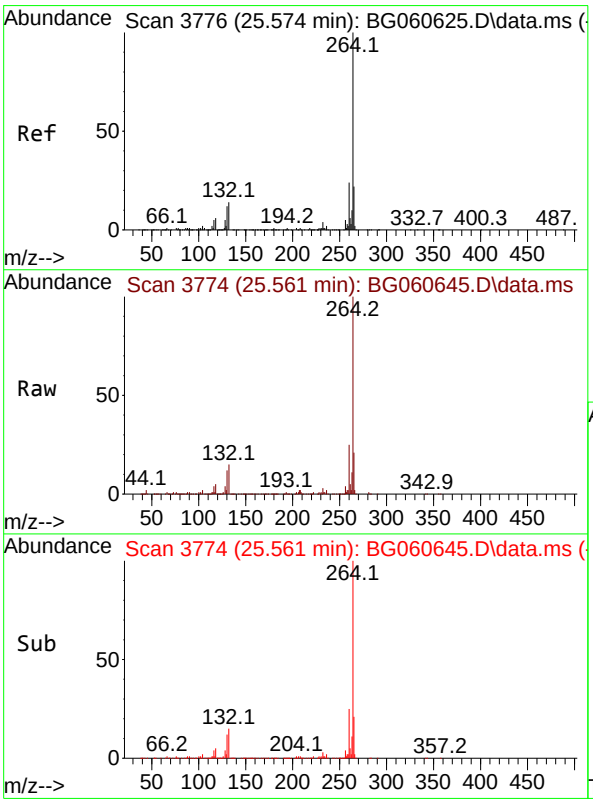
#79
Terphenyl-d14
Concen: 90.272 ng
RT: 20.273 min Scan# 2
Delta R.T. -0.007 min
Lab File: BG060645.D
Acq: 14 Mar 2024 19:17

Instrument :
BNA_G
ClientSampleId :
MW-02

Tgt Ion:244 Resp: 2730966

Ion	Ratio	Lower	Upper
244	100		
212	8.3	6.6	9.8
122	11.0	8.5	12.7

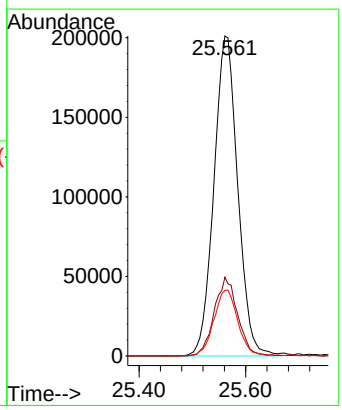




#86
Perylene-d12
Concen: 20.000 ng
RT: 25.561 min Scan# 3774
Delta R.T. -0.013 min
Lab File: BG060645.D
Acq: 14 Mar 2024 19:17

Tgt Ion:264 Resp: 624053

Ion	Ratio	Lower	Upper
264	100		
260	24.6	19.4	29.2
265	20.5	18.1	27.1



Sample Results: **BG060645.D**

Data Path : Z:\svoasrv\HPCHEM1\BNA_G\Data\BG031424\
Data File : BG060645.D
Acq On : 14 Mar 2024 19:17
Operator : MA/JU
Sample : P1747-04
Misc :
ALS Vial : 15 Sample Multiplier: 1

Instrument :
BNA_G
ClientSampleId :
MW-02

Integration Parameters: rteint.p
Integrator: RTE
Smoothing : ON Filtering: 5
Sampling : 1 Min Area: 3 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : Z:\svoasrv\HPCHEM1\BNA_G\Methods\8270-BG031324.M
Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

Signal : TIC: BG060645.D\data.ms

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	5.808	405	412	428	rBV	679294	1139184	14.87%	3.927%
2	7.429	681	688	700	rBV	422303	723375	9.44%	2.494%
3	8.322	831	840	849	rBV	340893	591237	7.72%	2.038%
4	9.521	1035	1044	1053	rBV	1290865	2303072	30.07%	7.939%
5	11.166	1316	1324	1334	rBV	520167	941095	12.29%	3.244%
6	13.575	1726	1734	1742	rBV	3781683	5862762	76.54%	20.210%
7	14.944	1961	1967	1976	rVB	868636	1357320	17.72%	4.679%
8	16.431	2213	2220	2233	rVB	2028614	3064143	40.01%	10.563%
9	17.694	2428	2435	2442	rBV	1039789	1589299	20.75%	5.479%
10	18.516	2568	2575	2582	rBV	127487	194013	2.53%	0.669%
11	19.774	2784	2789	2796	rBV2	105310	149558	1.95%	0.516%
12	20.273	2868	2874	2883	rBV	5798129	7659323	100.00%	26.403%
13	21.566	3089	3094	3100	rBV2	57388	87667	1.14%	0.302%
14	22.012	3162	3170	3178	rBV2	866025	1546136	20.19%	5.330%
15	23.076	3345	3351	3357	rVB2	73121	138261	1.81%	0.477%
16	25.567	3763	3775	3792	rVB	525050	1662592	21.71%	5.731%

Sum of corrected areas: 29009037

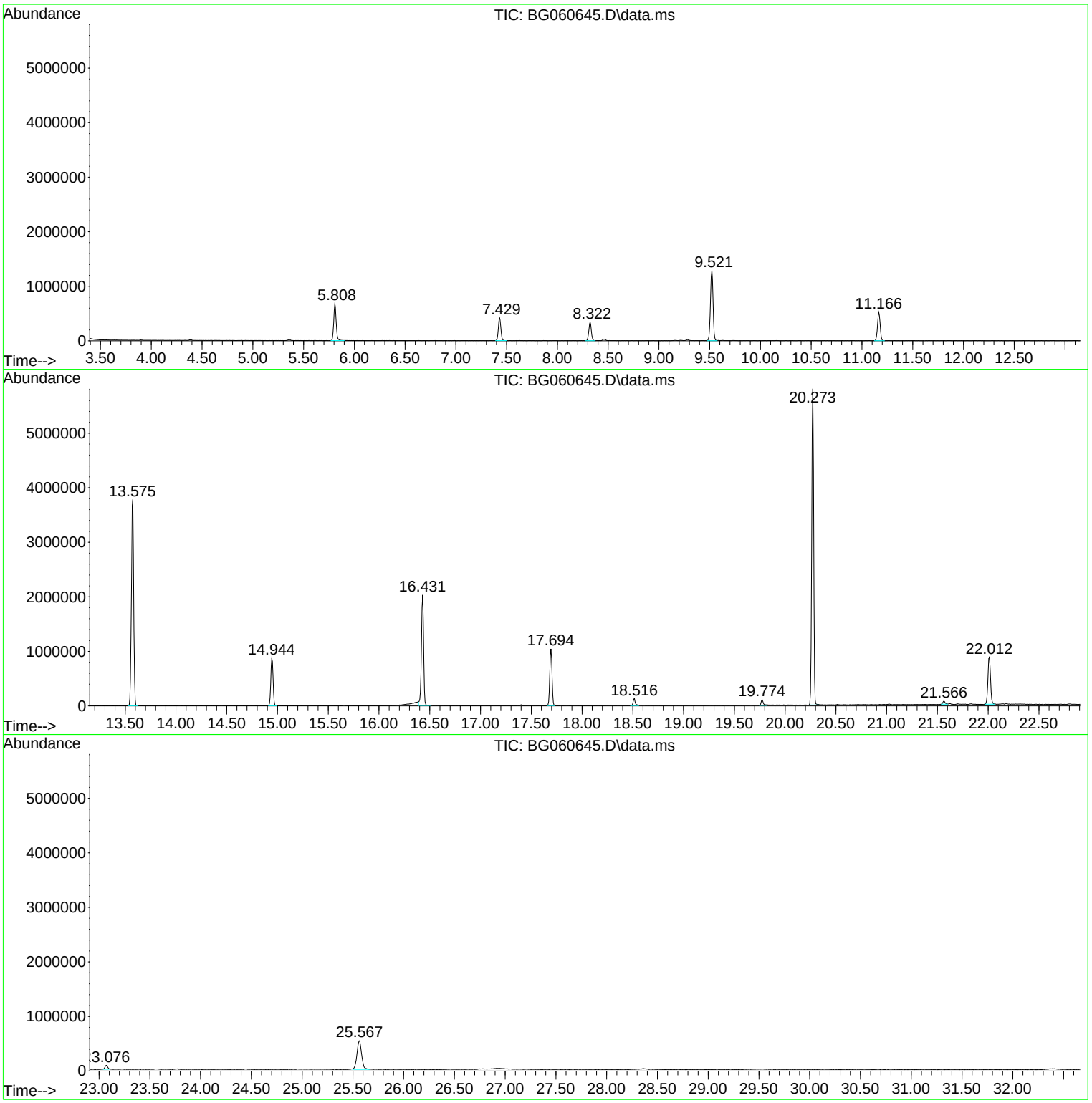
Sample Results: **BG060645.D**

Data Path : Z:\svoasrv\HPCHEM1\BNA_G\Data\BG031424\
Data File : BG060645.D
Acq On : 14 Mar 2024 19:17
Operator : MA/JU
Sample : P1747-04
Misc :
ALS Vial : 15 Sample Multiplier: 1

Instrument :
BNA_G
ClientSampleId :
MW-02

Quant Method : Z:\svoasrv\HPCHEM1\BNA_G\Methods\8270-BG031324.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

TIC Library : C:\Database\NIST20.L
TIC Integration Parameters: LSCINT.P



Data Path : Z:\svoasrv\HPCHEM1\BNA_G\Data\BG031424\
Data File : BG060645.D
Acq On : 14 Mar 2024 19:17
Operator : MA/JU
Sample : P1747-04
Misc :
ALS Vial : 15 Sample Multiplier: 1

Instrument :
BNA_G
ClientSampleId :
MW-02

Quant Method : Z:\svoasrv\HPCHEM1\BNA_G\Methods\8270-BG031324.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

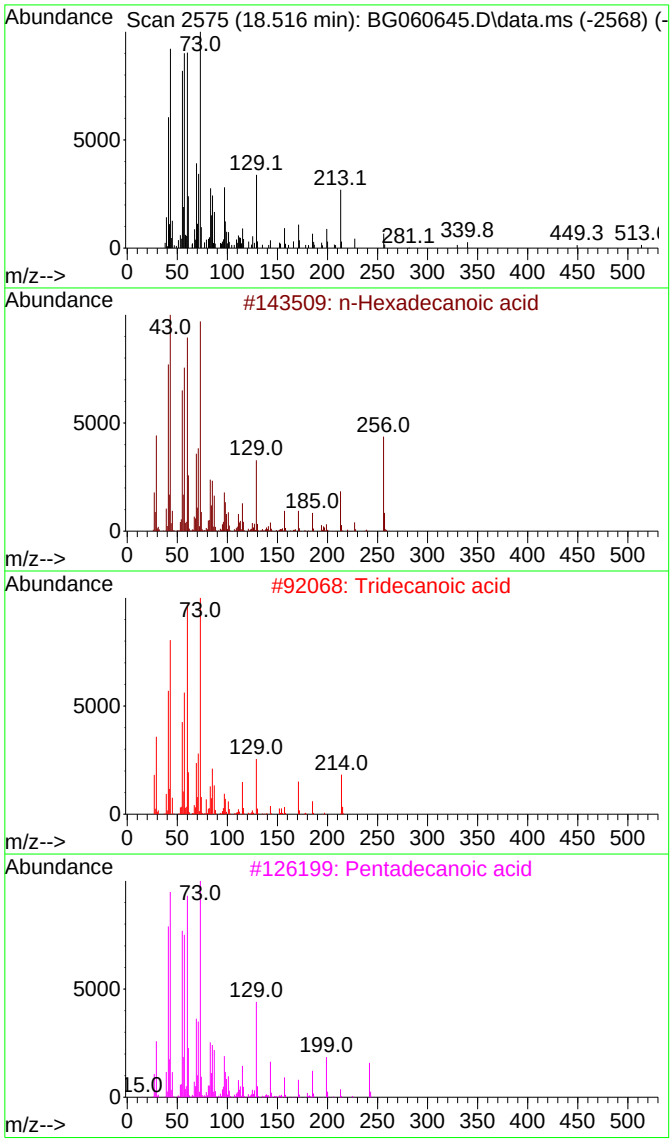
TIC Library : C:\Database\NIST20.L
TIC Integration Parameters: LSCINT.P

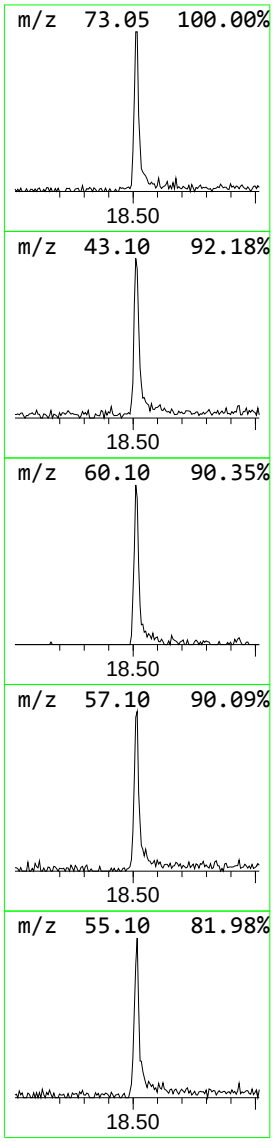
****

Peak Number 1 n-Hexadecanoic acid Concentration Rank 1

R.T.	EstConc	Area	Relative to ISTD	R.T.
18.516	2.44 ng	194013	Phenanthrene-d10	17.694

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	n-Hexadecanoic acid	256	C16H32O2	000057-10-3	97
2	Tridecanoic acid	214	C13H26O2	000638-53-9	89
3	Pentadecanoic acid	242	C15H30O2	001002-84-2	81
4	Docosanoic acid	340	C22H44O2	000112-85-6	76
5	Octadecanoic acid	284	C18H36O2	000057-11-4	72





Data Path : Z:\svoasrv\HPCHEM1\BNA_G\Data\BG031424\
Data File : BG060645.D
Acq On : 14 Mar 2024 19:17
Operator : MA/JU
Sample : P1747-04
Misc :
ALS Vial : 15 Sample Multiplier: 1

Instrument :
BNA_G
ClientSampleId :
MW-02

Quant Method : Z:\svoasrv\HPCHEM1\BNA_G\Methods\8270-BG031324.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

TIC Library : C:\Database\NIST20.L
TIC Integration Parameters: LSCINT.P

					--Internal Standard---			
TIC Top Hit name	RT	EstConc	Units	Response	#	RT	Resp	Conc
n-Hexadecanoic ...	18.516	2.4	ng	194013	4	17.694	1589300	20.0

Raw Data: **BG060646.D**

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

Report of Analysis

Client:	LiRo Engineers, Inc.	Date Collected:	03/12/24
Project:	Walter Gladwin Recreation Center, Bronx, NY	Date Received:	03/13/24
Client Sample ID:	TWP-04	SDG No.:	P1747
Lab Sample ID:	P1747-05	Matrix:	Water
Analytical Method:	SW8270	% Solid:	0
Sample Wt/Vol:	980 Units: mL	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOC-TCL BNA -20
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :
Prep Method :	SW3510C		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BG060646.D	1	03/14/24 10:06	03/14/24 19:57	PB159586

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units
TARGETS						
100-52-7	Benzaldehyde	4.10	U	4.10	10.2	ug/L
108-95-2	Phenol	0.95	U	0.95	5.10	ug/L
111-44-4	bis(2-Chloroethyl)ether	1.20	U	1.20	5.10	ug/L
95-57-8	2-Chlorophenol	0.72	U	0.72	5.10	ug/L
95-48-7	2-Methylphenol	1.20	U	1.20	5.10	ug/L
108-60-1	2,2-oxybis(1-Chloropropane)	1.40	U	1.40	5.10	ug/L
98-86-2	Acetophenone	1.10	U	1.10	5.10	ug/L
65794-96-9	3+4-Methylphenols	1.20	U	1.20	10.2	ug/L
621-64-7	n-Nitroso-di-n-propylamine	1.50	U	1.50	2.60	ug/L
67-72-1	Hexachloroethane	1.00	U	1.00	5.10	ug/L
98-95-3	Nitrobenzene	1.30	U	1.30	5.10	ug/L
78-59-1	Isophorone	1.20	U	1.20	5.10	ug/L
88-75-5	2-Nitrophenol	2.00	U	2.00	5.10	ug/L
105-67-9	2,4-Dimethylphenol	1.50	U	1.50	5.10	ug/L
111-91-1	bis(2-Chloroethoxy)methane	1.00	U	1.00	5.10	ug/L
120-83-2	2,4-Dichlorophenol	0.90	U	0.90	5.10	ug/L
91-20-3	Naphthalene	1.00	U	1.00	5.10	ug/L
106-47-8	4-Chloroaniline	1.30	U	1.30	5.10	ug/L
87-68-3	Hexachlorobutadiene	1.30	U	1.30	5.10	ug/L
105-60-2	Caprolactam	1.70	U	1.70	10.2	ug/L
59-50-7	4-Chloro-3-methylphenol	0.86	U	0.86	5.10	ug/L
91-57-6	2-Methylnaphthalene	1.20	U	1.20	5.10	ug/L
77-47-4	Hexachlorocyclopentadiene	5.10	U	5.10	10.2	ug/L
88-06-2	2,4,6-Trichlorophenol	0.91	U	0.91	5.10	ug/L
95-95-4	2,4,5-Trichlorophenol	1.00	U	1.00	5.10	ug/L
92-52-4	1,1-Biphenyl	0.93	U	0.93	5.10	ug/L
91-58-7	2-Chloronaphthalene	0.99	U	0.99	5.10	ug/L
88-74-4	2-Nitroaniline	1.40	U	1.40	5.10	ug/L
131-11-3	Dimethylphthalate	0.95	U	0.95	5.10	ug/L
208-96-8	Acenaphthylene	1.10	U	1.10	5.10	ug/L
606-20-2	2,6-Dinitrotoluene	1.30	U	1.30	5.10	ug/L

Raw Data: **BG060646.D**

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

Report of Analysis

Client:	LiRo Engineers, Inc.	Date Collected:	03/12/24
Project:	Walter Gladwin Recreation Center, Bronx, NY	Date Received:	03/13/24
Client Sample ID:	TWP-04	SDG No.:	P1747
Lab Sample ID:	P1747-05	Matrix:	Water
Analytical Method:	SW8270	% Solid:	0
Sample Wt/Vol:	980 Units: mL	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOC-TCL BNA -20
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :
Prep Method :	SW3510C		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BG060646.D	1	03/14/24 10:06	03/14/24 19:57	PB159586

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units
99-09-2	3-Nitroaniline	1.40	U	1.40	5.10	ug/L
83-32-9	Acenaphthene	0.83	U	0.83	5.10	ug/L
51-28-5	2,4-Dinitrophenol	6.60	U	6.60	10.2	ug/L
100-02-7	4-Nitrophenol	2.00	U	2.00	10.2	ug/L
132-64-9	Dibenzofuran	0.95	U	0.95	5.10	ug/L
121-14-2	2,4-Dinitrotoluene	1.60	U	1.60	5.10	ug/L
84-66-2	Diethylphthalate	1.10	U	1.10	5.10	ug/L
7005-72-3	4-Chlorophenyl-phenylether	1.00	U	1.00	5.10	ug/L
86-73-7	Fluorene	0.98	U	0.98	5.10	ug/L
100-01-6	4-Nitroaniline	2.10	U	2.10	5.10	ug/L
534-52-1	4,6-Dinitro-2-methylphenol	3.10	U	3.10	10.2	ug/L
86-30-6	n-Nitrosodiphenylamine	0.91	U	0.91	5.10	ug/L
101-55-3	4-Bromophenyl-phenylether	0.97	U	0.97	5.10	ug/L
118-74-1	Hexachlorobenzene	1.20	U	1.20	5.10	ug/L
1912-24-9	Atrazine	1.30	U	1.30	5.10	ug/L
87-86-5	Pentachlorophenol	1.90	U	1.90	10.2	ug/L
85-01-8	Phenanthrene	0.91	U	0.91	5.10	ug/L
120-12-7	Anthracene	1.10	U	1.10	5.10	ug/L
86-74-8	Carbazole	1.20	U	1.20	5.10	ug/L
84-74-2	Di-n-butylphthalate	1.50	U	1.50	5.10	ug/L
206-44-0	Fluoranthene	1.30	U	1.30	5.10	ug/L
129-00-0	Pyrene	1.10	U	1.10	5.10	ug/L
85-68-7	Butylbenzylphthalate	2.10	U	2.10	5.10	ug/L
91-94-1	3,3-Dichlorobenzidine	1.30	U	1.30	10.2	ug/L
56-55-3	Benzo(a)anthracene	0.96	U	0.96	5.10	ug/L
218-01-9	Chrysene	0.88	U	0.88	5.10	ug/L
117-81-7	Bis(2-ethylhexyl)phthalate	1.90	U	1.90	5.10	ug/L
117-84-0	Di-n-octyl phthalate	2.60	U	2.60	10.2	ug/L
205-99-2	Benzo(b)fluoranthene	1.20	U	1.20	5.10	ug/L
207-08-9	Benzo(k)fluoranthene	1.20	U	1.20	5.10	ug/L
50-32-8	Benzo(a)pyrene	1.70	U	1.70	5.10	ug/L
193-39-5	Indeno(1,2,3-cd)pyrene	1.00	U	1.00	5.10	ug/L
53-70-3	Dibenzo(a,h)anthracene	1.20	U	1.20	5.10	ug/L

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

Report of Analysis

Client:	LiRo Engineers, Inc.	Date Collected:	03/12/24
Project:	Walter Gladwin Recreation Center, Bronx, NY	Date Received:	03/13/24
Client Sample ID:	TWP-04	SDG No.:	P1747
Lab Sample ID:	P1747-05	Matrix:	Water
Analytical Method:	SW8270	% Solid:	0
Sample Wt/Vol:	980 Units: mL	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOC-TCL BNA -20
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :
Prep Method :	SW3510C		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BG060646.D	1	03/14/24 10:06	03/14/24 19:57	PB159586

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units
191-24-2	Benzo(g,h,i)perylene	1.20	U	1.20	5.10	ug/L
95-94-3	1,2,4,5-Tetrachlorobenzene	1.10	U	1.10	5.10	ug/L
123-91-1	1,4-Dioxane	1.30	U	1.30	5.10	ug/L
58-90-2	2,3,4,6-Tetrachlorophenol	0.81	U	0.81	5.10	ug/L
SURROGATES						
367-12-4	2-Fluorophenol	60.7		10 - 139	40%	SPK: 150
13127-88-3	Phenol-d6	35.4		10 - 134	24%	SPK: 150
4165-60-0	Nitrobenzene-d5	94.5		49 - 133	94%	SPK: 100
321-60-8	2-Fluorobiphenyl	89.7		52 - 132	90%	SPK: 100
118-79-6	2,4,6-Tribromophenol	126		32 - 145	84%	SPK: 150
1718-51-0	Terphenyl-d14	88.3		36 - 145	88%	SPK: 100
INTERNAL STANDARDS						
3855-82-1	1,4-Dichlorobenzene-d4	92400	8.325			
1146-65-2	Naphthalene-d8	426000	11.169			
15067-26-2	Acenaphthene-d10	303000	14.947			
1517-22-2	Phenanthrene-d10	646000	17.69			
1719-03-5	Chrysene-d12	578000	22.009			
1520-96-3	Perylene-d12	656000	25.564			
TENTATIVE IDENTIFIED COMPOUNDS						
	unknown16.374	2.20	J		16.4	ug/L

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
Q = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution
() = Laboratory InHouse Limit
A = Aldol-Condensation Reaction Products

Data Path : Z:\svoasrv\HPCHEM1\BNA_G\Data\BG031424\
Data File : BG060646.D
Acq On : 14 Mar 2024 19:57
Operator : MA/JU
Sample : P1747-05
Misc :
ALS Vial : 16 Sample Multiplier: 1

Instrument :
BNA_G
ClientSampleId :
MW-04

Quant Time: Mar 15 01:37:31 2024
Quant Method : Z:\svoasrv\HPCHEM1\BNA_G\Methods\8270-BG031324.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION
QLast Update : Thu Mar 14 00:45:22 2024
Response via : Initial Calibration

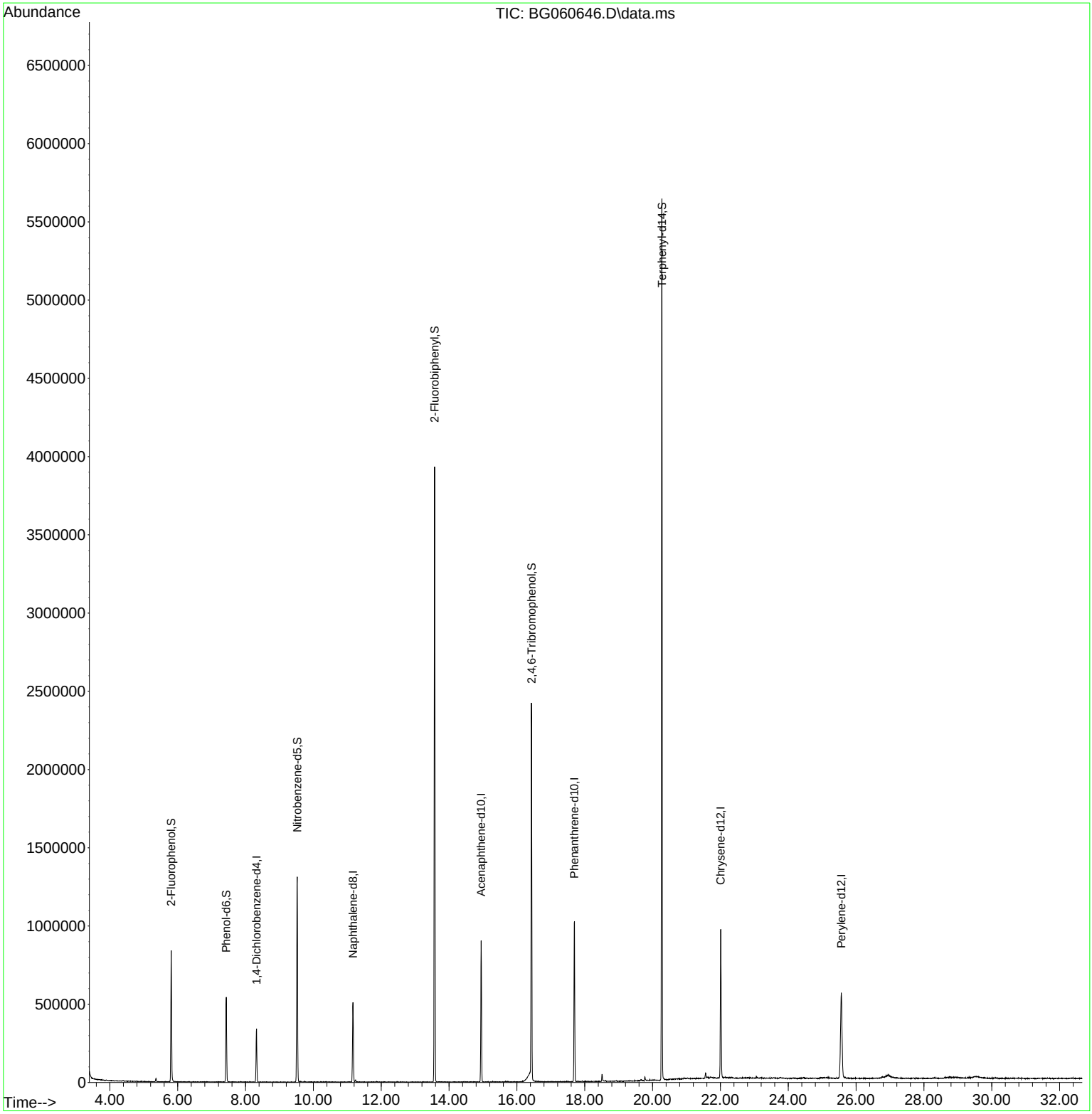
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	8.325	152	92415	20.000	ng	0.00
21) Naphthalene-d8	11.169	136	426428	20.000	ng	0.00
39) Acenaphthene-d10	14.947	164	303077	20.000	ng	0.00
64) Phenanthrene-d10	17.690	188	645630	20.000	ng	-0.01
76) Chrysene-d12	22.009	240	577543	20.000	ng	-0.02
86) Perylene-d12	25.564	264	656048	20.000	ng	-0.01
System Monitoring Compounds						
5) 2-Fluorophenol	5.810	112	357002	60.726	ng	0.00
7) Phenol-d6	7.432	99	302033	35.417	ng	0.00
23) Nitrobenzene-d5	9.524	82	774174	94.485	ng	0.00
42) 2,4,6-Tribromophenol	16.433	330	441891	125.822	ng	0.00
45) 2-Fluorobiphenyl	13.572	172	2010784	89.702	ng	0.00
79) Terphenyl-d14	20.276	244	2822344	88.331	ng	0.00
Target Compounds						Qvalue

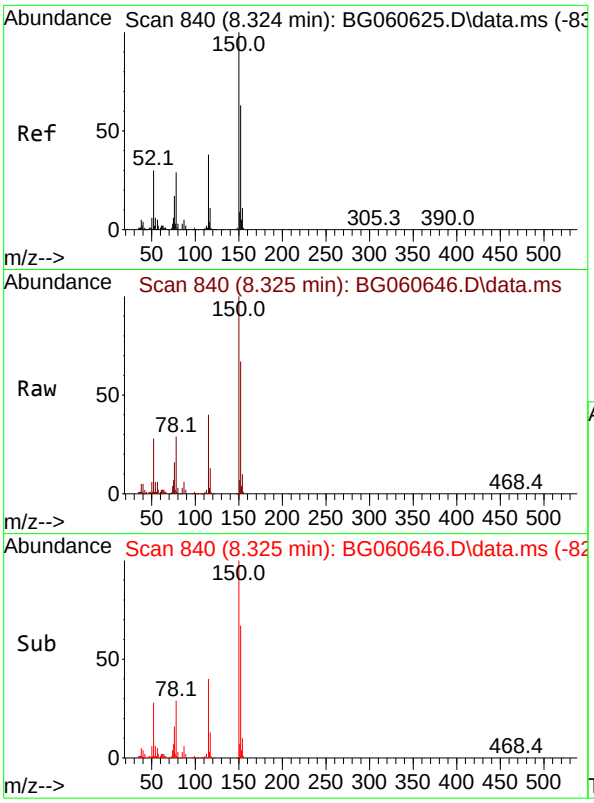
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : Z:\svoasrv\HPCHEM1\BNA_G\Data\BG031424\
Data File : BG060646.D
Acq On : 14 Mar 2024 19:57
Operator : MA/JU
Sample : P1747-05
Misc :
ALS Vial : 16 Sample Multiplier: 1

Instrument :
BNA_G
ClientSampleId :
MW-04

Quant Time: Mar 15 01:37:31 2024
Quant Method : Z:\svoasrv\HPCHEM1\BNA_G\Methods\8270-BG031324.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION
QLast Update : Thu Mar 14 00:45:22 2024
Response via : Initial Calibration



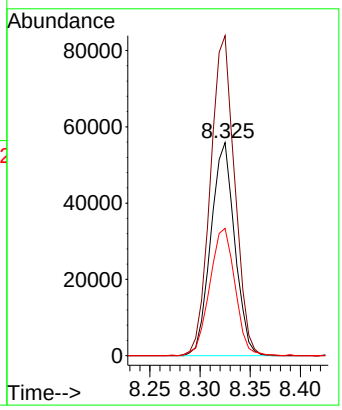


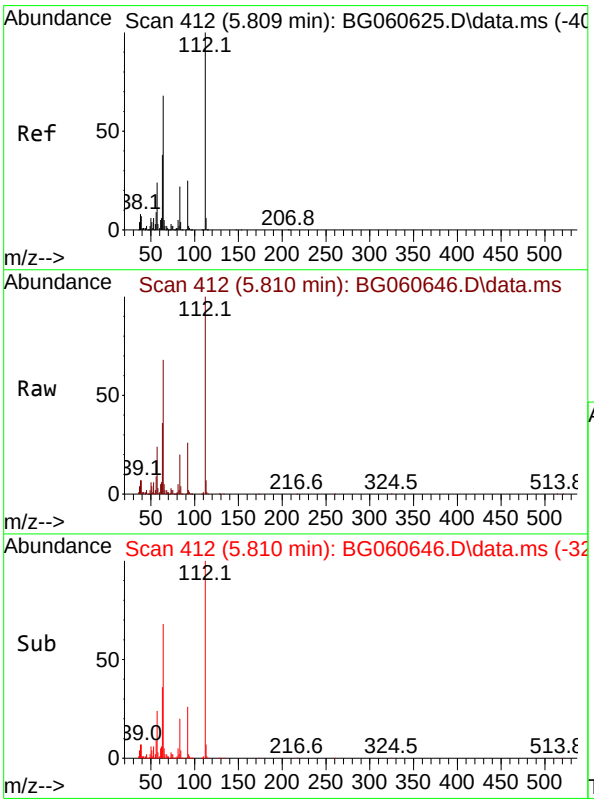
#1
1,4-Dichlorobenzene-d4
Concen: 20.000 ng
RT: 8.325 min Scan# 84
Delta R.T. 0.001 min
Lab File: BG060646.D
Acq: 14 Mar 2024 19:57

Instrument :
BNA_G
ClientSampleId :
MW-04

Tgt Ion:152 Resp: 92415

Ion	Ratio	Lower	Upper
152	100		
150	150.1	126.6	190.0
115	59.8	47.8	71.8

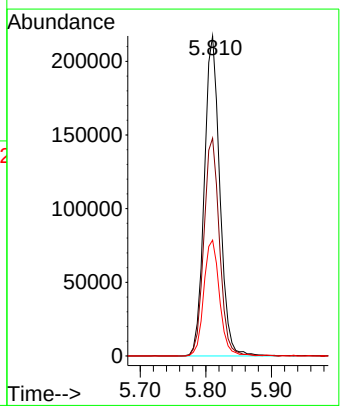


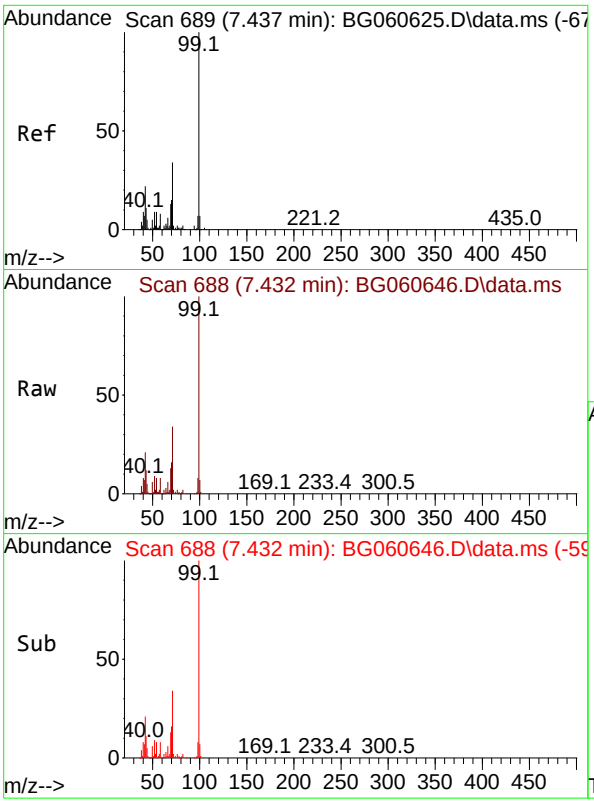


#5
2-Fluorophenol
Concen: 60.726 ng
RT: 5.810 min Scan# 412
Delta R.T. 0.001 min
Lab File: BG060646.D
Acq: 14 Mar 2024 19:57

Tgt Ion:112 Resp: 357002

Ion	Ratio	Lower	Upper
112	100		
64	68.0	54.1	81.1
63	36.2	30.3	45.5



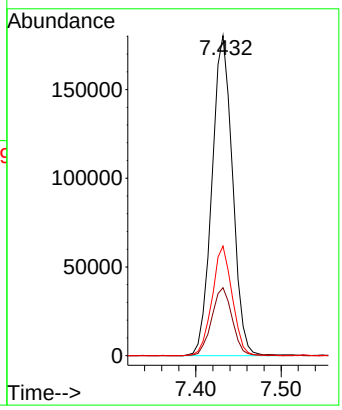


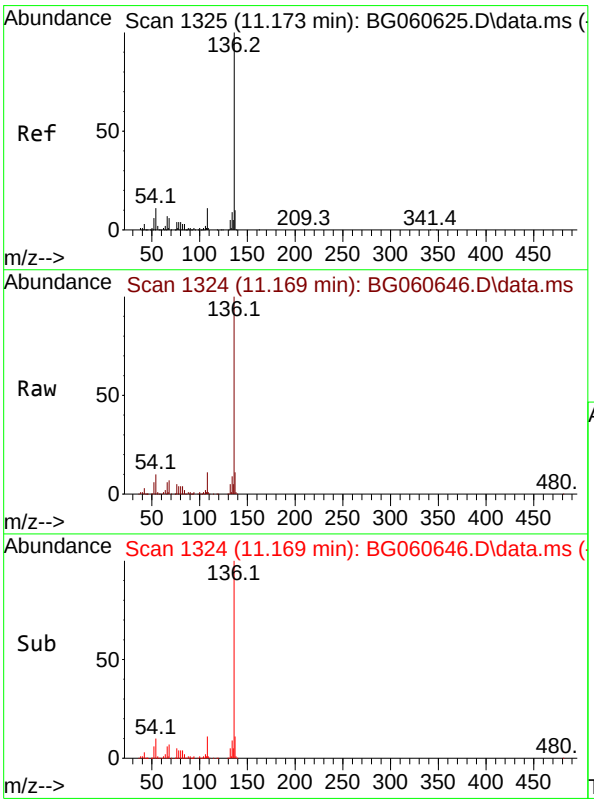
#7
Phenol-d6
Concen: 35.417 ng
RT: 7.432 min Scan# 6
Delta R.T. -0.005 min
Lab File: BG060646.D
Acq: 14 Mar 2024 19:57

Instrument :
BNA_G
ClientSampleId :
MW-04

Tgt Ion: 99 Resp: 302033

Ion	Ratio	Lower	Upper
99	100		
42	21.3	17.5	26.3
71	34.3	27.4	41.0

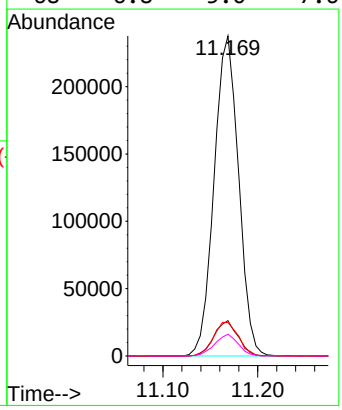


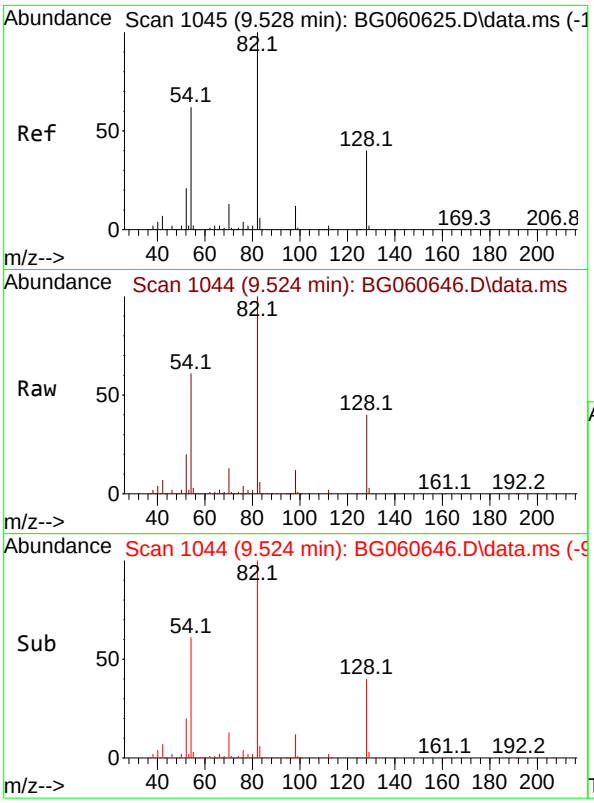


#21
Naphthalene-d8
Concen: 20.000 ng
RT: 11.169 min Scan# 1324
Delta R.T. -0.005 min
Lab File: BG060646.D
Acq: 14 Mar 2024 19:57

Tgt Ion:136 Resp: 426428

Ion	Ratio	Lower	Upper
136	100		
137	11.1	8.4	12.6
54	10.5	8.5	12.7
68	6.8	5.0	7.6



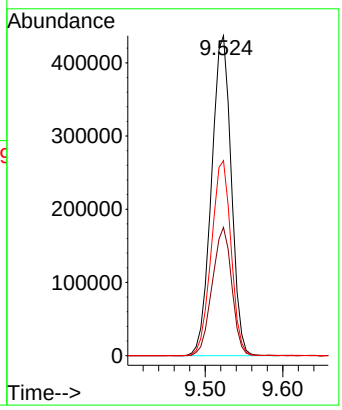


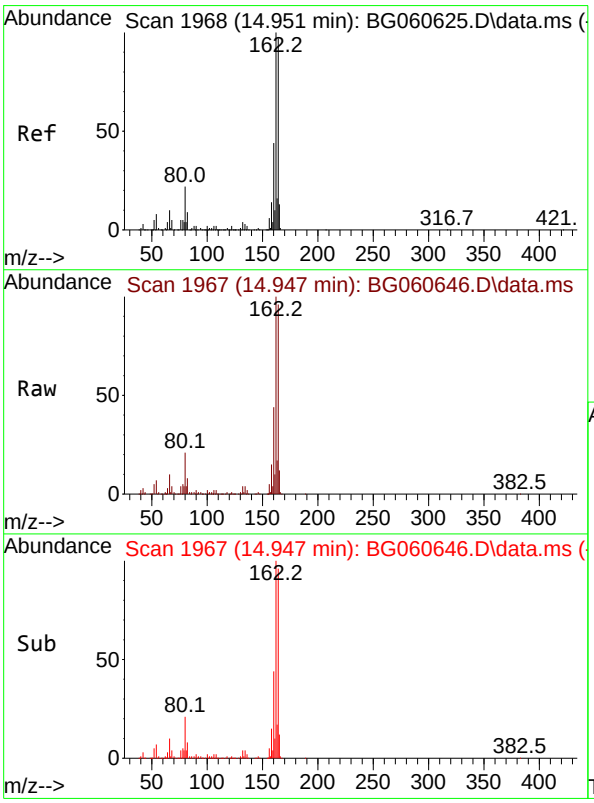
#23
Nitrobenzene-d5
Concen: 94.485 ng
RT: 9.524 min Scan# 1
Delta R.T. -0.005 min
Lab File: BG060646.D
Acq: 14 Mar 2024 19:57

Instrument :
BNA_G
ClientSampleId :
MW-04

Tgt Ion: 82 Resp: 774174

Ion	Ratio	Lower	Upper
82	100		
128	40.1	31.6	47.4
54	60.9	49.3	73.9

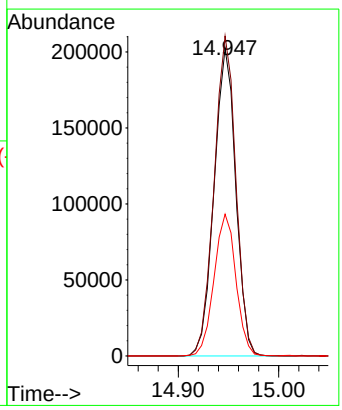


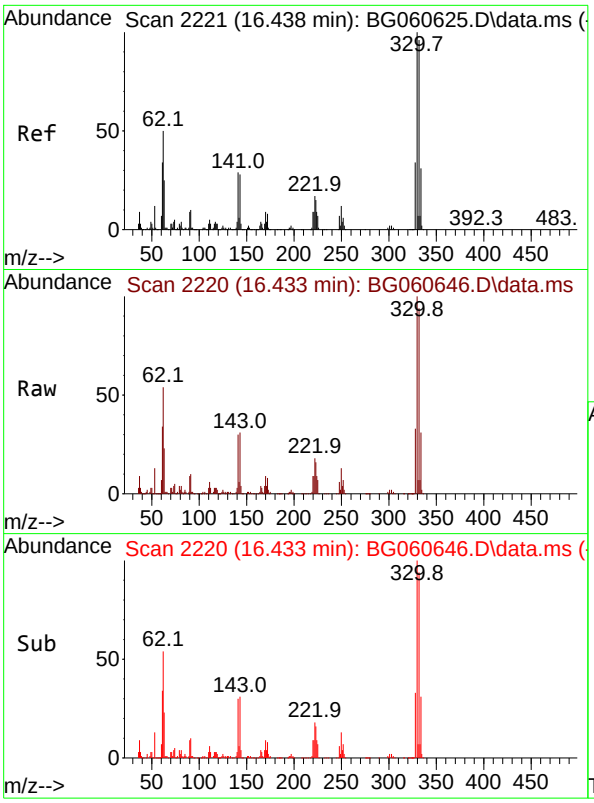


#39
Acenaphthene-d10
Concen: 20.000 ng
RT: 14.947 min Scan# 1967
Delta R.T. -0.005 min
Lab File: BG060646.D
Acq: 14 Mar 2024 19:57

Tgt Ion:164 Resp: 303077

Ion	Ratio	Lower	Upper
164	100		
162	104.0	82.5	123.7
160	46.1	36.4	54.6



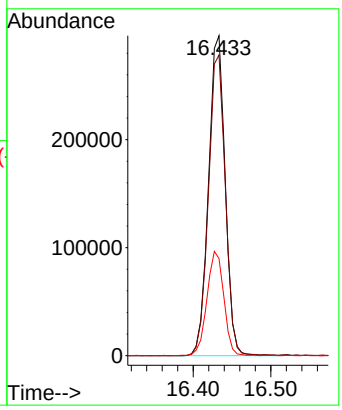


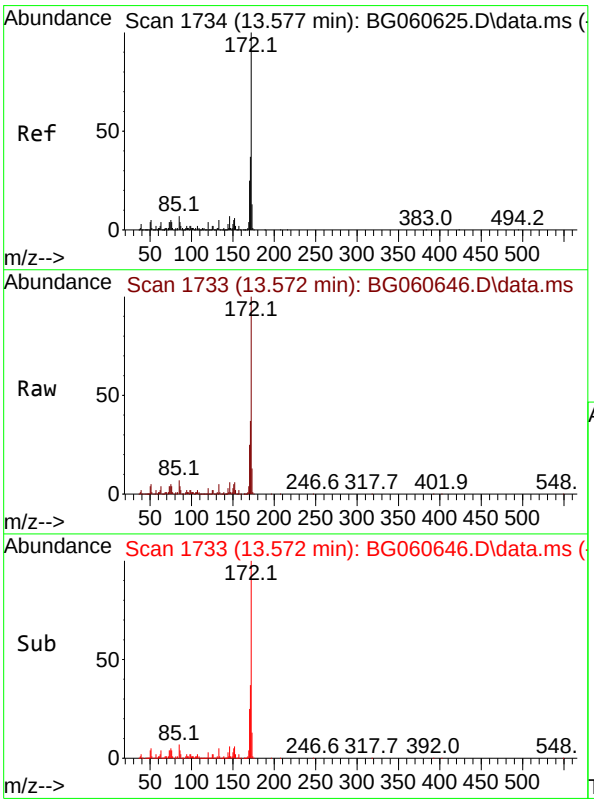
#42
2,4,6-Tribromophenol
Concen: 125.822 ng
RT: 16.433 min Scan# 2
Delta R.T. -0.005 min
Lab File: BG060646.D
Acq: 14 Mar 2024 19:57

Instrument :
BNA_G
ClientSampleId :
MW-04

Tgt Ion:330 Resp: 441891

Ion	Ratio	Lower	Upper
330	100		
332	95.5	77.8	116.8
141	33.0	25.4	38.2

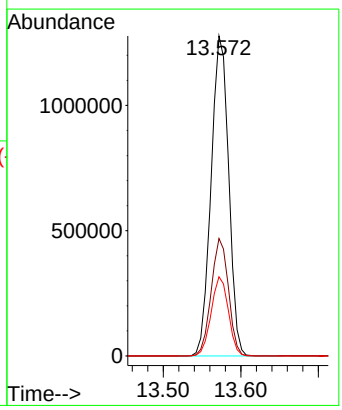


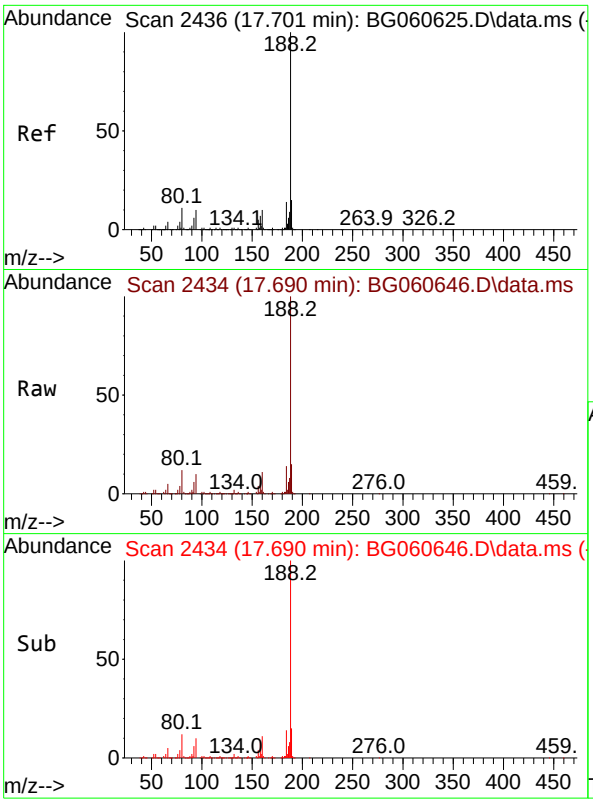


#45
2-Fluorobiphenyl
Concen: 89.702 ng
RT: 13.572 min Scan# 1733
Delta R.T. -0.005 min
Lab File: BG060646.D
Acq: 14 Mar 2024 19:57

Tgt Ion:172 Resp: 2010784

Ion	Ratio	Lower	Upper
172	100		
171	36.7	29.9	44.9
170	24.7	19.8	29.6



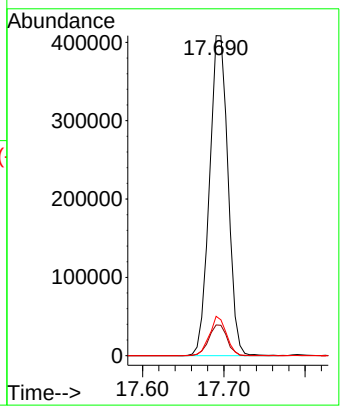


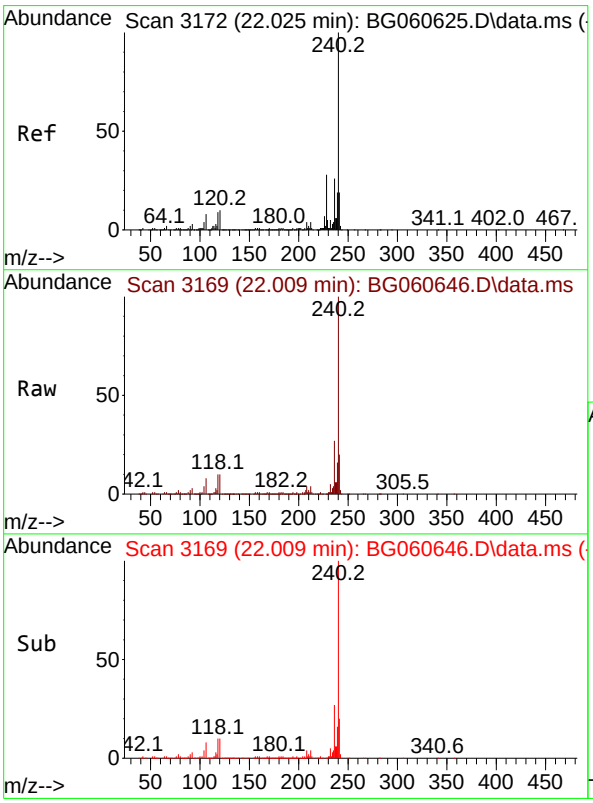
#64
Phenanthrene-d10
Concen: 20.000 ng
RT: 17.690 min Scan# 24
Delta R.T. -0.011 min
Lab File: BG060646.D
Acq: 14 Mar 2024 19:57

Instrument :
BNA_G
ClientSampleId :
MW-04

Tgt Ion:188 Resp: 645630

Ion	Ratio	Lower	Upper
188	100		
94	9.6	7.9	11.9
80	12.3	8.6	13.0

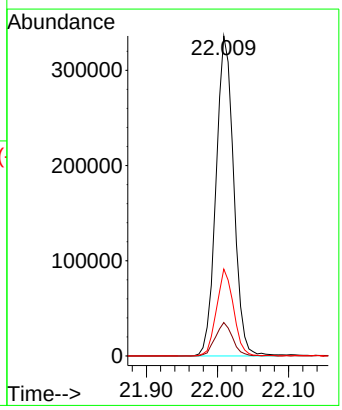


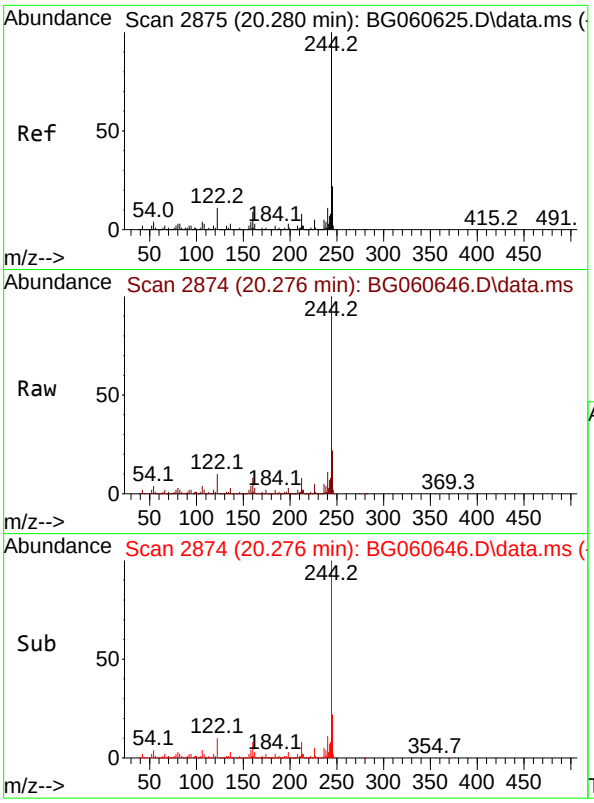


#76
Chrysene-d12
Concen: 20.000 ng
RT: 22.009 min Scan# 3169
Delta R.T. -0.017 min
Lab File: BG060646.D
Acq: 14 Mar 2024 19:57

Tgt Ion:240 Resp: 577543

Ion	Ratio	Lower	Upper
240	100		
120	10.4	7.8	11.8
236	27.2	20.6	31.0



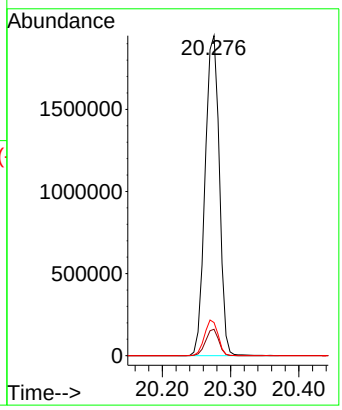


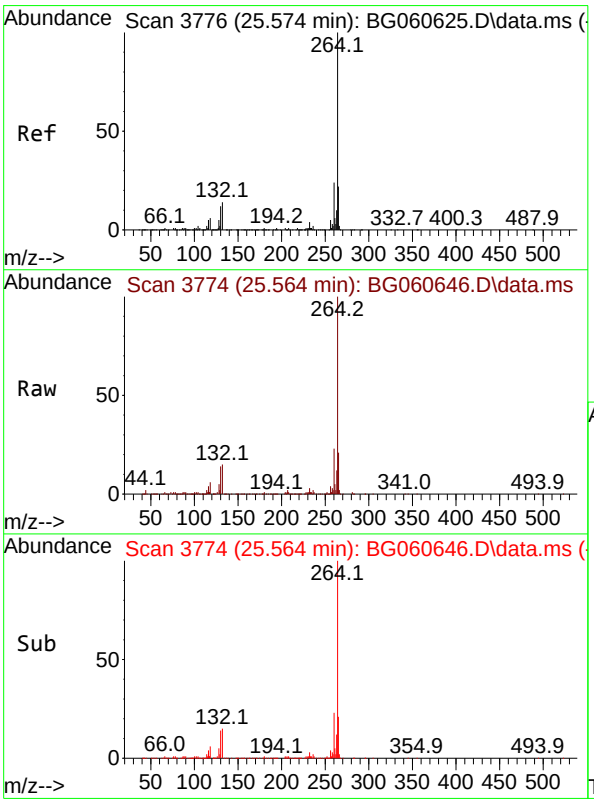
#79
Terphenyl-d14
Concen: 88.331 ng
RT: 20.276 min Scan# 2
Delta R.T. -0.005 min
Lab File: BG060646.D
Acq: 14 Mar 2024 19:57

Instrument :
BNA_G
ClientSampleId :
MW-04

Tgt Ion:244 Resp: 2822344

Ion	Ratio	Lower	Upper
244	100		
212	8.2	6.6	9.8
122	10.3	8.5	12.7

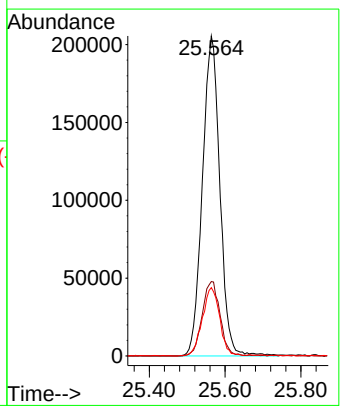




#86
Perylene-d12
Concen: 20.000 ng
RT: 25.564 min Scan# 3774
Delta R.T. -0.011 min
Lab File: BG060646.D
Acq: 14 Mar 2024 19:57

Tgt Ion:264 Resp: 656048

Ion	Ratio	Lower	Upper
264	100		
260	23.2	19.4	29.2
265	21.4	18.1	27.1



Sample Results: **BG060646.D**

Data Path : Z:\svoasrv\HPCHEM1\BNA_G\Data\BG031424\
Data File : BG060646.D
Acq On : 14 Mar 2024 19:57
Operator : MA/JU
Sample : P1747-05
Misc :
ALS Vial : 16 Sample Multiplier: 1

Instrument :
BNA_G
ClientSampleId :
MW-04

Integration Parameters: rteint.p
Integrator: RTE
Smoothing : ON Filtering: 5
Sampling : 1 Min Area: 3 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : Z:\svoasrv\HPCHEM1\BNA_G\Methods\8270-BG031324.M
Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

Signal : TIC: BG060646.D\data.ms

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	5.810	405	412	424	rBV	838770	1379393	17.39%	4.546%
2	7.432	678	688	698	rBV	543436	922779	11.63%	3.041%
3	8.325	832	840	849	rBV	340458	583503	7.36%	1.923%
4	9.524	1035	1044	1052	rBV	1312298	2357888	29.72%	7.771%
5	11.169	1315	1324	1332	rBV	509213	928086	11.70%	3.059%
6	13.572	1724	1733	1744	rBV	3932259	6084578	76.70%	20.054%
7	14.947	1959	1967	1975	rVB	902769	1354755	17.08%	4.465%
8	16.374	2190	2210	2211	rBV10	44925	172205	2.17%	0.568%
9	16.427	2213	2219	2231	rVB	2416861	3654832	46.07%	12.046%
10	17.696	2427	2435	2442	rBV	1025895	1612236	20.32%	5.314%
11	20.276	2867	2874	2884	rBV	5630040	7932797	100.00%	26.146%
12	22.009	3161	3169	3178	rBV2	951815	1650962	20.81%	5.441%
13	25.564	3762	3774	3786	rBV	541342	1706785	21.52%	5.625%

Sum of corrected areas: 30340799

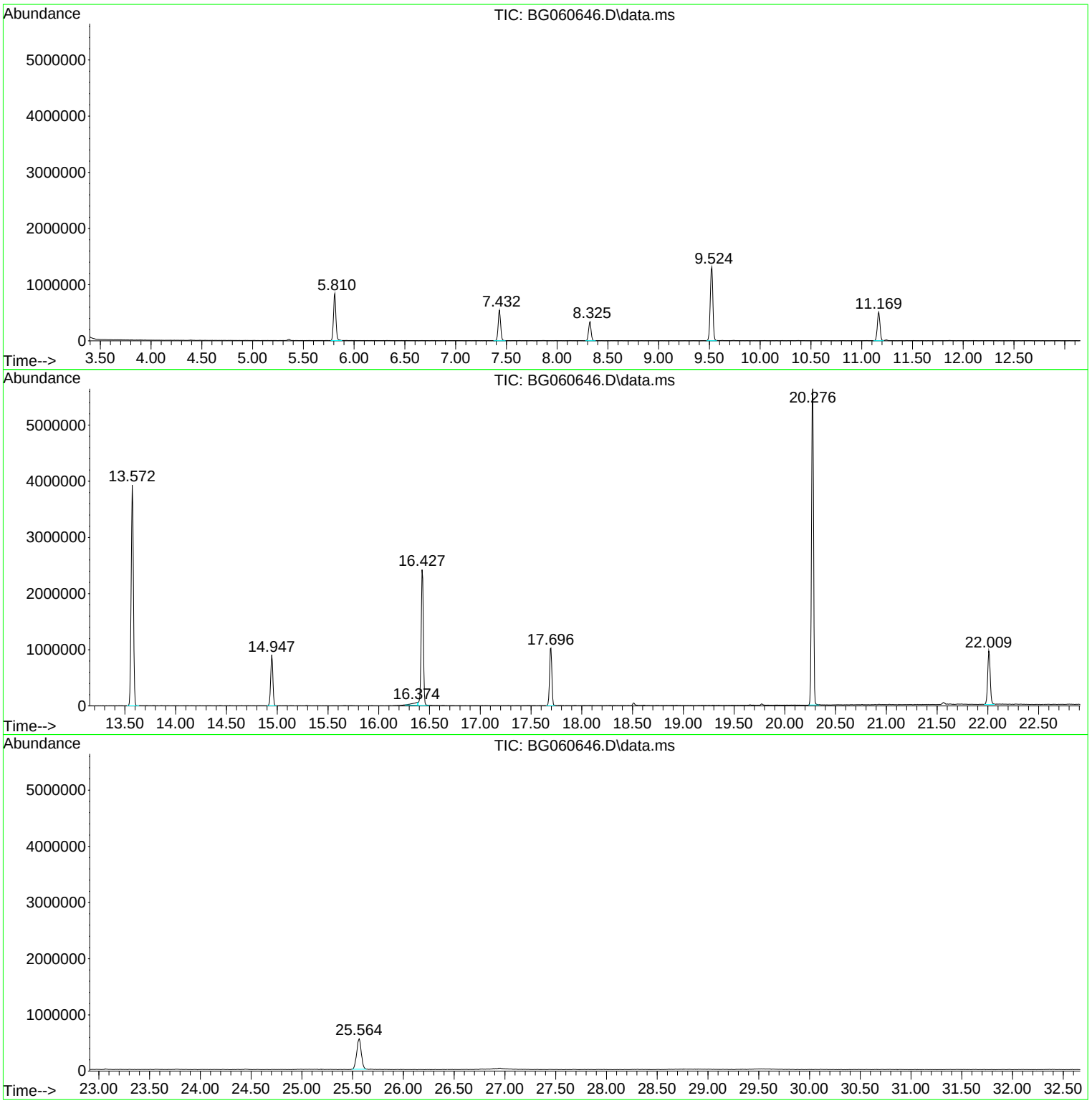
Sample Results: **BG060646.D**

Data Path : Z:\svoasrv\HPCHEM1\BNA_G\Data\BG031424\
Data File : BG060646.D
Acq On : 14 Mar 2024 19:57
Operator : MA/JU
Sample : P1747-05
Misc :
ALS Vial : 16 Sample Multiplier: 1

Instrument :
BNA_G
ClientSampleId :
MW-04

Quant Method : Z:\svoasrv\HPCHEM1\BNA_G\Methods\8270-BG031324.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

TIC Library : C:\Database\NIST20.L
TIC Integration Parameters: LSCINT.P



Data Path : Z:\svoasrv\HPCHEM1\BNA_G\Data\BG031424\
Data File : BG060646.D
Acq On : 14 Mar 2024 19:57
Operator : MA/JU
Sample : P1747-05
Misc :
ALS Vial : 16 Sample Multiplier: 1

Instrument :
BNA_G
ClientSampleId :
MW-04

Quant Method : Z:\svoasrv\HPCHEM1\BNA_G\Methods\8270-BG031324.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

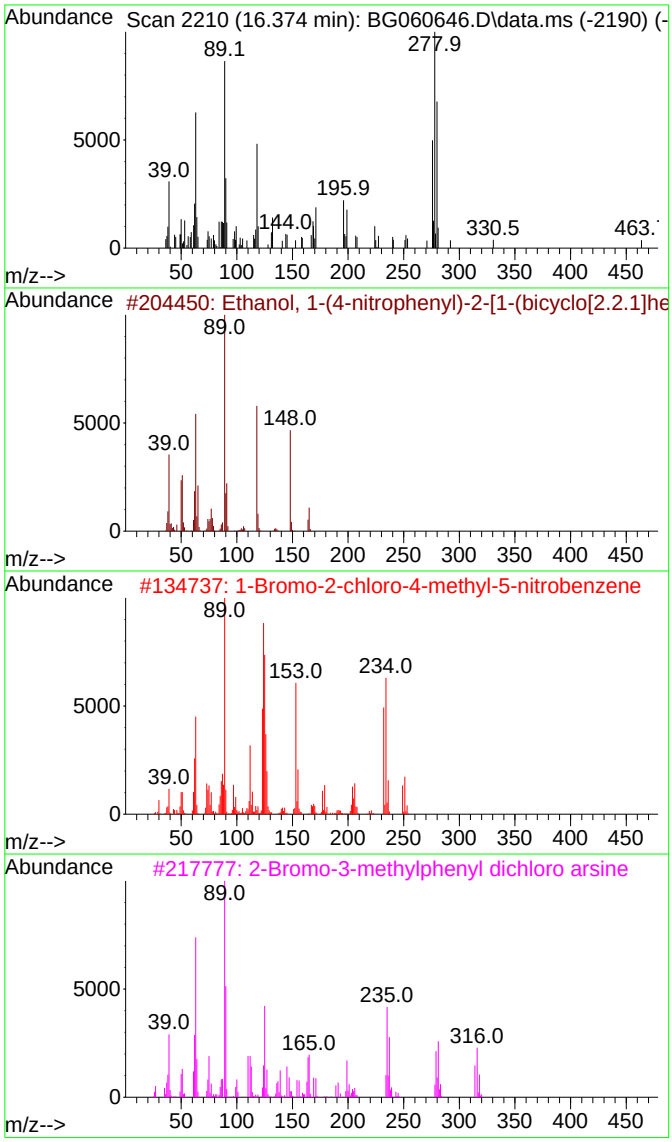
TIC Library : C:\Database\NIST20.L
TIC Integration Parameters: LSCINT.P

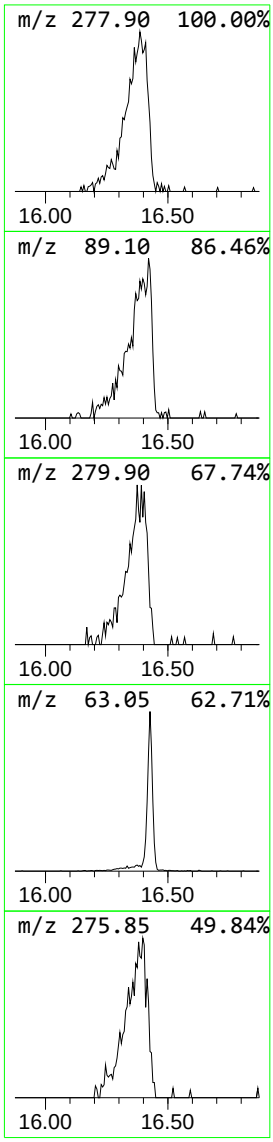
****

Peak Number 1 unknown16.374 Concentration Rank 1

R.T.	EstConc	Area	Relative to ISTD	R.T.
16.374	2.14 ng	172205	Phenanthrene-d10	17.690

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Ethanol, 1-(4-nitrophenyl)-2-[1-...	304	C17H24N2O3	1000264-75-7	45
2	1-Bromo-2-chloro-4-methyl-5-nitr...	249	C7H5BrClNO2	1126367-34-7	43
3	2-Bromo-3-methylphenyl dichloro ...	314	C7H6AsBrCl2	1000289-36-9	42
4	4-Methyl-3-nitro-benzenesulfonyl...	235	C7H6ClNO4S	1000296-09-3	38
5	6-Nitro-o-tolunitrile	162	C8H6N2O2	001885-76-3	32





Data Path : Z:\svoasrv\HPCHEM1\BNA_G\Data\BG031424\
Data File : BG060646.D
Acq On : 14 Mar 2024 19:57
Operator : MA/JU
Sample : P1747-05
Misc :
ALS Vial : 16 Sample Multiplier: 1

Instrument :
BNA_G
ClientSampleId :
MW-04

Quant Method : Z:\svoasrv\HPCHEM1\BNA_G\Methods\8270-BG031324.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

TIC Library : C:\Database\NIST20.L
TIC Integration Parameters: LSCINT.P

					--Internal Standard---			
TIC Top Hit name	RT	EstConc	Units	Response	#	RT	Resp	Conc
unknown16.374	16.374	2.1	ng	172205	4	17.690	1612240	20.0

CHEMTECH

CALIBRATION SUMMARY

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

6C

SEMIVOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: CHEMTECH Contract: LIRO01

Lab Code: CHEM Case No.: P1747 SAS No.: P1747 SDG No.: P1747

Instrument ID: BNA_G Calibration Date(s): 03/13/2024 03/13/2024

Calibration Time(s): 10:44 15:27

LAB FILE ID: RRF2.5 = BG060621.D RRF005 = BG060622.D RRF010 = BG060623.D
RRF020 = BG060624.D RRF040 = BG060625.D RRF050 = BG060626.D

COMPOUND	RRF2.5	RRF005	RRF010	RRF020	RRF040	RRF050	RRF	% RSD
2-Fluorophenol		1.257	1.230	1.334	1.299	1.283	1.272	3.0
Benzaldehyde		1.091	1.076	1.168	1.084	0.998	1.033	10.0
Phenol-d6		1.710	1.816	1.952	1.917	1.867	1.846	4.4
Phenol		1.797	1.778	1.943	1.932	1.851	1.852	3.8
bis(2-Chloroethyl)ether		1.483	1.488	1.524	1.516	1.432	1.476	2.9
2-Chlorophenol		1.336	1.359	1.445	1.431	1.395	1.391	2.8
2-Methylphenol		1.306	1.350	1.499	1.496	1.428	1.422	5.1
2,2-oxybis(1-Chloropropane)		2.752	2.810	3.040	2.934	2.837	2.866	3.6
Acetophenone		0.527	0.523	0.559	0.548	0.535	0.536	2.9
3+4-Methylphenols		1.786	1.826	1.984	2.023	1.927	1.918	4.6
n-Nitroso-di-n-propylamine	1.264	1.142	1.268	1.350	1.341	1.272	1.279	5.1
Nitrobenzene-d5		0.343	0.349	0.397	0.398	0.399	0.384	6.9
Hexachloroethane		0.481	0.506	0.552	0.526	0.519	0.519	4.4
Nitrobenzene		0.348	0.351	0.398	0.401	0.393	0.384	6.3
Isophorone		0.727	0.741	0.793	0.788	0.777	0.769	3.5
2-Nitrophenol		0.106	0.114	0.145	0.153	0.155	0.142	15.9
2,4-Dimethylphenol		0.380	0.332	0.349	0.337	0.329	0.340	5.8
bis(2-Chloroethoxy)methane		0.456	0.461	0.482	0.466	0.450	0.461	2.8
2,4-Dichlorophenol		0.285	0.295	0.310	0.316	0.310	0.306	3.9
Naphthalene		1.140	1.123	1.164	1.113	1.107	1.117	3.0
4-Chloroaniline		0.438	0.472	0.492	0.481	0.472	0.471	3.7
Hexachlorobutadiene		0.219	0.219	0.231	0.221	0.222	0.221	2.6
Caprolactam		0.087	0.101	0.108	0.106	0.105	0.103	6.9
4-Chloro-3-methylphenol		0.349	0.362	0.390	0.385	0.379	0.374	3.9
2-Methylnaphthalene		0.788	0.767	0.817	0.773	0.760	0.772	3.5
Hexachlorocyclopentadiene		0.245	0.254	0.304	0.315	0.321	0.302	12.7
2,4,6-Trichlorophenol		0.352	0.366	0.406	0.405	0.408	0.394	6.4
2-Fluorobiphenyl		1.509	1.518	1.596	1.471	1.459	1.479	5.3
2,4,5-Trichlorophenol		0.402	0.436	0.485	0.484	0.484	0.467	7.4
1,1-Biphenyl		1.523	1.534	1.593	1.520	1.499	1.520	2.9
2-Chloronaphthalene		1.089	1.148	1.203	1.169	1.137	1.147	3.4
2-Nitroaniline		0.277	0.327	0.376	0.411	0.416	0.379	15.0
Dimethylphthalate		1.434	1.504	1.571	1.522	1.499	1.500	3.3
Acenaphthylene		1.813	1.868	1.957	1.881	1.882	1.869	3.0
2,6-Dinitrotoluene		0.204	0.251	0.286	0.295	0.293	0.276	13.3
3-Nitroaniline		0.264	0.289	0.331	0.332	0.337	0.318	9.3

All other compounds must meet a minimum RRF of 0.010.

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

6C

SEMIVOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: CHEMTECH Contract: LIRO01

Lab Code: CHEM Case No.: P1747 SAS No.: P1747 SDG No.: P1747

Instrument ID: BNA_G Calibration Date(s): 03/13/2024 03/13/2024

Calibration Time(s): 10:44 15:27

LAB FILE ID: RRF2.5 = BG060621.D RRF005 = BG060622.D RRF010 = BG060623.D
RRF020 = BG060624.D RRF040 = BG060625.D RRF050 = BG060626.D

COMPOUND	RRF2.5	RRF005	RRF010	RRF020	RRF040	RRF050	RRF	% RSD
Acenaphthene		1.120	1.111	1.184	1.113	1.096	1.117	3.0
2,4-Dinitrophenol			0.077	0.099	0.123	0.126	0.118	21.6
4-Nitrophenol			0.195	0.226	0.246	0.251	0.237	9.8
Dibenzofuran		1.845	1.826	1.903	1.804	1.792	1.808	3.6
2,4-Dinitrotoluene		0.255	0.302	0.351	0.373	0.380	0.348	14.6
Diethylphthalate		1.496	1.559	1.617	1.554	1.538	1.543	3.1
4-Chlorophenyl-phenylether		0.725	0.741	0.776	0.729	0.724	0.733	3.1
Fluorene		1.413	1.464	1.532	1.453	1.436	1.447	3.6
4-Nitroaniline		0.252	0.307	0.338	0.347	0.344	0.326	10.9
4,6-Dinitro-2-methylphenol			0.057	0.076	0.087	0.087	0.083	17.6
n-Nitrosodiphenylamine		0.605	0.616	0.674	0.631	0.621	0.626	4.1
2,4,6-Tribromophenol		0.178	0.218	0.234	0.245	0.248	0.232	11.5
4-Bromophenyl-phenylether		0.209	0.204	0.229	0.213	0.215	0.216	4.1
Hexachlorobenzene		0.241	0.248	0.260	0.247	0.245	0.248	2.7
Atrazine		0.192	0.207	0.224	0.214	0.209	0.209	4.8
Pentachlorophenol			0.119	0.153	0.170	0.170	0.161	13.6
Phenanthrene		1.100	1.098	1.162	1.071	1.048	1.077	4.9
Anthracene		1.082	1.102	1.158	1.092	1.075	1.089	3.9
Carbazole		0.896	0.961	1.017	0.954	0.950	0.947	4.4
Di-n-butylphthalate		1.044	1.139	1.244	1.198	1.172	1.154	5.8
Fluoranthene		1.170	1.192	1.283	1.212	1.194	1.192	4.5
Pyrene		1.385	1.423	1.489	1.414	1.375	1.396	4.4
Terphenyl-d14		1.201	1.204	1.244	1.096	1.065	1.106	10.8
Butylbenzylphthalate		0.436	0.477	0.542	0.557	0.560	0.528	9.7
3,3-Dichlorobenzidine		0.410	0.430	0.475	0.494	0.478	0.464	7.0
Benzo(a)anthracene		1.342	1.372	1.434	1.402	1.382	1.377	2.9
Chrysene		1.344	1.335	1.385	1.346	1.320	1.337	2.7
Bis(2-ethylhexyl)phthalate		0.668	0.705	0.795	0.826	0.815	0.779	8.5
Di-n-octyl phthalate		1.039	1.134	1.296	1.375	1.368	1.283	11.1
Benzo(b)fluoranthene		1.030	1.059	1.149	1.137	1.097	1.100	4.2
Benzo(k)fluoranthene		1.112	1.106	1.207	1.164	1.174	1.156	3.3
Benzo(a)pyrene		1.013	1.002	1.121	1.101	1.098	1.079	4.8
Indeno(1,2,3-cd)pyrene		1.240	1.273	1.400	1.396	1.403	1.364	5.6
Dibenzo(a,h)anthracene		1.087	1.078	1.184	1.182	1.175	1.158	4.7
Benzo(g,h,i)perylene		1.019	1.059	1.152	1.154	1.146	1.121	5.3
1,2,4,5-Tetrachlorobenzene		0.590	0.611	0.639	0.613	0.619	0.614	2.8

All other compounds must meet a minimum RRF of 0.010.

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

6C

SEMIVOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: CHEMTECH Contract: LIRO01

Lab Code: CHEM Case No.: P1747 SAS No.: P1747 SDG No.: P1747

Instrument ID: BNA_G Calibration Date(s): 03/13/2024 03/13/2024

Calibration Time(s): 10:44 15:27

LAB FILE ID: RRF2.5 = BG060621.D RRF005 = BG060622.D RRF010 = BG060623.D
RRF020 = BG060624.D RRF040 = BG060625.D RRF050 = BG060626.D

COMPOUND	RRF2.5	RRF005	RRF010	RRF020	RRF040	RRF050	RRF	% RSD
1,4-Dioxane		0.574	0.543	0.583	0.521	0.514	0.533	7.1
2,3,4,6-Tetrachlorophenol		0.320	0.376	0.394	0.406	0.411	0.389	8.5

All other compounds must meet a minimum RRF of 0.010.

Response Factor Report GC/MS Ins

Method Path : Z:\svoasrv\HPCHEM1\BNA_G\Methods\
Method File : 8270-BG031324.M
Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION
Last Update : Thu Mar 14 00:45:22 2024
Response Via : Initial Calibration

Calibration Files
2.5 =BG060621.D 5 =BG060622.D 10 =BG060623.D 20 =BG060624.D 40 =BG060625.D 50 =BG060626.D 60 =BG060627.D 80 =BG0606
28.D

		Compound	2.5	5	10	20	40	50	60	80	Avg	%RSD
1)	I	1,4-Dichlorobenzen...	----------	ISTD	----------							
2)		1,4-Dioxane		0.574	0.543	0.583	0.521	0.514	0.519	0.474	0.533	7.08
3)		Pyridine		1.589	1.575	1.626	1.587	1.551	1.566	1.523	1.574	2.06
4)		n-Nitrosodimet...		0.789	0.750	0.812	0.776	0.759	0.781	0.738	0.772	3.23
5)	S	2-Fluorophenol		1.257	1.230	1.334	1.299	1.283	1.274	1.229	1.272	2.96
6)		Aniline		2.137	2.220	2.319	2.328	2.299	2.285	2.199	2.255	3.16
7)	S	Phenol-d6		1.710	1.816	1.952	1.917	1.867	1.870	1.787	1.846	4.42
8)		2-Chlorophenol		1.336	1.359	1.445	1.431	1.395	1.404	1.365	1.391	2.83
9)		Benzaldehyde		1.091	1.076	1.168	1.084	0.998	0.959	0.857	1.033	9.96
10)	C	Phenol		1.797	1.778	1.943	1.932	1.851	1.886	1.776	1.852	3.83
11)		bis(2-Chloroet...		1.483	1.488	1.524	1.516	1.432	1.486	1.405	1.476	2.93
12)		1,3-Dichlorobe...		1.506	1.477	1.590	1.500	1.490	1.498	1.436	1.500	3.09
13)	C	1,4-Dichlorobe...		1.520	1.477	1.590	1.557	1.520	1.511	1.467	1.520	2.83
14)		1,2-Dichlorobe...		1.513	1.529	1.559	1.521	1.487	1.521	1.440	1.510	2.49
15)		Benzyl Alcohol		1.340	1.384	1.495	1.549	1.475	1.514	1.456	1.459	5.04
16)		2,2'-oxybis(1-...		2.752	2.810	3.040	2.934	2.837	2.916	2.773	2.866	3.58
17)		2-Methylphenol		1.306	1.350	1.499	1.496	1.428	1.461	1.414	1.422	5.10
18)		Hexachloroethane		0.481	0.506	0.552	0.526	0.519	0.536	0.515	0.519	4.37
19)	P	n-Nitroso-di-n...	1.264	1.142	1.268	1.350	1.341	1.272	1.323	1.274	1.279	5.13
20)		3+4-Methylphenols		1.786	1.826	1.984	2.023	1.927	1.982	1.897	1.918	4.57
21)	I	Naphthalene-d8	----------	ISTD	----------							
22)		Acetophenone		0.527	0.523	0.559	0.548	0.535	0.545	0.516	0.536	2.85
23)	S	Nitrobenzene-d5		0.343	0.349	0.397	0.398	0.399	0.410	0.394	0.384	6.94
24)		Nitrobenzene		0.348	0.351	0.398	0.401	0.393	0.406	0.392	0.384	6.28
25)		Isophorone		0.727	0.741	0.793	0.788	0.777	0.796	0.762	0.769	3.47
26)	C	2-Nitrophenol		0.106	0.114	0.145	0.153	0.155	0.163	0.156	0.142	15.91
27)		2,4-Dimethylph...		0.380	0.332	0.349	0.337	0.329	0.336	0.319	0.340	5.79
28)		bis(2-Chloroet...		0.456	0.461	0.482	0.466	0.450	0.469	0.444	0.461	2.76
29)	C	2,4-Dichloroph...		0.285	0.295	0.310	0.316	0.310	0.318	0.305	0.306	3.89
30)		1,2,4-Trichlor...		0.324	0.329	0.336	0.322	0.318	0.331	0.311	0.324	2.62
31)		Naphthalene		1.140	1.123	1.164	1.113	1.107	1.120	1.053	1.117	3.05
32)		Benzoic acid			0.113	0.170	0.217	0.221	0.237	0.234	0.199	24.53
33)		4-Chloroaniline		0.438	0.472	0.492	0.481	0.472	0.480	0.462	0.471	3.69
34)	C	Hexachlorobuta...		0.219	0.219	0.231	0.221	0.222	0.225	0.212	0.221	2.63
35)		Caprolactam		0.087	0.101	0.108	0.106	0.105	0.108	0.105	0.103	6.92
36)	C	4-Chloro-3-met...		0.349	0.362	0.390	0.385	0.379	0.385	0.371	0.374	3.91
37)		2-Methylnaphth...		0.788	0.767	0.817	0.773	0.760	0.766	0.729	0.772	3.49
38)		1-Methylnaphth...		0.740	0.719	0.764	0.732	0.712	0.722	0.681	0.724	3.53

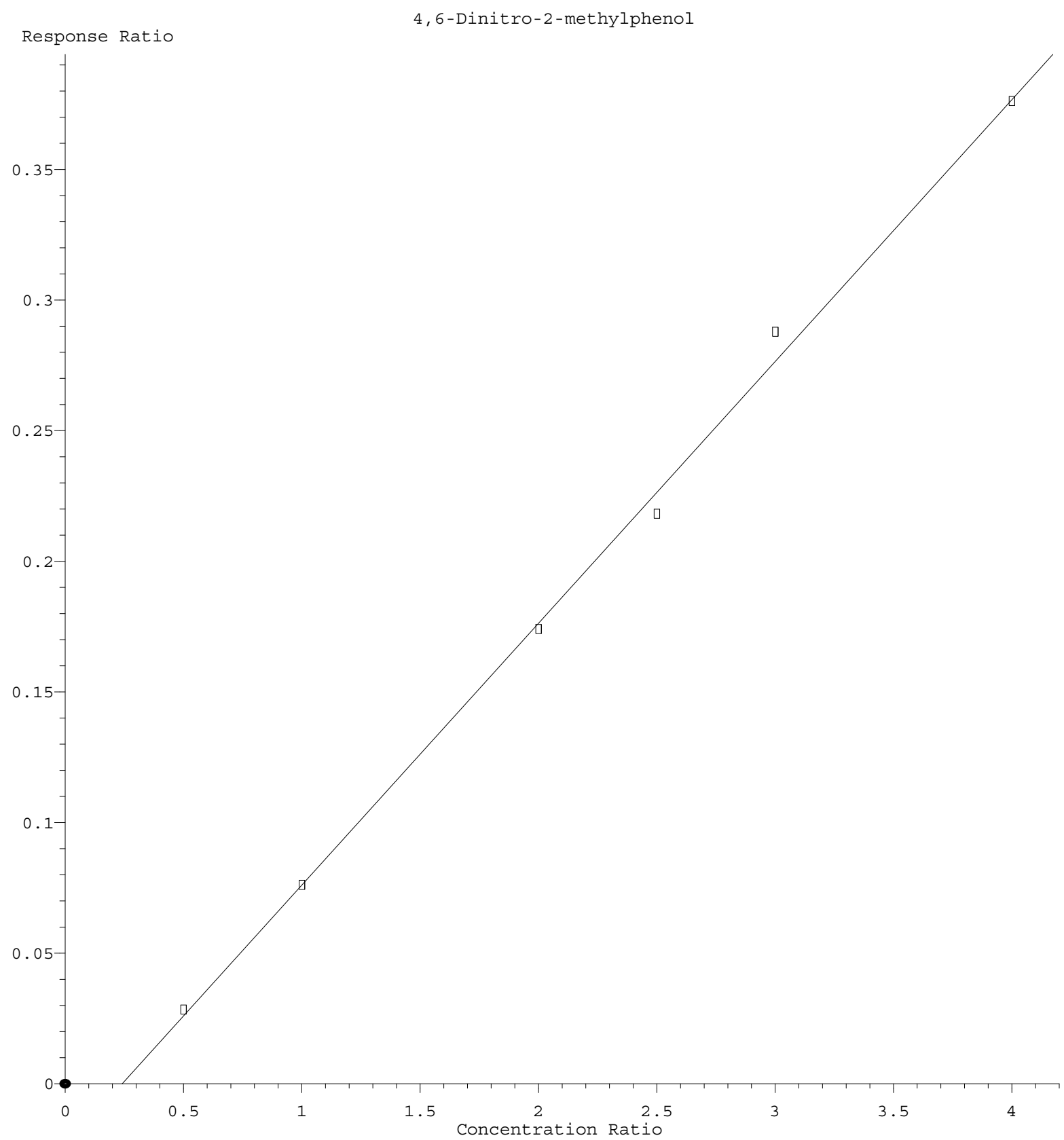
Method Path : Z:\svoasrv\HPCHEM1\BNA_G\Methods\
Method File : 8270-BG031324.M

39)	I	Acenaphthene-d10	----------ISTD----------								
40)		1,2,4,5-Tetrac...	0.590	0.611	0.639	0.613	0.619	0.631	0.597	0.614	2.83
41)	P	Hexachlorocycl...	0.245	0.254	0.304	0.315	0.321	0.345	0.331	0.302	12.70
42)	S	2,4,6-Tribromo...	0.178	0.218	0.234	0.245	0.248	0.254	0.245	0.232	11.46
43)	C	2,4,6-Trichlor...	0.352	0.366	0.406	0.405	0.408	0.421	0.403	0.394	6.45
44)		2,4,5-Trichlor...	0.402	0.436	0.485	0.484	0.484	0.498	0.477	0.467	7.37
45)	S	2-Fluorobiphenyl	1.509	1.518	1.596	1.471	1.459	1.461	1.340	1.479	5.26
46)		1,1'-Biphenyl	1.523	1.534	1.593	1.520	1.499	1.529	1.444	1.520	2.92
47)		2-Chloronaphth...	1.089	1.148	1.203	1.169	1.137	1.174	1.112	1.147	3.39
48)		2-Nitroaniline	0.277	0.327	0.376	0.411	0.416	0.428	0.415	0.379	14.98
49)		Acenaphthylene	1.813	1.868	1.957	1.881	1.882	1.897	1.785	1.869	3.00
50)		Dimethylphthalate	1.434	1.504	1.571	1.522	1.499	1.531	1.439	1.500	3.30
51)		2,6-Dinitrotol...	0.204	0.251	0.286	0.295	0.293	0.307	0.298	0.276	13.26
52)	C	Acenaphthene	1.120	1.111	1.184	1.113	1.096	1.120	1.074	1.117	3.03
53)		3-Nitroaniline	0.264	0.289	0.331	0.332	0.337	0.344	0.331	0.318	9.29
54)	P	2,4-Dinitrophenol		0.077	0.099	0.123	0.126	0.140	0.144	0.118	21.55
55)		Dibenzofuran	1.845	1.826	1.903	1.804	1.792	1.800	1.688	1.808	3.61
56)	P	4-Nitrophenol		0.195	0.226	0.246	0.251	0.257	0.249	0.237	9.85
57)		2,4-Dinitrotol...	0.255	0.302	0.351	0.373	0.380	0.389	0.383	0.348	14.57
58)		Fluorene	1.413	1.464	1.532	1.453	1.436	1.468	1.361	1.447	3.65
59)		2,3,4,6-Tetrac...	0.320	0.376	0.394	0.406	0.411	0.415	0.402	0.389	8.53
60)		Diethylphthalate	1.496	1.559	1.617	1.554	1.538	1.565	1.473	1.543	3.08
61)		4-Chlorophenyl...	0.725	0.741	0.776	0.729	0.724	0.736	0.699	0.733	3.15
62)		4-Nitroaniline	0.252	0.307	0.338	0.347	0.344	0.350	0.342	0.326	10.90
63)		Azobenzene	1.524	1.600	1.696	1.621	1.589	1.614	1.537	1.597	3.58
64)	I	Phenanthrene-d10	----------ISTD----------								
65)		4,6-Dinitro-2-...		0.057	0.076	0.087	0.087	0.096	0.094	0.083	17.56
66)	c	n-Nitrosodiphe...	0.605	0.616	0.674	0.631	0.621	0.639	0.596	0.626	4.11
67)		4-Bromophenyl-...	0.209	0.204	0.229	0.213	0.215	0.226	0.214	0.216	4.08
68)		Hexachlorobenzene	0.241	0.248	0.260	0.247	0.245	0.254	0.241	0.248	2.74
69)		Atrazine	0.192	0.207	0.224	0.214	0.209	0.213	0.206	0.209	4.78
70)	C	Pentachlorophenol		0.119	0.153	0.170	0.170	0.176	0.176	0.161	13.61
71)		Phenanthrene	1.100	1.098	1.162	1.071	1.048	1.074	0.989	1.077	4.90
72)		Anthracene	1.082	1.102	1.158	1.092	1.075	1.101	1.015	1.089	3.89
73)		Carbazole	0.896	0.961	1.017	0.954	0.950	0.957	0.895	0.947	4.42
74)		Di-n-butylphth...	1.044	1.139	1.244	1.198	1.172	1.186	1.097	1.154	5.82
75)	C	Fluoranthene	1.170	1.192	1.283	1.212	1.194	1.190	1.101	1.192	4.52
76)	I	Chrysene-d12	----------ISTD----------								
77)		Benzidine	0.414	0.407	0.436	0.545	0.520	0.581	0.522	0.489	14.13
78)		Pyrene	1.385	1.423	1.489	1.414	1.375	1.398	1.286	1.396	4.37
79)	S	Terphenyl-d14	1.201	1.204	1.244	1.096	1.065	1.028	0.907	1.106	10.77
80)		Butylbenzylpht...	0.436	0.477	0.542	0.557	0.560	0.575	0.547	0.528	9.69
81)		Benzo(a)anthra...	1.342	1.372	1.434	1.402	1.382	1.394	1.314	1.377	2.88
82)		3,3'-Dichlorob...	0.410	0.430	0.475	0.494	0.478	0.495	0.468	0.464	6.98
83)		Chrysene	1.344	1.335	1.385	1.346	1.320	1.359	1.271	1.337	2.66
84)		Bis(2-ethylhex...	0.668	0.705	0.795	0.826	0.815	0.847	0.800	0.779	8.52
85)	c	Di-n-octyl pht...	1.039	1.134	1.296	1.375	1.368	1.425	1.348	1.283	11.10

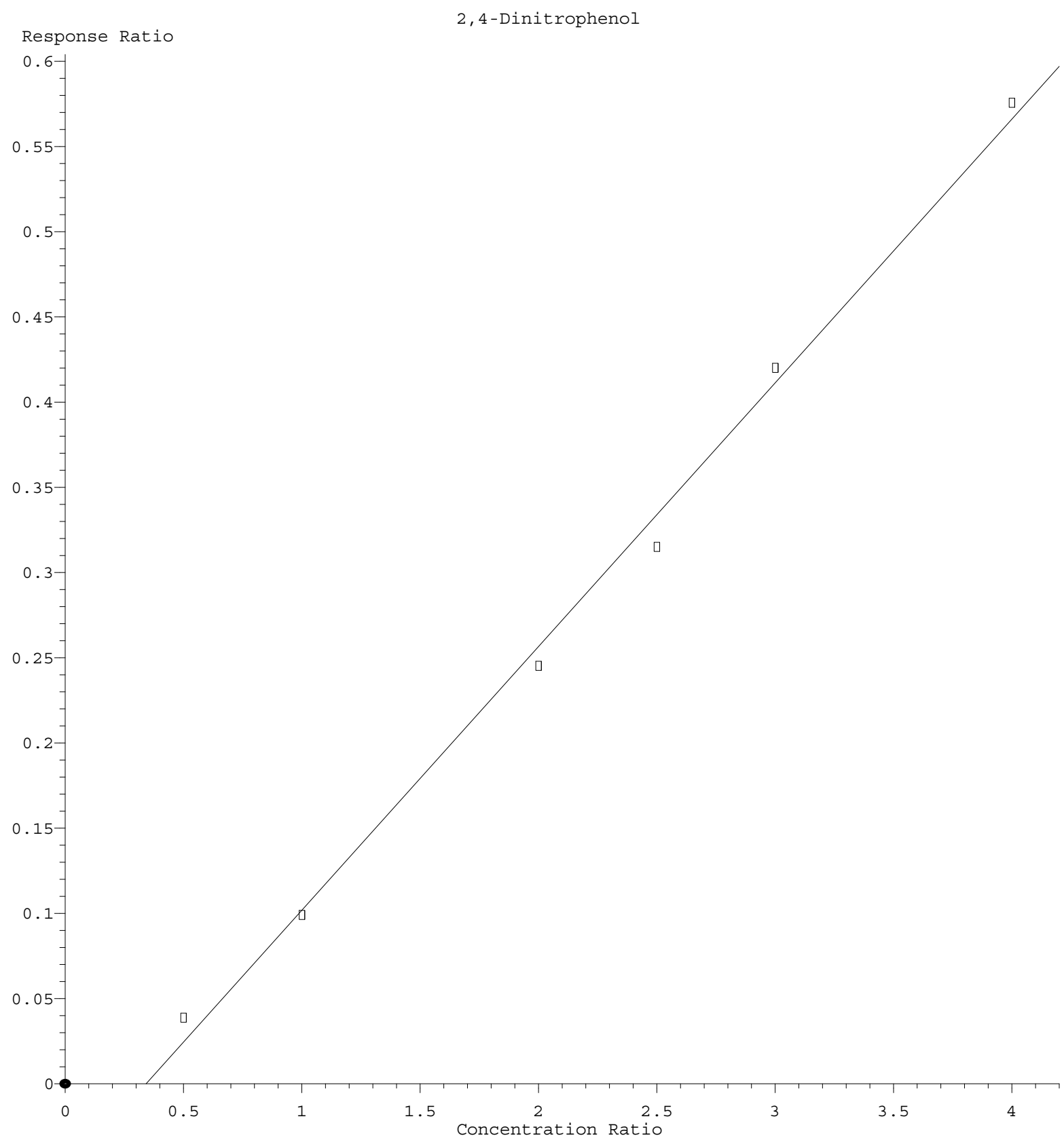
Method Path : Z:\svoasrv\HPCHEM1\BNA_G\Methods\
Method File : 8270-BG031324.M

86)	I	Perylene-d12	----------ISTD----------							
87)		Indeno(1,2,3-c...	1.240	1.273	1.400	1.396	1.403	1.450	1.387	1.364	5.62
88)		Benzo(b)fluora...	1.030	1.059	1.149	1.137	1.097	1.148	1.082	1.100	4.22
89)		Benzo(k)fluora...	1.112	1.106	1.207	1.164	1.174	1.189	1.140	1.156	3.29
90)	C	Benzo(a)pyrene	1.013	1.002	1.121	1.101	1.098	1.137	1.079	1.079	4.84
91)		Dibenzo(a,h)an...	1.087	1.078	1.184	1.182	1.175	1.225	1.176	1.158	4.69
92)		Benzo(g,h,i)pe...	1.019	1.059	1.152	1.154	1.146	1.182	1.137	1.121	5.26

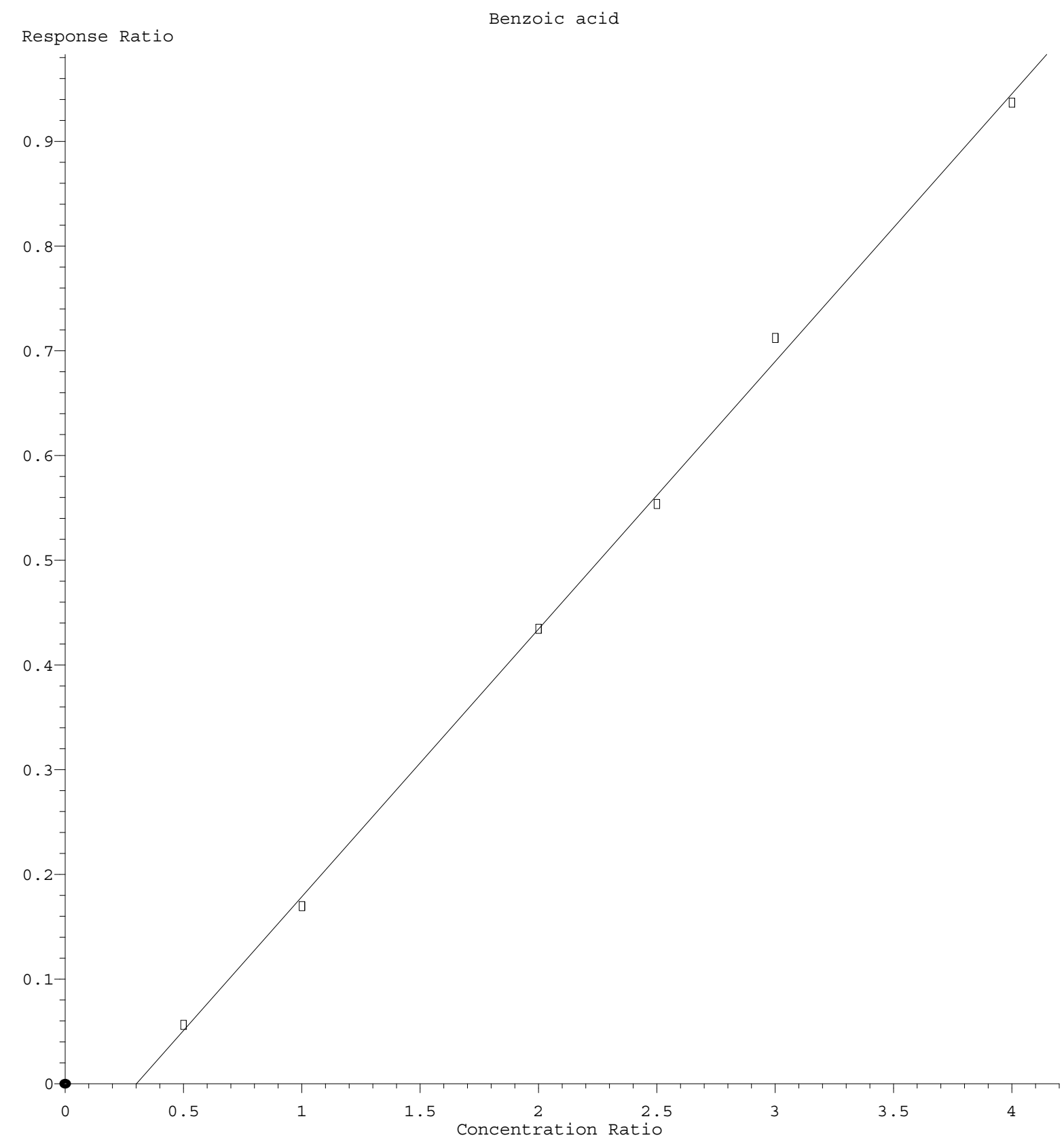
(#) = Out of Range



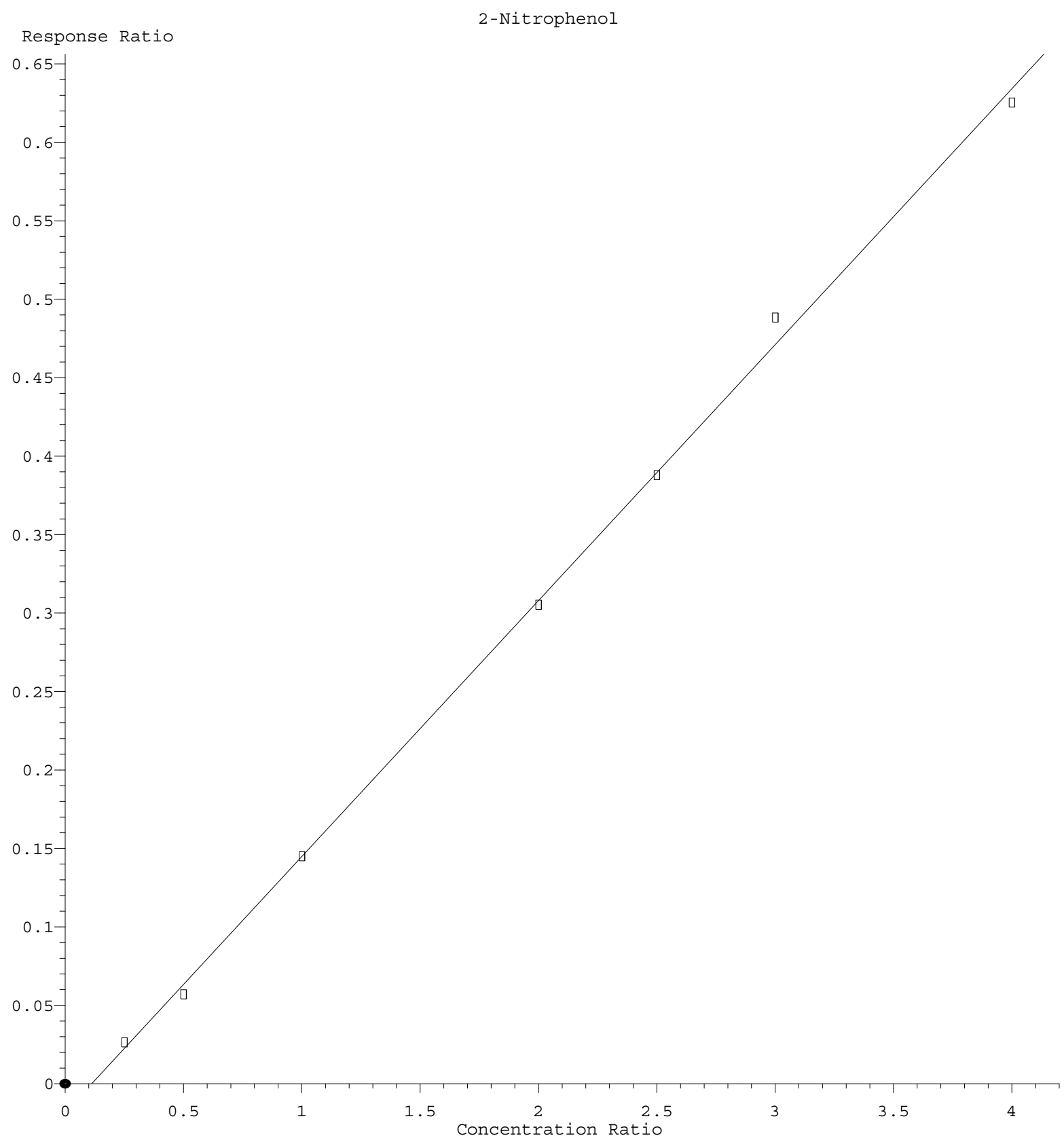
Response = 1.005e-001 * Amt - 2.418e-002
Coef of Det (r^2) = 0.997569 Curve Fit: Linear
Method Name: Z:\svoasrv\HPCHEM1\BNA G\Methods\8270-BG031324.M
Calibration Table Last Updated: Thu Mar 14 00:45:22 2024



Response = 1.547e-001 * Amt - 5.295e-002
Coef of Det (r^2) = 0.995674 Curve Fit: Linear
Method Name: Z:\svoasrv\HPCHEM1\BNA G\Methods\8270-BG031324.M
Calibration Table Last Updated: Thu Mar 14 00:45:22 2024



Response = 2.558e-001 * Amt - 7.700e-002
Coef of Det (r^2) = 0.998619 Curve Fit: Linear
Method Name: Z:\svoasrv\HPCHEM1\BNA G\Methods\8270-BG031324.M
Calibration Table Last Updated: Thu Mar 14 00:45:22 2024



Response = 1.632e-001 * Amt - 1.825e-002
Coef of Det (r^2) = 0.998561 Curve Fit: Linear
Method Name: Z:\svoasrv\HPCHEM1\BNA G\Methods\8270-BG031324.M
Calibration Table Last Updated: Thu Mar 14 00:45:22 2024

Quantitation Report (QT Reviewed)

ICAL Form

Data Path : Z:\svoasrv\HPCHEM1\BNA_G\Data\BG031324\
Data File : BG060621.D
Acq On : 13 Mar 2024 10:44
Operator : MA/JU
Sample : SSTDICC2.5
Misc :
ALS Vial : 2 Sample Multiplier: 1

Instrument :
BNA_G
ClientSampleId :
SSTDICC2.5

Quant Time: Mar 13 23:59:57 2024
Quant Method : Z:\svoasrv\HPCHEM1\BNA_G\Methods\8270-BG031324.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION
QLast Update : Wed Mar 13 23:58:57 2024
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	8.322	152	82403	20.000	ng	0.00
21) Naphthalene-d8	11.172	136	380159	20.000	ng	0.00
39) Acenaphthene-d10	14.950	164	261408	20.000	ng	0.00
64) Phenanthrene-d10	17.700	188	562775	20.000	ng	0.00
76) Chrysene-d12	22.018	240	505112	20.000	ng	0.00
86) Perylene-d12	25.573	264	566552	20.000	ng	0.00
System Monitoring Compounds						
5) 2-Fluorophenol	0.000	112	0d	0.000	ng	
7) Phenol-d6	0.000	99	0d	0.000	ng	
23) Nitrobenzene-d5	0.000	82	0d	0.000	ng	
42) 2,4,6-Tribromophenol	0.000	330	0d	0.000	ng	
45) 2-Fluorobiphenyl	0.000	172	0d	0.000	ng	
79) Terphenyl-d14	0.000	244	0d	0.000	ng	
Target Compounds						Qvalue
19) n-Nitroso-di-n-propyla...	9.122	70	13016	2.469	ng	91

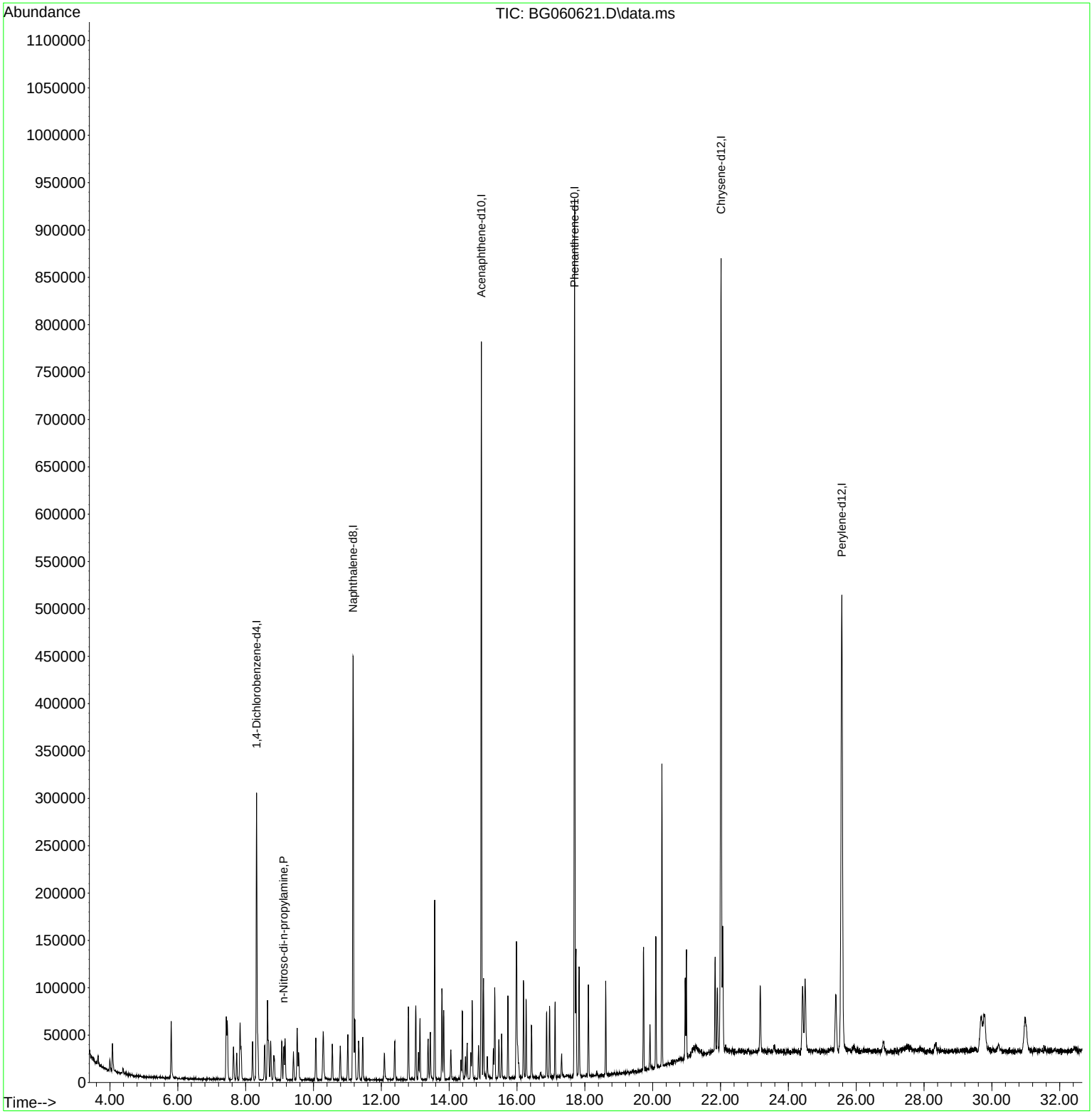
(#) = qualifier out of range (m) = manual integration (+) = signals summed

ICAL Form

Data Path : Z:\svoasrv\HPCHEM1\BNA_G\Data\BG031324\
Data File : BG060621.D
Acq On : 13 Mar 2024 10:44
Operator : MA/JU
Sample : SSTDICC2.5
Misc :
ALS Vial : 2 Sample Multiplier: 1

Instrument :
BNA_G
ClientSampleId :
SSTDICC2.5

Quant Time: Mar 13 23:59:57 2024
Quant Method : Z:\svoasrv\HPCHEM1\BNA_G\Methods\8270-BG031324.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION
QLast Update : Wed Mar 13 23:58:57 2024
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

ICAL Form

Data Path : Z:\svoasrv\HPCHEM1\BNA_G\Data\BG031324\
Data File : BG060622.D
Acq On : 13 Mar 2024 11:24
Operator : MA/JU
Sample : SSTDICC005
Misc :
ALS Vial : 3 Sample Multiplier: 1

Instrument :
BNA_G
ClientSampleId :
SSTDICC005

Quant Time: Mar 14 00:28:31 2024
Quant Method : Z:\svoasrv\HPCHEM1\BNA_G\Methods\8270-BG031324.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION
QLast Update : Thu Mar 14 00:26:58 2024
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) 1,4-Dichlorobenzene-d4	8.323	152	90405	20.000	ng		0.00
21) Naphthalene-d8	11.173	136	407772	20.000	ng		0.00
39) Acenaphthene-d10	14.951	164	280390	20.000	ng		0.00
64) Phenanthrene-d10	17.695	188	589689	20.000	ng		0.00
76) Chrysene-d12	22.019	240	514507	20.000	ng		0.00
86) Perylene-d12	25.574	264	568662	20.000	ng		0.00
System Monitoring Compounds							
5) 2-Fluorophenol	5.809	112	56832	9.882	ng		0.00
7) Phenol-d6	7.430	99	77313	9.267	ng		0.00
23) Nitrobenzene-d5	9.522	82	69961	8.929	ng		0.00
42) 2,4,6-Tribromophenol	16.431	330	24951	7.679	ng		0.00
45) 2-Fluorobiphenyl	13.576	172	211538	10.200	ng		0.00
79) Terphenyl-d14	20.274	244	308858	10.851	ng		0.00
Target Compounds							Qvalue
2) 1,4-Dioxane	3.652	88	12967	5.387	ng		85
3) Pyridine	4.075	79	35911	5.048	ng		93
4) n-Nitrosodimethylamine	3.999	42	17822m	5.107	ng		
6) Aniline	7.642	93	48290	4.737	ng	#	96
8) 2-Chlorophenol	7.871	128	30204	4.804	ng		92
9) Benzaldehyde	7.466	77	24647	5.278	ng		97
10) Phenol	7.460	94	40614	4.852	ng		96
11) bis(2-Chloroethyl)ether	7.736	93	33510	5.022	ng		95
12) 1,3-Dichlorobenzene	8.206	146	34047	5.022	ng		96
13) 1,4-Dichlorobenzene	8.364	146	34357	4.999	ng		96
14) 1,2-Dichlorobenzene	8.682	146	34189	5.009	ng		93
15) Benzyl Alcohol	8.564	79	30291	4.593	ng		91
16) 2,2'-oxybis(1-Chloropr...	8.846	45	62202	4.802	ng		96
17) 2-Methylphenol	8.740	107	29512	4.591	ng		97
18) Hexachloroethane	9.410	117	10864	4.628	ng		94
19) n-Nitroso-di-n-propyla...	9.122	70	25808	4.463	ng		94
20) 3+4-Methylphenols	9.070	107	40361	4.656	ng		97
22) Acetophenone	9.169	105	53747	4.916	ng	#	89
24) Nitrobenzene	9.563	77	35461	4.527	ng		98
25) Isophorone	10.068	82	74135	4.727	ng	#	98
26) 2-Nitrophenol	10.268	139	10755	5.468	ng		96
27) 2,4-Dimethylphenol	10.292	122	38728	5.580	ng		97
28) bis(2-Chloroethoxy)met...	10.556	93	46446	4.940	ng		97
29) 2,4-Dichlorophenol	10.791	162	29031	4.660	ng		93
30) 1,2,4-Trichlorobenzene	11.014	180	33075	5.001	ng		96
31) Naphthalene	11.220	128	116207	5.102	ng		98
33) 4-Chloroaniline	11.332	127	44622	4.646	ng		97
34) Hexachlorobutadiene	11.455	225	22285	4.940	ng		90
35) Caprolactam	12.101	113	8918	4.253	ng	#	66
36) 4-Chloro-3-methylphenol	12.395	107	35592	4.662	ng		94
37) 2-Methylnaphthalene	12.800	142	80378	5.110	ng		98
38) 1-Methylnaphthalene	13.018	142	75462	5.111	ng		95
40) 1,2,4,5-Tetrachloroben...	13.141	216	41346	4.802	ng		97
41) Hexachlorocyclopentadiene	13.100	237	17155	4.051	ng		96
43) 2,4,6-Trichlorophenol	13.376	196	24644	4.457	ng		91
44) 2,4,5-Trichlorophenol	13.441	196	28189	4.310	ng		96

ICAL Form

Data Path : Z:\svoasrv\HPCHEM1\BNA_G\Data\BG031324\
Data File : BG060622.D
Acq On : 13 Mar 2024 11:24
Operator : MA/JU
Sample : SSTDICC005
Misc :
ALS Vial : 3 Sample Multiplier: 1

Instrument :
BNA_G
ClientSampleId :
SSTDICC005

Quant Time: Mar 14 00:28:31 2024
Quant Method : Z:\svoasrv\HPCHEM1\BNA_G\Methods\8270-BG031324.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION
QLast Update : Thu Mar 14 00:26:58 2024
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
46) 1,1'-Biphenyl	13.788	154	106741	5.008	ng		97
47) 2-Chloronaphthalene	13.840	162	76308	4.744	ng		99
48) 2-Nitroaniline	14.052	65	19410	3.656	ng		86
49) Acenaphthylene	14.681	152	127097	4.850	ng		99
50) Dimethylphthalate	14.393	163	100515	4.780	ng		100
51) 2,6-Dinitrotoluene	14.534	165	14278	3.685	ng		94
52) Acenaphthene	15.010	154	78518	5.014	ng		95
53) 3-Nitroaniline	14.863	138	18522	4.152	ng	#	94
55) Dibenzofuran	15.345	168	129362	5.103	ng		99
57) 2,4-Dinitrotoluene	15.303	165	17867	3.665	ng		98
58) Fluorene	15.991	166	99015	4.881	ng		95
59) 2,3,4,6-Tetrachlorophenol	15.550	232	22397m	4.095	ng		
60) Diethylphthalate	15.732	149	104881	4.847	ng		97
61) 4-Chlorophenyl-phenyle...	15.973	204	50848	4.949	ng		98
62) 4-Nitroaniline	16.026	138	17689	3.873	ng		96
63) Azobenzene	16.267	77	106814	4.770	ng		96
66) n-Nitrosodiphenylamine	16.196	169	89139	4.830	ng		99
67) 4-Bromophenyl-phenylether	16.872	248	30859	4.853	ng		92
68) Hexachlorobenzene	16.960	284	35527	4.859	ng		93
69) Atrazine	17.125	200	28237	4.575	ng		93
71) Phenanthrene	17.742	178	162111	5.103	ng		97
72) Anthracene	17.830	178	159504	4.966	ng		98
73) Carbazole	18.106	167	132132	4.731	ng		98
74) Di-n-butylphthalate	18.617	149	153911	4.522	ng		99
75) Fluoranthene	19.728	202	172542	4.911	ng		97
77) Benzidine	19.916	184	53310	4.236	ng		95
78) Pyrene	20.092	202	178197	4.963	ng		98
80) Butylbenzylphthalate	20.961	149	56052	4.129	ng		96
81) Benzo(a)anthracene	21.996	228	172605	4.872	ng		98
82) 3,3'-Dichlorobenzidine	21.907	252	52677	4.412	ng		96
83) Chrysene	22.066	228	172819	5.024	ng		96
84) Bis(2-ethylhexyl)phtha...	21.843	149	85986	4.288	ng		100
85) Di-n-octyl phthalate	23.171	149	133705	4.050	ng		98
87) Indeno(1,2,3-cd)pyrene	29.687	276	176352m	4.548	ng		
88) Benzo(b)fluoranthene	24.416	252	146452	4.681	ng		97
89) Benzo(k)fluoranthene	24.499	252	158126	4.811	ng		98
90) Benzo(a)pyrene	25.403	252	144025	4.696	ng		98
91) Dibenzo(a,h)anthracene	29.786	278	154601m	4.693	ng		
92) Benzo(g,h,i)perylene	30.997	276	144861	4.544	ng		97

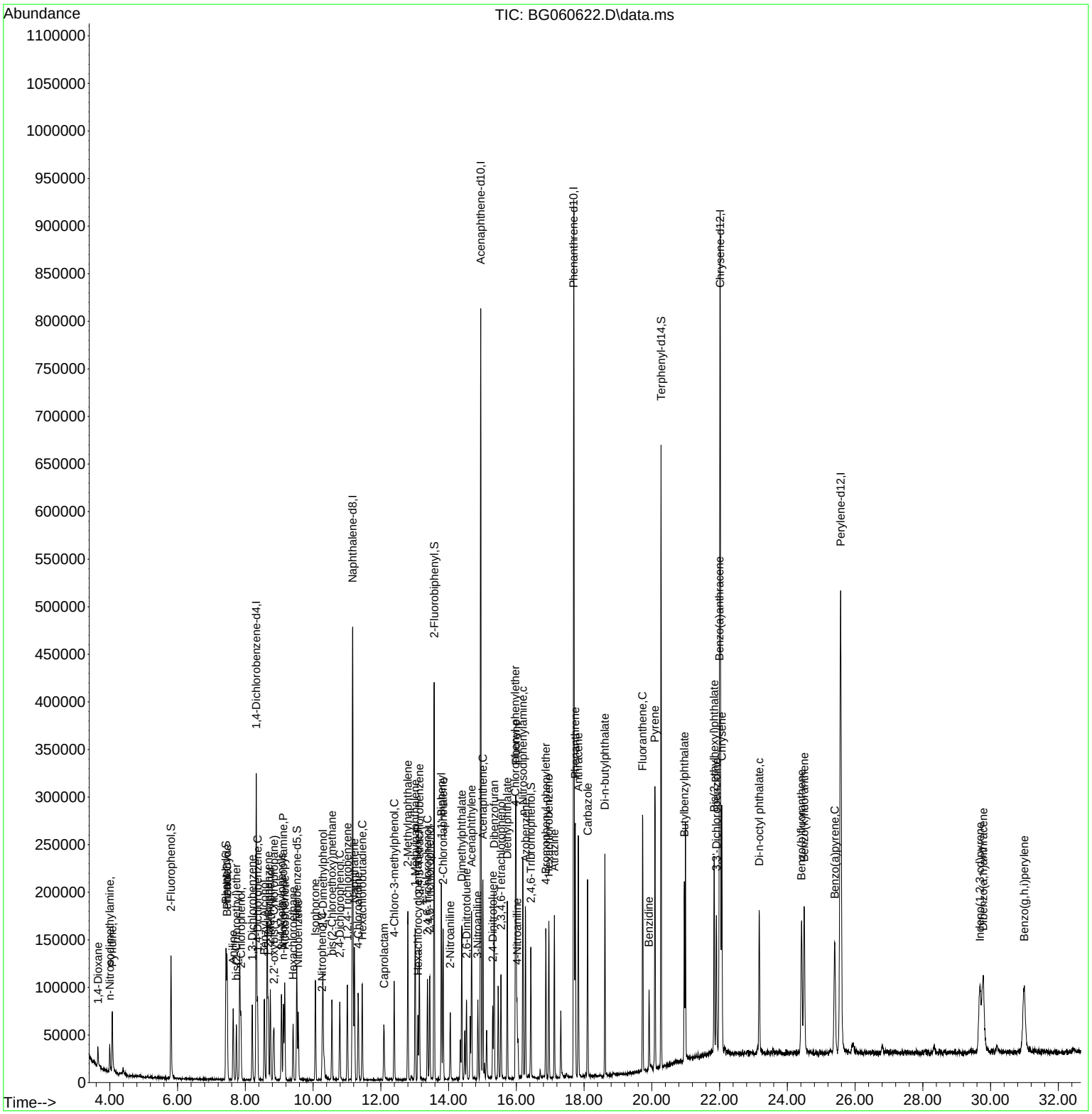
(#) = qualifier out of range (m) = manual integration (+) = signals summed

ICAL Form

Data Path : Z:\svoasrv\HPCHEM1\BNA_G\Data\BG031324\
Data File : BG060622.D
Acq On : 13 Mar 2024 11:24
Operator : MA/JU
Sample : SSTDICC005
Misc :
ALS Vial : 3 Sample Multiplier: 1

Instrument :
BNA_G
ClientSampleId :
SSTDICC005

Quant Time: Mar 14 00:28:31 2024
Quant Method : Z:\svoasrv\HPCHEM1\BNA_G\Methods\8270-BG031324.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION
QLast Update : Thu Mar 14 00:26:58 2024
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

ICAL Form

Data Path : Z:\svoasrv\HPCHEM1\BNA_G\Data\BG031324\
Data File : BG060623.D
Acq On : 13 Mar 2024 12:04
Operator : MA/JU
Sample : SSTDICC010
Misc :
ALS Vial : 4 Sample Multiplier: 1

Instrument :
BNA_G
ClientSampleId :
SSTDICC010

Quant Time: Mar 14 00:30:58 2024
Quant Method : Z:\svoasrv\HPCHEM1\BNA_G\Methods\8270-BG031324.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION
QLast Update : Thu Mar 14 00:26:58 2024
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) 1,4-Dichlorobenzene-d4	8.323	152	87120	20.000	ng		0.00
21) Naphthalene-d8	11.167	136	406545	20.000	ng		0.00
39) Acenaphthene-d10	14.950	164	275097	20.000	ng		0.00
64) Phenanthrene-d10	17.694	188	590917	20.000	ng		0.00
76) Chrysene-d12	22.019	240	540643	20.000	ng		0.00
86) Perylene-d12	25.579	264	605641	20.000	ng		0.00
System Monitoring Compounds							
5) 2-Fluorophenol	5.808	112	107130	19.331	ng		0.00
7) Phenol-d6	7.430	99	158234	19.683	ng		0.00
23) Nitrobenzene-d5	9.521	82	141849	18.159	ng		0.00
42) 2,4,6-Tribromophenol	16.431	330	59880	18.784	ng		0.00
45) 2-Fluorobiphenyl	13.575	172	417692	20.529	ng		0.00
79) Terphenyl-d14	20.273	244	650984	21.764	ng		0.00
Target Compounds							Qvalue
2) 1,4-Dioxane	3.646	88	23673	10.205	ng		94
3) Pyridine	4.075	79	68613	10.008	ng		91
4) n-Nitrosodimethylamine	3.993	42	32677m	9.716	ng		
6) Aniline	7.641	93	96684	9.842	ng		99
8) 2-Chlorophenol	7.870	128	59211	9.774	ng		99
9) Benzaldehyde	7.465	77	46861	10.413	ng		99
10) Phenol	7.459	94	77457	9.602	ng		99
11) bis(2-Chloroethyl)ether	7.741	93	64829	10.082	ng		88
12) 1,3-Dichlorobenzene	8.205	146	64353	9.850	ng		98
13) 1,4-Dichlorobenzene	8.364	146	64332	9.714	ng		96
14) 1,2-Dichlorobenzene	8.681	146	66598	10.126	ng		96
15) Benzyl Alcohol	8.564	79	60297	9.487	ng		98
16) 2,2'-oxybis(1-Chloropr...	8.840	45	122393m	9.805	ng		
17) 2-Methylphenol	8.740	107	58823	9.497	ng		98
18) Hexachloroethane	9.410	117	22055	9.749	ng		95
19) n-Nitroso-di-n-propyla...	9.128	70	55247	9.914	ng		99
20) 3+4-Methylphenols	9.069	107	79537	9.521	ng		97
22) Acetophenone	9.163	105	106261	9.749	ng	#	96
24) Nitrobenzene	9.563	77	71425	9.146	ng		98
25) Isophorone	10.074	82	150632	9.634	ng		98
26) 2-Nitrophenol	10.273	139	23174	9.220	ng		90
27) 2,4-Dimethylphenol	10.297	122	67478	9.751	ng		92
28) bis(2-Chloroethoxy)met...	10.555	93	93796	10.007	ng		95
29) 2,4-Dichlorophenol	10.785	162	59952	9.653	ng		94
30) 1,2,4-Trichlorobenzene	11.014	180	66899	10.145	ng		94
31) Naphthalene	11.219	128	228174	10.048	ng		98
32) Benzoic acid	10.344	122	22881m	10.491	ng		
33) 4-Chloroaniline	11.331	127	95887	10.014	ng		99
34) Hexachlorobutadiene	11.454	225	44471	9.887	ng		92
35) Caprolactam	12.101	113	20596	9.851	ng	#	90
36) 4-Chloro-3-methylphenol	12.400	107	73630	9.674	ng		100
37) 2-Methylnaphthalene	12.800	142	156001	9.947	ng		99
38) 1-Methylnaphthalene	13.017	142	146101	9.925	ng		97
40) 1,2,4,5-Tetrachloroben...	13.141	216	84042	9.948	ng		97
41) Hexachlorocyclopentadiene	13.094	237	34923	8.406	ng		96
43) 2,4,6-Trichlorophenol	13.382	196	50306	9.274	ng		93

ICAL Form

Data Path : Z:\svoasrv\HPCHEM1\BNA_G\Data\BG031324\
Data File : BG060623.D
Acq On : 13 Mar 2024 12:04
Operator : MA/JU
Sample : SSTDICC010
Misc :
ALS Vial : 4 Sample Multiplier: 1

Instrument :
BNA_G
ClientSampleId :
SSTDICC010

Quant Time: Mar 14 00:30:58 2024
Quant Method : Z:\svoasrv\HPCHEM1\BNA_G\Methods\8270-BG031324.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION
QLast Update : Thu Mar 14 00:26:58 2024
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
44) 2,4,5-Trichlorophenol	13.446	196	60011	9.352	ng		98
46) 1,1'-Biphenyl	13.787	154	210932	10.087	ng		97
47) 2-Chloronaphthalene	13.840	162	157883	10.005	ng		96
48) 2-Nitroaniline	14.051	65	44987	8.637	ng		96
49) Acenaphthylene	14.680	152	256904	9.993	ng		97
50) Dimethylphthalate	14.392	163	206813	10.024	ng		99
51) 2,6-Dinitrotoluene	14.533	165	34593	9.099	ng		92
52) Acenaphthene	15.015	154	152849	9.949	ng		96
53) 3-Nitroaniline	14.868	138	39805	9.094	ng		99
54) 2,4-Dinitrophenol	15.062	184	10654	11.850	ng	#	87
55) Dibenzofuran	15.344	168	251115	10.095	ng		99
56) 4-Nitrophenol	15.127	139	26795	8.203	ng		95
57) 2,4-Dinitrotoluene	15.309	165	41557	8.689	ng	#	96
58) Fluorene	15.990	166	201379	10.119	ng		99
59) 2,3,4,6-Tetrachlorophenol	15.550	232	51780m	9.650	ng		
60) Diethylphthalate	15.738	149	214456	10.102	ng		99
61) 4-Chlorophenyl-phenyle...	15.979	204	101915	10.110	ng		97
62) 4-Nitroaniline	16.026	138	42195	9.416	ng		96
63) Azobenzene	16.272	77	220122	10.020	ng		98
65) 4,6-Dinitro-2-methylph...	16.049	198	16772	10.466	ng		92
66) n-Nitrosodiphenylamine	16.196	169	182113	9.847	ng		95
67) 4-Bromophenyl-phenylether	16.877	248	60224	9.451	ng		92
68) Hexachlorobenzene	16.960	284	73215	9.993	ng		97
69) Atrazine	17.124	200	61066	9.872	ng		99
70) Pentachlorophenol	17.318	266	35294	7.433	ng		98
71) Phenanthrene	17.741	178	324422	10.192	ng		96
72) Anthracene	17.829	178	325649	10.118	ng		99
73) Carbazole	18.105	167	283896	10.145	ng		99
74) Di-n-butylphthalate	18.617	149	336406	9.864	ng		100
75) Fluoranthene	19.733	202	352064	9.999	ng		99
77) Benzidine	19.921	184	109991	8.317	ng		96
78) Pyrene	20.097	202	384597	10.194	ng		97
80) Butylbenzylphthalate	20.961	149	129039	9.047	ng		99
81) Benzo(a)anthracene	21.995	228	370897	9.964	ng		98
82) 3,3'-Dichlorobenzidine	21.907	252	116262	9.266	ng		92
83) Chrysene	22.066	228	360841	9.983	ng		98
84) Bis(2-ethylhexyl)phtha...	21.842	149	190492	9.041	ng		98
85) Di-n-octyl phthalate	23.170	149	306416	8.832	ng		100
87) Indeno(1,2,3-cd)pyrene	29.692	276	385516m	9.336	ng		
88) Benzo(b)fluoranthene	24.422	252	320649	9.624	ng		98
89) Benzo(k)fluoranthene	24.498	252	334831	9.566	ng		99
90) Benzo(a)pyrene	25.397	252	303279	9.284	ng		98
91) Dibenzo(a,h)anthracene	29.786	278	326498	9.305	ng		97
92) Benzo(g,h,i)perylene	30.984	276	320664	9.444	ng		95

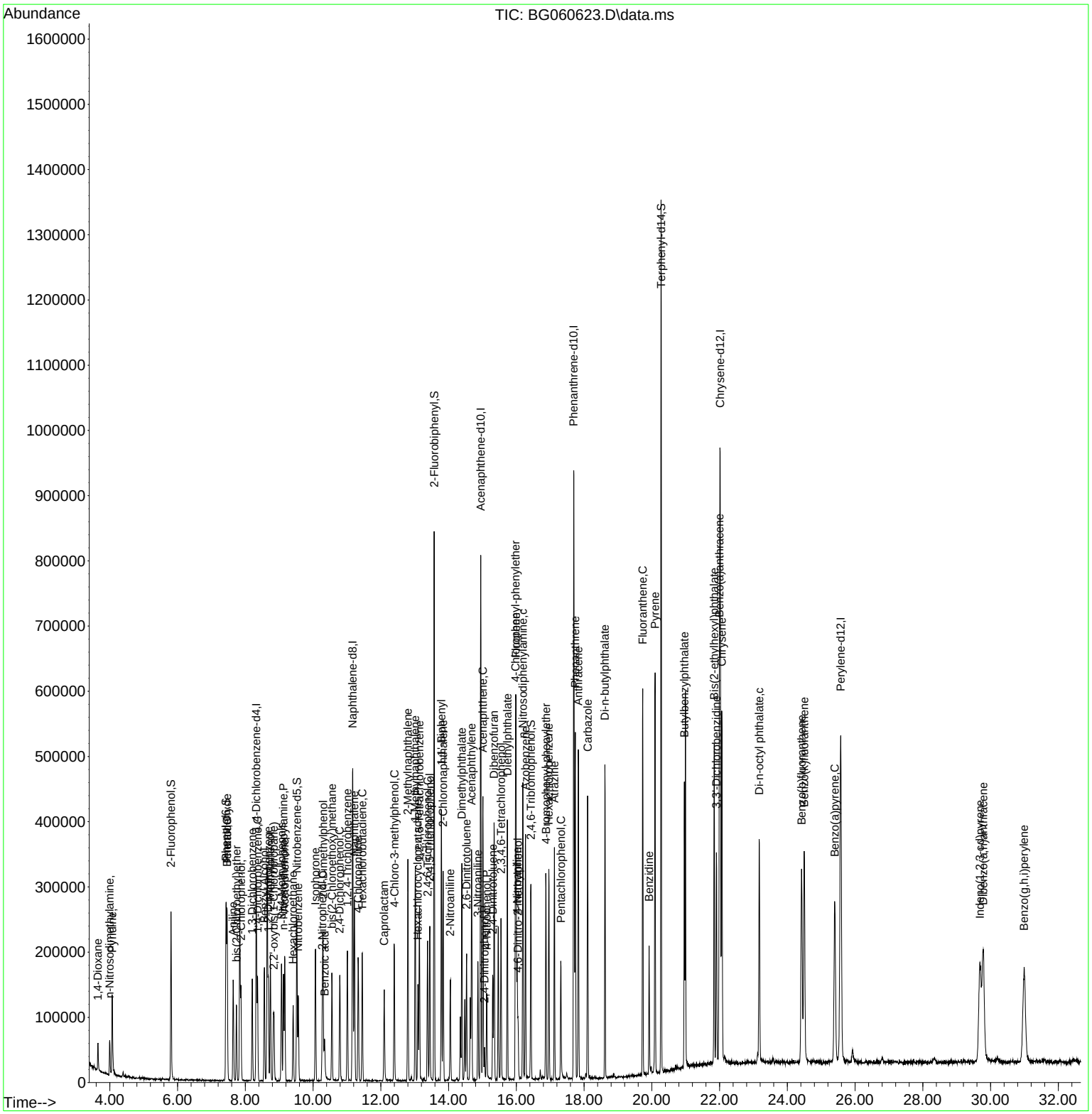
(#) = qualifier out of range (m) = manual integration (+) = signals summed

ICAL Form

Data Path : Z:\svoasrv\HPCHEM1\BNA_G\Data\BG031324\
Data File : BG060623.D
Acq On : 13 Mar 2024 12:04
Operator : MA/JU
Sample : SSTDICC010
Misc :
ALS Vial : 4 Sample Multiplier: 1

Instrument :
BNA_G
ClientSampleId :
SSTDICC010

Quant Time: Mar 14 00:30:58 2024
Quant Method : Z:\svoasrv\HPCHEM1\BNA_G\Methods\8270-BG031324.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION
QLast Update : Thu Mar 14 00:26:58 2024
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

ICAL Form

Data Path : Z:\svoasrv\HPCHEM1\BNA_G\Data\BG031324\
Data File : BG060624.D
Acq On : 13 Mar 2024 12:45
Operator : MA/JU
Sample : SSTDICC020
Misc :
ALS Vial : 5 Sample Multiplier: 1

Instrument :
BNA_G
ClientSampleId :
SSTDICC020

Quant Time: Mar 14 00:34:10 2024
Quant Method : Z:\svoasrv\HPCHEM1\BNA_G\Methods\8270-BG031324.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION
QLast Update : Thu Mar 14 00:26:58 2024
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) 1,4-Dichlorobenzene-d4	8.329	152	90858	20.000	ng		0.00
21) Naphthalene-d8	11.167	136	417680	20.000	ng		0.00
39) Acenaphthene-d10	14.951	164	277017	20.000	ng		0.00
64) Phenanthrene-d10	17.700	188	570637	20.000	ng		0.00
76) Chrysene-d12	22.019	240	516988	20.000	ng		0.00
86) Perylene-d12	25.573	264	577409	20.000	ng		0.00
System Monitoring Compounds							
5) 2-Fluorophenol	5.808	112	242367	41.933	ng		0.00
7) Phenol-d6	7.436	99	354655	42.300	ng		0.00
23) Nitrobenzene-d5	9.522	82	332054	41.375	ng		0.00
42) 2,4,6-Tribromophenol	16.431	330	129431	40.321	ng		0.00
45) 2-Fluorobiphenyl	13.576	172	884429	43.166	ng		0.00
79) Terphenyl-d14	20.274	244	1286764	44.989	ng		0.00
Target Compounds							Qvalue
2) 1,4-Dioxane	3.652	88	52988	21.902	ng		96
3) Pyridine	4.069	79	147746	20.663	ng		97
4) n-Nitrosodimethylamine	3.999	42	73762	21.030	ng		99
6) Aniline	7.647	93	210666	20.563	ng		97
8) 2-Chlorophenol	7.871	128	131254	20.774	ng		98
9) Benzaldehyde	7.465	77	106078	22.602	ng		99
10) Phenol	7.459	94	176508	20.981	ng		98
11) bis(2-Chloroethyl)ether	7.741	93	138435	20.643	ng		99
12) 1,3-Dichlorobenzene	8.206	146	144454	21.202	ng		96
13) 1,4-Dichlorobenzene	8.364	146	144509	20.923	ng		97
14) 1,2-Dichlorobenzene	8.681	146	141643	20.650	ng		97
15) Benzyl Alcohol	8.564	79	135851	20.495	ng		97
16) 2,2'-oxybis(1-Chloropr...	8.834	45	276234m	21.219	ng		
17) 2-Methylphenol	8.740	107	136153	21.077	ng		98
18) Hexachloroethane	9.410	117	50189	21.273	ng		97
19) n-Nitroso-di-n-propyla...	9.128	70	122687	21.110	ng		98
20) 3+4-Methylphenols	9.069	107	180255	20.689	ng		98
22) Acetophenone	9.169	105	233626	20.863	ng	#	98
24) Nitrobenzene	9.563	77	166192	20.713	ng		95
25) Isophorone	10.074	82	331176	20.617	ng		98
26) 2-Nitrophenol	10.274	139	60556	20.000	ng		90
27) 2,4-Dimethylphenol	10.291	122	145979	20.533	ng		98
28) bis(2-Chloroethoxy)met...	10.556	93	201308	20.905	ng		98
29) 2,4-Dichlorophenol	10.791	162	129294	20.263	ng		91
30) 1,2,4-Trichlorobenzene	11.014	180	140341	20.715	ng		96
31) Naphthalene	11.220	128	486119	20.837	ng		99
32) Benzoic acid	10.362	122	70869m	19.223	ng		
33) 4-Chloroaniline	11.337	127	205521	20.891	ng		97
34) Hexachlorobutadiene	11.455	225	96539	20.891	ng		96
35) Caprolactam	12.113	113	44911	20.909	ng		89
36) 4-Chloro-3-methylphenol	12.395	107	162871	20.828	ng		96
37) 2-Methylnaphthalene	12.800	142	341309	21.182	ng		99
38) 1-Methylnaphthalene	13.018	142	318948	21.089	ng		98
40) 1,2,4,5-Tetrachloroben...	13.141	216	176978	20.803	ng		98
41) Hexachlorocyclopentadiene	13.100	237	84157	20.116	ng		96
43) 2,4,6-Trichlorophenol	13.382	196	112415	20.579	ng		99

ICAL Form

Data Path : Z:\svoasrv\HPCHEM1\BNA_G\Data\BG031324\
Data File : BG060624.D
Acq On : 13 Mar 2024 12:45
Operator : MA/JU
Sample : SSTDICC020
Misc :
ALS Vial : 5 Sample Multiplier: 1

Instrument :
BNA_G
ClientSampleId :
SSTDICC020

Quant Time: Mar 14 00:34:10 2024
Quant Method : Z:\svoasrv\HPCHEM1\BNA_G\Methods\8270-BG031324.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION
QLast Update : Thu Mar 14 00:26:58 2024
Response via : Initial Calibration

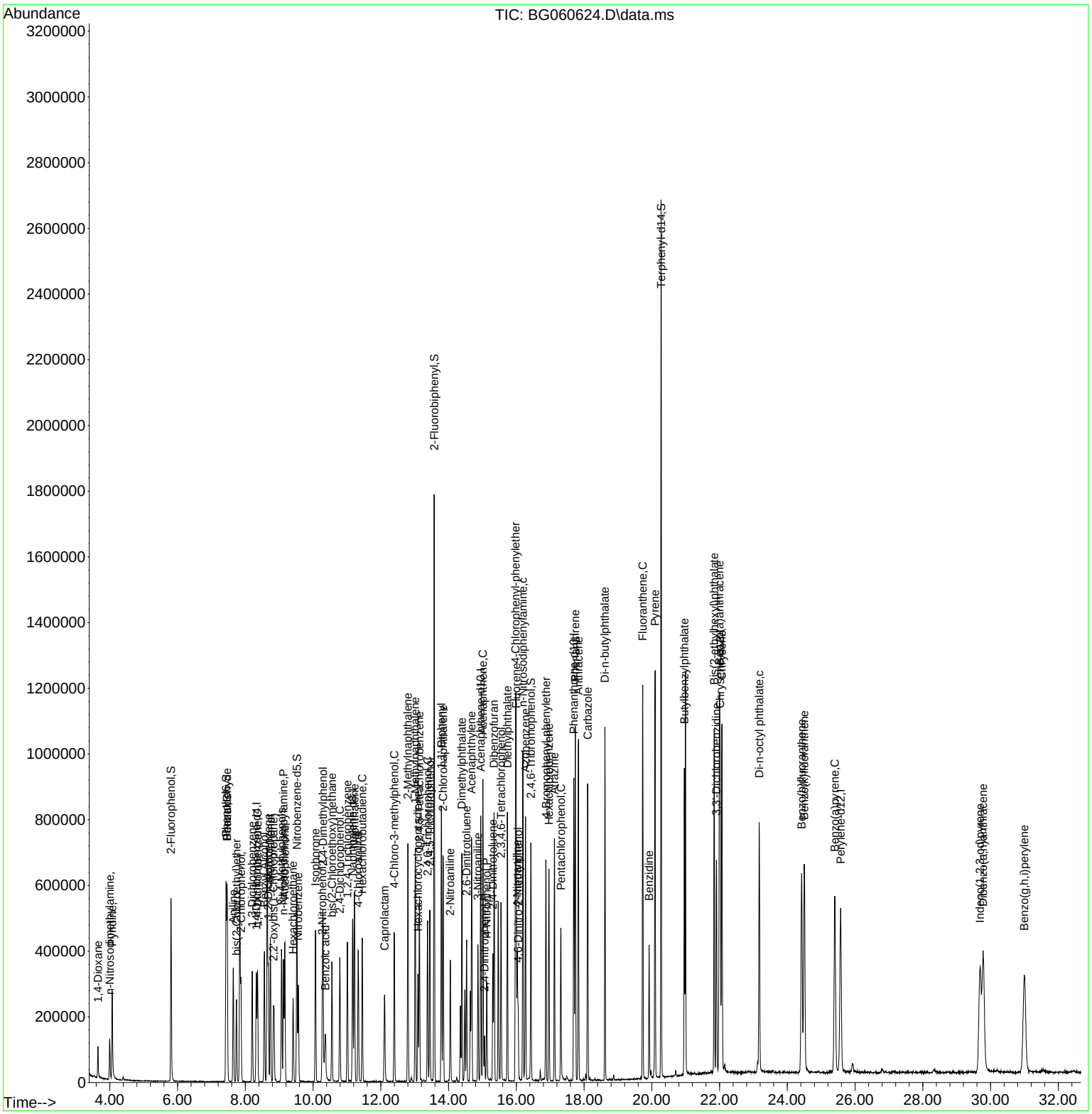
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
44) 2,4,5-Trichlorophenol	13.447	196	134217	20.770	ng		96
46) 1,1'-Biphenyl	13.793	154	441331	20.959	ng		98
47) 2-Chloronaphthalene	13.840	162	333133	20.963	ng		97
48) 2-Nitroaniline	14.052	65	104049	19.838	ng		95
49) Acenaphthylene	14.680	152	542031	20.938	ng		98
50) Dimethylphthalate	14.392	163	435245	20.950	ng		98
51) 2,6-Dinitrotoluene	14.533	165	79106	20.664	ng		97
52) Acenaphthene	15.015	154	327967	21.200	ng		97
53) 3-Nitroaniline	14.868	138	91804	20.828	ng		92
54) 2,4-Dinitrophenol	15.062	184	27445	19.650	ng		93
55) Dibenzofuran	15.344	168	527279	21.051	ng		99
56) 4-Nitrophenol	15.127	139	62733	19.073	ng		98
57) 2,4-Dinitrotoluene	15.309	165	97187	20.181	ng		97
58) Fluorene	15.996	166	424512	21.183	ng		99
59) 2,3,4,6-Tetrachlorophenol	15.550	232	109191	20.208	ng	#	91
60) Diethylphthalate	15.738	149	448057	20.960	ng		98
61) 4-Chlorophenyl-phenyle...	15.979	204	214833	21.164	ng		97
62) 4-Nitroaniline	16.026	138	93717	20.769	ng		97
63) Azobenzene	16.273	77	469785	21.236	ng		98
65) 4,6-Dinitro-2-methylph...	16.055	198	43448	19.974	ng		96
66) n-Nitrosodiphenylamine	16.196	169	384564	21.534	ng		98
67) 4-Bromophenyl-phenylether	16.878	248	130430	21.196	ng		98
68) Hexachlorobenzene	16.966	284	148201	20.947	ng		98
69) Atrazine	17.125	200	128074	21.441	ng		97
70) Pentachlorophenol	17.318	266	87319	19.042	ng		98
71) Phenanthrene	17.741	178	662913	21.566	ng		99
72) Anthracene	17.835	178	660609	21.255	ng		99
73) Carbazole	18.106	167	580276	21.472	ng		98
74) Di-n-butylphthalate	18.617	149	709848	21.554	ng		99
75) Fluoranthene	19.733	202	732153	21.533	ng		99
77) Benzidine	19.921	184	225396	17.824	ng		99
78) Pyrene	20.098	202	769695	21.334	ng		98
80) Butylbenzylphthalate	20.961	149	280091	20.535	ng		96
81) Benzo(a)anthracene	21.995	228	741202	20.822	ng		100
82) 3,3'-Dichlorobenzidine	21.907	252	245366	20.451	ng		99
83) Chrysene	22.072	228	715983	20.715	ng		97
84) Bis(2-ethylhexyl)phtha...	21.843	149	411197	20.410	ng		99
85) Di-n-octyl phthalate	23.170	149	670011	20.195	ng		100
87) Indeno(1,2,3-cd)pyrene	29.692	276	808189	20.529	ng	#	95
88) Benzo(b)fluoranthene	24.422	252	663426	20.885	ng		99
89) Benzo(k)fluoranthene	24.498	252	696669	20.876	ng		98
90) Benzo(a)pyrene	25.403	252	647273	20.784	ng		99
91) Dibenzo(a,h)anthracene	29.780	278	683427	20.430	ng		98
92) Benzo(g,h,i)perylene	30.997	276	665311	20.552	ng		99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : Z:\svoasrv\HPCHEM1\BNA_G\Data\BG031324\
Data File : BG060624.D
Acq On : 13 Mar 2024 12:45
Operator : MA/JU
Sample : SSTDICC020
Misc :
ALS Vial : 5 Sample Multiplier: 1

Instrument :
BNA_G
ClientSampleId :
SSTDICC020

Quant Time: Mar 14 00:34:10 2024
Quant Method : Z:\svoasrv\HPCHEM1\BNA_G\Methods\8270-BG031324.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION
QLast Update : Thu Mar 14 00:26:58 2024
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

ICAL Form

Data Path : Z:\svoasrv\HPCHEM1\BNA_G\Data\BG031324\
Data File : BG060625.D
Acq On : 13 Mar 2024 13:26
Operator : MA/JU
Sample : SSTDICCC040
Misc :
ALS Vial : 6 Sample Multiplier: 1

Instrument :
BNA_G
ClientSampleId :
SSTDICCC040

Quant Time: Mar 14 00:36:20 2024
Quant Method : Z:\svoasrv\HPCHEM1\BNA_G\Methods\8270-BG031324.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION
QLast Update : Thu Mar 14 00:26:58 2024
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) 1,4-Dichlorobenzene-d4	8.324	152	106013	20.000	ng		0.00
21) Naphthalene-d8	11.173	136	497769	20.000	ng		0.00
39) Acenaphthene-d10	14.951	164	328973	20.000	ng		0.00
64) Phenanthrene-d10	17.701	188	696137	20.000	ng		0.00
76) Chrysene-d12	22.025	240	617246	20.000	ng		0.00
86) Perylene-d12	25.574	264	701669	20.000	ng		0.00
System Monitoring Compounds							
5) 2-Fluorophenol	5.809	112	550683	81.657	ng		0.00
7) Phenol-d6	7.437	99	812780	83.083	ng		0.00
23) Nitrobenzene-d5	9.528	82	792109	82.818	ng		0.00
42) 2,4,6-Tribromophenol	16.438	330	323020	84.735	ng		0.00
45) 2-Fluorobiphenyl	13.577	172	1935969	79.566	ng		0.00
79) Terphenyl-d14	20.280	244	2705895	79.239	ng		0.00
Target Compounds							Qvalue
2) 1,4-Dioxane	3.653	88	110507	39.147	ng		100
3) Pyridine	4.070	79	336570	40.342	ng		100
4) n-Nitrosodimethylamine	4.000	42	164505	40.196	ng		100
6) Aniline	7.648	93	493519	41.285	ng		100
8) 2-Chlorophenol	7.871	128	303349	41.149	ng		100
9) Benzaldehyde	7.472	77	229773	41.958	ng		100
10) Phenol	7.466	94	409643	41.733	ng		100
11) bis(2-Chloroethyl)ether	7.742	93	321460	41.082	ng		100
12) 1,3-Dichlorobenzene	8.206	146	318132	40.017	ng		100
13) 1,4-Dichlorobenzene	8.365	146	330113	40.964	ng		100
14) 1,2-Dichlorobenzene	8.682	146	322553	40.301	ng		100
15) Benzyl Alcohol	8.565	79	328405	42.462	ng		100
16) 2,2'-oxybis(1-Chloropr...	8.847	45	622027	40.950	ng		100
17) 2-Methylphenol	8.741	107	317128	42.074	ng		100
18) Hexachloroethane	9.411	117	111624	40.549	ng		100
19) n-Nitroso-di-n-propyla...	9.135	70	284355	41.934	ng		100
20) 3+4-Methylphenols	9.076	107	428947	42.196	ng		100
22) Acetophenone	9.170	105	545271	40.858	ng	#	100
24) Nitrobenzene	9.569	77	398820	41.708	ng		100
25) Isophorone	10.075	82	784387	40.975	ng		100
26) 2-Nitrophenol	10.275	139	151954	39.639	ng		100
27) 2,4-Dimethylphenol	10.298	122	335920	39.647	ng		100
28) bis(2-Chloroethoxy)met...	10.562	93	464038	40.435	ng		100
29) 2,4-Dichlorophenol	10.792	162	315062	41.432	ng		100
30) 1,2,4-Trichlorobenzene	11.015	180	320069	39.642	ng		100
31) Naphthalene	11.226	128	1108429	39.867	ng		100
32) Benzoic acid	10.416	122	216291	39.620	ng		100
33) 4-Chloroaniline	11.338	127	479022	40.859	ng		100
34) Hexachlorobutadiene	11.456	225	220492	40.037	ng		100
35) Caprolactam	12.137	113	105104	41.059	ng		100
36) 4-Chloro-3-methylphenol	12.401	107	383623	41.166	ng		100
37) 2-Methylnaphthalene	12.801	142	769502	40.072	ng		100
38) 1-Methylnaphthalene	13.018	142	728241	40.404	ng		100
40) 1,2,4,5-Tetrachloroben...	13.142	216	403057	39.896	ng		100
41) Hexachlorocyclopentadiene	13.101	237	207004	41.666	ng		100
43) 2,4,6-Trichlorophenol	13.383	196	266406	41.067	ng		100

ICAL Form

Data Path : Z:\svoasrv\HPCHEM1\BNA_G\Data\BG031324\
Data File : BG060625.D
Acq On : 13 Mar 2024 13:26
Operator : MA/JU
Sample : SSTDICCC040
Misc :
ALS Vial : 6 Sample Multiplier: 1

Instrument :
BNA_G
ClientSampleId :
SSTDICCC040

Quant Time: Mar 14 00:36:20 2024
Quant Method : Z:\svoasrv\HPCHEM1\BNA_G\Methods\8270-BG031324.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION
QLast Update : Thu Mar 14 00:26:58 2024
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
44) 2,4,5-Trichlorophenol	13.453	196	318571	41.513	ng	100
46) 1,1'-Biphenyl	13.794	154	1000255	40.001	ng	100
47) 2-Chloronaphthalene	13.847	162	769343	40.767	ng	100
48) 2-Nitroaniline	14.058	65	270577	43.441	ng	100
49) Acenaphthylene	14.687	152	1237694	40.259	ng	100
50) Dimethylphthalate	14.399	163	1001529	40.593	ng	100
51) 2,6-Dinitrotoluene	14.534	165	194157	42.708	ng	100
52) Acenaphthene	15.016	154	732296	39.861	ng	100
53) 3-Nitroaniline	14.875	138	218189	41.683	ng	100
54) 2,4-Dinitrophenol	15.069	184	80681	38.544	ng	100
55) Dibenzofuran	15.351	168	1186967	39.904	ng	100
56) 4-Nitrophenol	15.134	139	161680	41.393	ng	100
57) 2,4-Dinitrotoluene	15.310	165	245584	42.941	ng	100
58) Fluorene	15.997	166	956224	40.180	ng	100
59) 2,3,4,6-Tetrachlorophenol	15.551	232	267240m	41.648	ng	
60) Diethylphthalate	15.745	149	1022382	40.274	ng	100
61) 4-Chlorophenyl-phenyle...	15.980	204	479922	39.812	ng	100
62) 4-Nitroaniline	16.038	138	228536	42.647	ng	100
63) Azobenzene	16.273	77	1066263	40.586	ng	100
65) 4,6-Dinitro-2-methylph...	16.062	198	121169	39.470	ng	100
66) n-Nitrosodiphenylamine	16.197	169	878417	40.319	ng	100
67) 4-Bromophenyl-phenylether	16.879	248	296170	39.453	ng	100
68) Hexachlorobenzene	16.967	284	343833	39.837	ng	100
69) Atrazine	17.131	200	298049	40.902	ng	100
70) Pentachlorophenol	17.319	266	236904	42.349	ng	100
71) Phenanthrene	17.742	178	1491147	39.765	ng	100
72) Anthracene	17.836	178	1520851	40.112	ng	100
73) Carbazole	18.107	167	1327862	40.278	ng	100
74) Di-n-butylphthalate	18.618	149	1668496	41.530	ng	100
75) Fluoranthene	19.734	202	1687334	40.678	ng	100
77) Benzidine	19.922	184	673112	44.583	ng	100
78) Pyrene	20.098	202	1745868	40.530	ng	100
80) Butylbenzylphthalate	20.962	149	687362	42.209	ng	100
81) Benzo(a)anthracene	22.002	228	1731050	40.731	ng	100
82) 3,3'-Dichlorobenzidine	21.908	252	609950	42.580	ng	100
83) Chrysene	22.072	228	1661759	40.269	ng	100
84) Bis(2-ethylhexyl)phtha...	21.843	149	1019512	42.384	ng	100
85) Di-n-octyl phthalate	23.177	149	1697272	42.849	ng	100
87) Indeno(1,2,3-cd)pyrene	29.711	276	1958915	40.946	ng	100
88) Benzo(b)fluoranthene	24.429	252	1595256	41.326	ng	100
89) Benzo(k)fluoranthene	24.505	252	1633488	40.280	ng	100
90) Benzo(a)pyrene	25.410	252	1544804	40.819	ng	100
91) Dibenzo(a,h)anthracene	29.805	278	1658306	40.793	ng	100
92) Benzo(g,h,i)perylene	31.015	276	1619419	41.166	ng	100

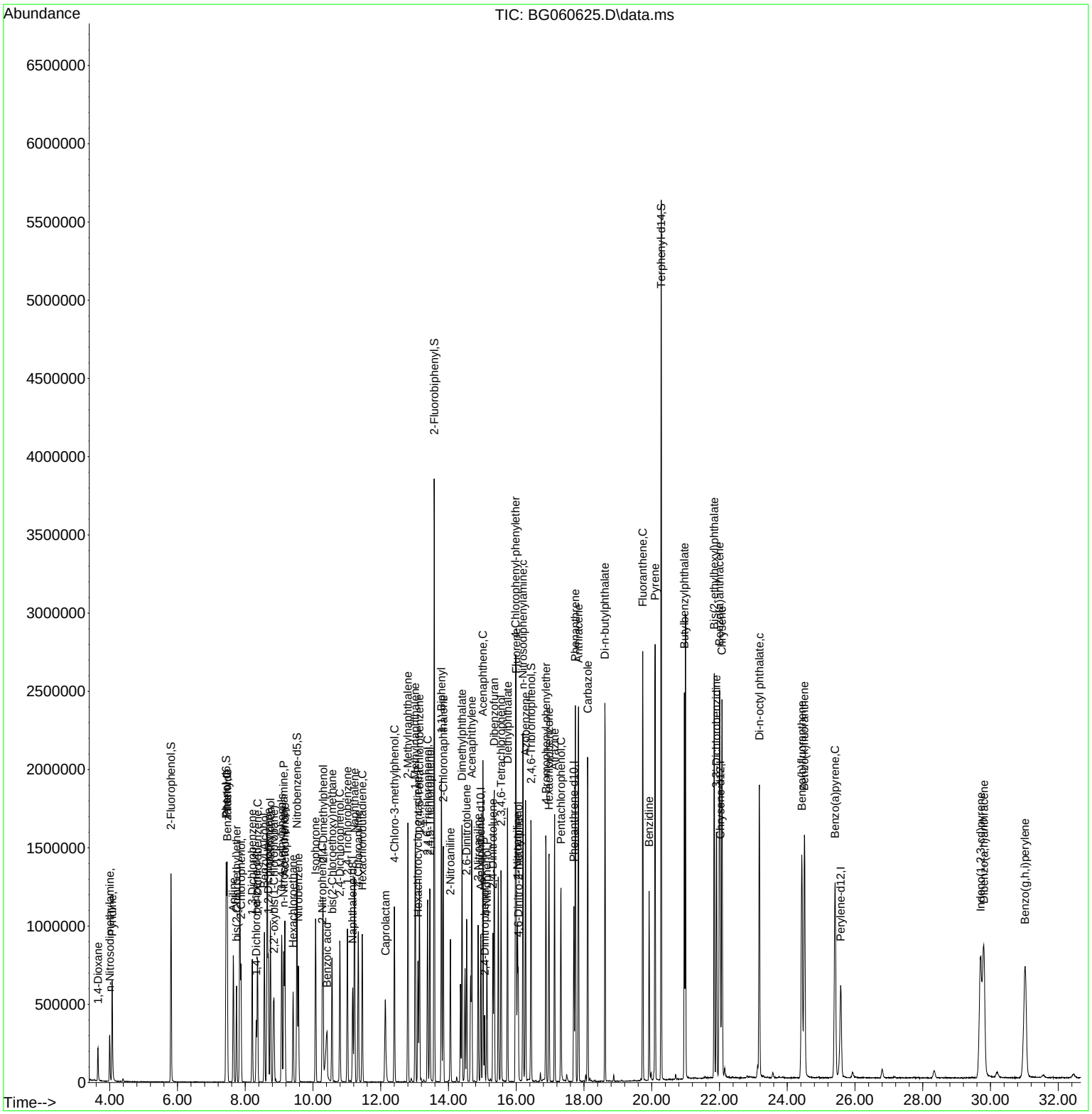
(#) = qualifier out of range (m) = manual integration (+) = signals summed

ICAL Form

Data Path : Z:\svoasrv\HPCHEM1\BNA_G\Data\BG031324\
Data File : BG060625.D
Acq On : 13 Mar 2024 13:26
Operator : MA/JU
Sample : SSTDICCC040
Misc :
ALS Vial : 6 Sample Multiplier: 1

Instrument :
BNA_G
ClientSampleId :
SSTDICCC040

Quant Time: Mar 14 00:36:20 2024
Quant Method : Z:\svoasrv\HPCHEM1\BNA_G\Methods\8270-BG031324.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION
QLast Update : Thu Mar 14 00:26:58 2024
Response via : Initial Calibration



ICAL Form

Data Path : Z:\svoasrv\HPCHEM1\BNA_G\Data\BG031324\
Data File : BG060626.D
Acq On : 13 Mar 2024 14:06
Operator : MA/JU
Sample : SSTDICC050
Misc :
ALS Vial : 7 Sample Multiplier: 1

Instrument :
BNA_G
ClientSampleId :
SSTDICC050

Quant Time: Mar 14 00:38:00 2024
Quant Method : Z:\svoasrv\HPCHEM1\BNA_G\Methods\8270-BG031324.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION
QLast Update : Thu Mar 14 00:26:58 2024
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) 1,4-Dichlorobenzene-d4	8.326	152	92802	20.000	ng		0.00
21) Naphthalene-d8	11.170	136	423213	20.000	ng		0.00
39) Acenaphthene-d10	14.954	164	272468	20.000	ng		0.00
64) Phenanthrene-d10	17.698	188	576741	20.000	ng		0.00
76) Chrysene-d12	22.022	240	519150	20.000	ng		0.00
86) Perylene-d12	25.577	264	588579	20.000	ng		0.00
System Monitoring Compounds							
5) 2-Fluorophenol	5.811	112	595491	100.871	ng		0.00
7) Phenol-d6	7.439	99	866364	101.168	ng		0.00
23) Nitrobenzene-d5	9.525	82	844789	103.886	ng		0.00
42) 2,4,6-Tribromophenol	16.434	330	338445	107.193	ng		0.00
45) 2-Fluorobiphenyl	13.579	172	1988227	98.660	ng		0.00
79) Terphenyl-d14	20.277	244	2764972	96.269	ng		0.00
Target Compounds							Qvalue
2) 1,4-Dioxane	3.649	88	119232	48.251	ng		99
3) Pyridine	4.072	79	359859	49.274	ng		97
4) n-Nitrosodimethylamine	3.996	42	176187	49.179	ng		97
6) Aniline	7.650	93	533467	50.979	ng		98
8) 2-Chlorophenol	7.874	128	323706	50.161	ng		99
9) Benzaldehyde	7.474	77	231618	48.316	ng		97
10) Phenol	7.468	94	429400	49.973	ng		98
11) bis(2-Chloroethyl)ether	7.739	93	332166	48.493	ng		98
12) 1,3-Dichlorobenzene	8.203	146	345779	49.687	ng		97
13) 1,4-Dichlorobenzene	8.361	146	352624	49.987	ng		99
14) 1,2-Dichlorobenzene	8.685	146	344910	49.230	ng		99
15) Benzyl Alcohol	8.567	79	342277	50.555	ng		98
16) 2,2'-oxybis(1-Chloropr...	8.837	45	658096m	49.492	ng		
17) 2-Methylphenol	8.743	107	331259	50.206	ng		99
18) Hexachloroethane	9.413	117	120297	49.920	ng		97
19) n-Nitroso-di-n-propyla...	9.137	70	295000	49.697	ng		97
20) 3+4-Methylphenols	9.078	107	447079	50.240	ng		98
22) Acetophenone	9.172	105	565815	49.867	ng	#	97
24) Nitrobenzene	9.572	77	415878	51.154	ng		99
25) Isophorone	10.077	82	821899	50.498	ng		97
26) 2-Nitrophenol	10.277	139	164133	49.754	ng		95
27) 2,4-Dimethylphenol	10.294	122	348327	48.354	ng		99
28) bis(2-Chloroethoxy)met...	10.559	93	476091	48.794	ng		99
29) 2,4-Dichlorophenol	10.794	162	327859	50.711	ng		97
30) 1,2,4-Trichlorobenzene	11.017	180	336332	48.994	ng		99
31) Naphthalene	11.223	128	1171081	49.541	ng		100
32) Benzoic acid	10.412	122	234328m	48.797	ng		
33) 4-Chloroaniline	11.334	127	499767	50.138	ng		99
34) Hexachlorobutadiene	11.452	225	234379	50.056	ng		94
35) Caprolactam	12.133	113	111280	51.130	ng		92
36) 4-Chloro-3-methylphenol	12.404	107	400708	50.574	ng		99
37) 2-Methylnaphthalene	12.803	142	803711	49.227	ng		98
38) 1-Methylnaphthalene	13.021	142	753183	49.150	ng		97
40) 1,2,4,5-Tetrachloroben...	13.144	216	421351	50.356	ng		99
41) Hexachlorocyclopentadiene	13.097	237	218840	53.184	ng		96
43) 2,4,6-Trichlorophenol	13.385	196	278131	51.766	ng		98

ICAL Form

Data Path : Z:\svoasrv\HPCHEM1\BNA_G\Data\BG031324\
Data File : BG060626.D
Acq On : 13 Mar 2024 14:06
Operator : MA/JU
Sample : SSTDICC050
Misc :
ALS Vial : 7 Sample Multiplier: 1

Instrument :
BNA_G
ClientSampleId :
SSTDICC050

Quant Time: Mar 14 00:38:00 2024
Quant Method : Z:\svoasrv\HPCHEM1\BNA_G\Methods\8270-BG031324.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION
QLast Update : Thu Mar 14 00:26:58 2024
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
44) 2,4,5-Trichlorophenol	13.450	196	329484	51.839	ng		97
46) 1,1'-Biphenyl	13.790	154	1021096	49.303	ng		97
47) 2-Chloronaphthalene	13.843	162	774164	49.529	ng		95
48) 2-Nitroaniline	14.055	65	283428	54.942	ng		99
49) Acenaphthylene	14.683	152	1281969	50.347	ng		98
50) Dimethylphthalate	14.401	163	1021181	49.973	ng		98
51) 2,6-Dinitrotoluene	14.537	165	199825	53.070	ng		98
52) Acenaphthene	15.018	154	746795	49.080	ng		100
53) 3-Nitroaniline	14.877	138	229424	52.918	ng		94
54) 2,4-Dinitrophenol	15.065	184	85832	47.562	ng		91
55) Dibenzofuran	15.347	168	1220349	49.535	ng		99
56) 4-Nitrophenol	15.136	139	171196	52.919	ng		95
57) 2,4-Dinitrotoluene	15.312	165	258864	54.650	ng		97
58) Fluorene	15.994	166	978336	49.634	ng		99
59) 2,3,4,6-Tetrachlorophenol	15.553	232	280049m	52.695	ng		
60) Diethylphthalate	15.741	149	1047965	49.842	ng		99
61) 4-Chlorophenyl-phenyle...	15.976	204	493200	49.398	ng		98
62) 4-Nitroaniline	16.035	138	234159m	52.758	ng		
63) Azobenzene	16.276	77	1082115	49.731	ng		98
65) 4,6-Dinitro-2-methylph...	16.058	198	125842	48.257	ng		91
66) n-Nitrosodiphenylamine	16.199	169	895037	49.587	ng		100
67) 4-Bromophenyl-phenylether	16.875	248	310622	49.944	ng		95
68) Hexachlorobenzene	16.963	284	353026	49.370	ng		97
69) Atrazine	17.134	200	301243	49.899	ng		99
70) Pentachlorophenol	17.316	266	245177	52.901	ng		97
71) Phenanthrene	17.745	178	1511561	48.654	ng		100
72) Anthracene	17.833	178	1550118	49.347	ng		99
73) Carbazole	18.109	167	1369833	50.152	ng		99
74) Di-n-butylphthalate	18.620	149	1689754	50.766	ng		99
75) Fluoranthene	19.736	202	1722132	50.112	ng		100
77) Benzidine	19.924	184	674369	53.107	ng		98
78) Pyrene	20.101	202	1784781	49.263	ng		99
80) Butylbenzylphthalate	20.964	149	726929	53.074	ng		97
81) Benzo(a)anthracene	21.998	228	1793673	50.179	ng		100
82) 3,3'-Dichlorobenzidine	21.910	252	619739	51.439	ng		93
83) Chrysene	22.075	228	1713488	49.369	ng		98
84) Bis(2-ethylhexyl)phtha...	21.840	149	1057367	52.264	ng		99
85) Di-n-octyl phthalate	23.173	149	1775170	53.284	ng		99
87) Indeno(1,2,3-cd)pyrene	29.707	276	2064415	51.442	ng	#	89
88) Benzo(b)fluoranthene	24.431	252	1614092	49.849	ng		99
89) Benzo(k)fluoranthene	24.507	252	1727448	50.781	ng		99
90) Benzo(a)pyrene	25.412	252	1616038	50.906	ng		99
91) Dibenzo(a,h)anthracene	29.795	278	1728983	50.704	ng		96
92) Benzo(g,h,i)perylene	31.035	276	1685867	51.089	ng		98

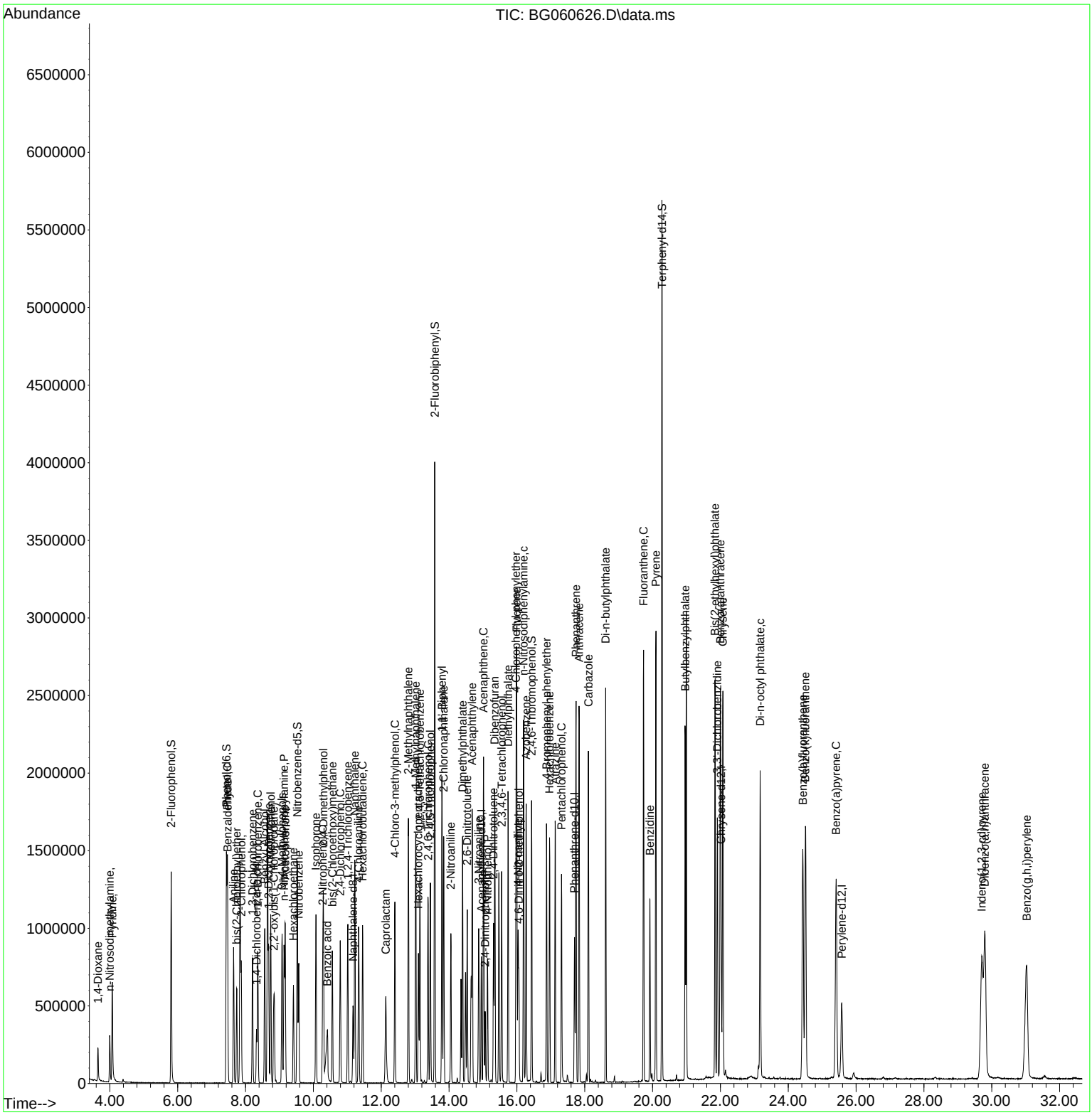
(#) = qualifier out of range (m) = manual integration (+) = signals summed

ICAL Form

Data Path : Z:\svoasrv\HPCHEM1\BNA_G\Data\BG031324\
Data File : BG060626.D
Acq On : 13 Mar 2024 14:06
Operator : MA/JU
Sample : SSTDICC050
Misc :
ALS Vial : 7 Sample Multiplier: 1

Instrument :
BNA_G
ClientSampleId :
SSTDICC050

Quant Time: Mar 14 00:38:00 2024
Quant Method : Z:\svoasrv\HPCHEM1\BNA_G\Methods\8270-BG031324.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION
QLast Update : Thu Mar 14 00:26:58 2024
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

ICAL Form

Data Path : Z:\svoasrv\HPCHEM1\BNA_G\Data\BG031324\
Data File : BG060627.D
Acq On : 13 Mar 2024 14:47
Operator : MA/JU
Sample : SSTDICC060
Misc :
ALS Vial : 8 Sample Multiplier: 1

Instrument :
BNA_G
ClientSampleId :
SSTDICC060

Quant Time: Mar 14 00:40:25 2024
Quant Method : Z:\svoasrv\HPCHEM1\BNA_G\Methods\8270-BG031324.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION
QLast Update : Thu Mar 14 00:26:58 2024
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) 1,4-Dichlorobenzene-d4	8.324	152	100667	20.000	ng		0.00
21) Naphthalene-d8	11.174	136	459154	20.000	ng		0.00
39) Acenaphthene-d10	14.952	164	296036	20.000	ng		0.00
64) Phenanthrene-d10	17.695	188	613470	20.000	ng		0.00
76) Chrysene-d12	22.026	240	541710	20.000	ng		0.00
86) Perylene-d12	25.580	264	618439	20.000	ng		0.00
System Monitoring Compounds							
5) 2-Fluorophenol	5.809	112	769769	120.205	ng		0.00
7) Phenol-d6	7.443	99	1129588	121.600	ng		0.00
23) Nitrobenzene-d5	9.529	82	1129183	127.989	ng		0.00
42) 2,4,6-Tribromophenol	16.438	330	450788	131.408	ng		0.00
45) 2-Fluorobiphenyl	13.583	172	2594376	118.489	ng		0.00
79) Terphenyl-d14	20.281	244	3341867	111.509	ng		0.00
Target Compounds							Qvalue
2) 1,4-Dioxane	3.653	88	156644	58.439	ng		98
3) Pyridine	4.070	79	472946m	59.699	ng		
4) n-Nitrosodimethylamine	4.000	42	235767	60.668	ng		96
6) Aniline	7.654	93	690111	60.796	ng		99
8) 2-Chlorophenol	7.872	128	423999	60.569	ng		98
9) Benzaldehyde	7.472	77	289674	55.705	ng		95
10) Phenol	7.466	94	569709	61.122	ng		97
11) bis(2-Chloroethyl)ether	7.742	93	448868	60.411	ng		99
12) 1,3-Dichlorobenzene	8.207	146	452482	59.940	ng		97
13) 1,4-Dichlorobenzene	8.365	146	456261	59.625	ng		98
14) 1,2-Dichlorobenzene	8.683	146	459316	60.437	ng		96
15) Benzyl Alcohol	8.565	79	457259	62.262	ng		99
16) 2,2'-oxybis(1-Chloropr...	8.841	45	880554	61.049	ng		100
17) 2-Methylphenol	8.741	107	441340	61.663	ng		99
18) Hexachloroethane	9.411	117	161771	61.886	ng		96
19) n-Nitroso-di-n-propyla...	9.141	70	399602	62.059	ng		98
20) 3+4-Methylphenols	9.082	107	598604	62.012	ng		97
22) Acetophenone	9.170	105	751035	61.009	ng	#	99
24) Nitrobenzene	9.570	77	559704	63.456	ng		96
25) Isophorone	10.081	82	1096198	62.079	ng		98
26) 2-Nitrophenol	10.275	139	224223	62.069	ng		95
27) 2,4-Dimethylphenol	10.298	122	463045	59.247	ng		95
28) bis(2-Chloroethoxy)met...	10.563	93	645747	61.001	ng		98
29) 2,4-Dichlorophenol	10.792	162	437614	62.389	ng		97
30) 1,2,4-Trichlorobenzene	11.015	180	455920	61.216	ng		98
31) Naphthalene	11.227	128	1542890	60.161	ng		99
32) Benzoic acid	10.433	122	327039m	61.009	ng		
33) 4-Chloroaniline	11.338	127	661308	61.151	ng		98
34) Hexachlorobutadiene	11.456	225	309974	61.019	ng		96
35) Caprolactam	12.149	113	148694	62.973	ng		97
36) 4-Chloro-3-methylphenol	12.402	107	530132	61.671	ng		99
37) 2-Methylnaphthalene	12.801	142	1055413	59.583	ng		99
38) 1-Methylnaphthalene	13.019	142	995181	59.858	ng		100
40) 1,2,4,5-Tetrachloroben...	13.142	216	560672	61.672	ng		99
41) Hexachlorocyclopentadiene	13.101	237	306727	68.608	ng		99
43) 2,4,6-Trichlorophenol	13.383	196	373846	64.041	ng		96

ICAL Form

Data Path : Z:\svoasrv\HPCHEM1\BNA_G\Data\BG031324\
Data File : BG060627.D
Acq On : 13 Mar 2024 14:47
Operator : MA/JU
Sample : SSTDICC060
Misc :
ALS Vial : 8 Sample Multiplier: 1

Instrument :
BNA_G
ClientSampleId :
SSTDICC060

Quant Time: Mar 14 00:40:25 2024
Quant Method : Z:\svoasrv\HPCHEM1\BNA_G\Methods\8270-BG031324.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION
QLast Update : Thu Mar 14 00:26:58 2024
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
44) 2,4,5-Trichlorophenol	13.453	196	442514	64.080	ng		99
46) 1,1'-Biphenyl	13.794	154	1357694	60.336	ng		99
47) 2-Chloronaphthalene	13.847	162	1042937	61.413	ng		97
48) 2-Nitroaniline	14.059	65	380515	67.889	ng		96
49) Acenaphthylene	14.687	152	1684982	60.906	ng		100
50) Dimethylphthalate	14.399	163	1359858	61.249	ng		98
51) 2,6-Dinitrotoluene	14.540	165	272741	66.668	ng		98
52) Acenaphthene	15.016	154	994680	60.167	ng		98
53) 3-Nitroaniline	14.875	138	305113	64.774	ng		96
54) 2,4-Dinitrophenol	15.069	184	124367	61.145	ng		95
55) Dibenzofuran	15.351	168	1599023	59.738	ng		99
56) 4-Nitrophenol	15.140	139	228669	65.057	ng		97
57) 2,4-Dinitrotoluene	15.316	165	345769	67.186	ng		98
58) Fluorene	15.998	166	1303785	60.879	ng		98
59) 2,3,4,6-Tetrachlorophenol	15.551	232	368122m	63.752	ng		
60) Diethylphthalate	15.745	149	1390296	60.860	ng		99
61) 4-Chlorophenyl-phenyle...	15.980	204	653492	60.242	ng		98
62) 4-Nitroaniline	16.039	138	311101m	64.514	ng		
63) Azobenzene	16.274	77	1433344	60.628	ng		97
65) 4,6-Dinitro-2-methylph...	16.062	198	176576	62.122	ng		92
66) n-Nitrosodiphenylamine	16.197	169	1176035	61.254	ng		99
67) 4-Bromophenyl-phenylether	16.879	248	415798	62.853	ng		98
68) Hexachlorobenzene	16.967	284	467577	61.474	ng		98
69) Atrazine	17.131	200	392900	61.185	ng		99
70) Pentachlorophenol	17.319	266	323854	65.693	ng		97
71) Phenanthrene	17.743	178	1976108	59.798	ng		99
72) Anthracene	17.837	178	2026191	60.641	ng		100
73) Carbazole	18.107	167	1761569	60.633	ng		100
74) Di-n-butylphthalate	18.618	149	2183348	61.668	ng		99
75) Fluoranthene	19.734	202	2189370	59.894	ng		100
77) Benzidine	19.922	184	943494	71.206	ng		98
78) Pyrene	20.099	202	2271974	60.099	ng		98
80) Butylbenzylphthalate	20.962	149	934363	65.378	ng		100
81) Benzo(a)anthracene	22.002	228	2265449	60.738	ng		97
82) 3,3'-Dichlorobenzidine	21.914	252	804508	63.994	ng		93
83) Chrysene	22.073	228	2209028	60.996	ng		99
84) Bis(2-ethylhexyl)phtha...	21.844	149	1375723	65.168	ng		99
85) Di-n-octyl phthalate	23.177	149	2315090	66.596	ng		100
87) Indeno(1,2,3-cd)pyrene	29.711	276	2690528	63.807	ng	#	94
88) Benzo(b)fluoranthene	24.429	252	2129821	62.600	ng		100
89) Benzo(k)fluoranthene	24.511	252	2205144	61.694	ng		99
90) Benzo(a)pyrene	25.416	252	2109468	63.241	ng		99
91) Dibenzo(a,h)anthracene	29.805	278	2273152	63.444	ng		99
92) Benzo(g,h,i)perylene	31.027	276	2192569	63.237	ng		99

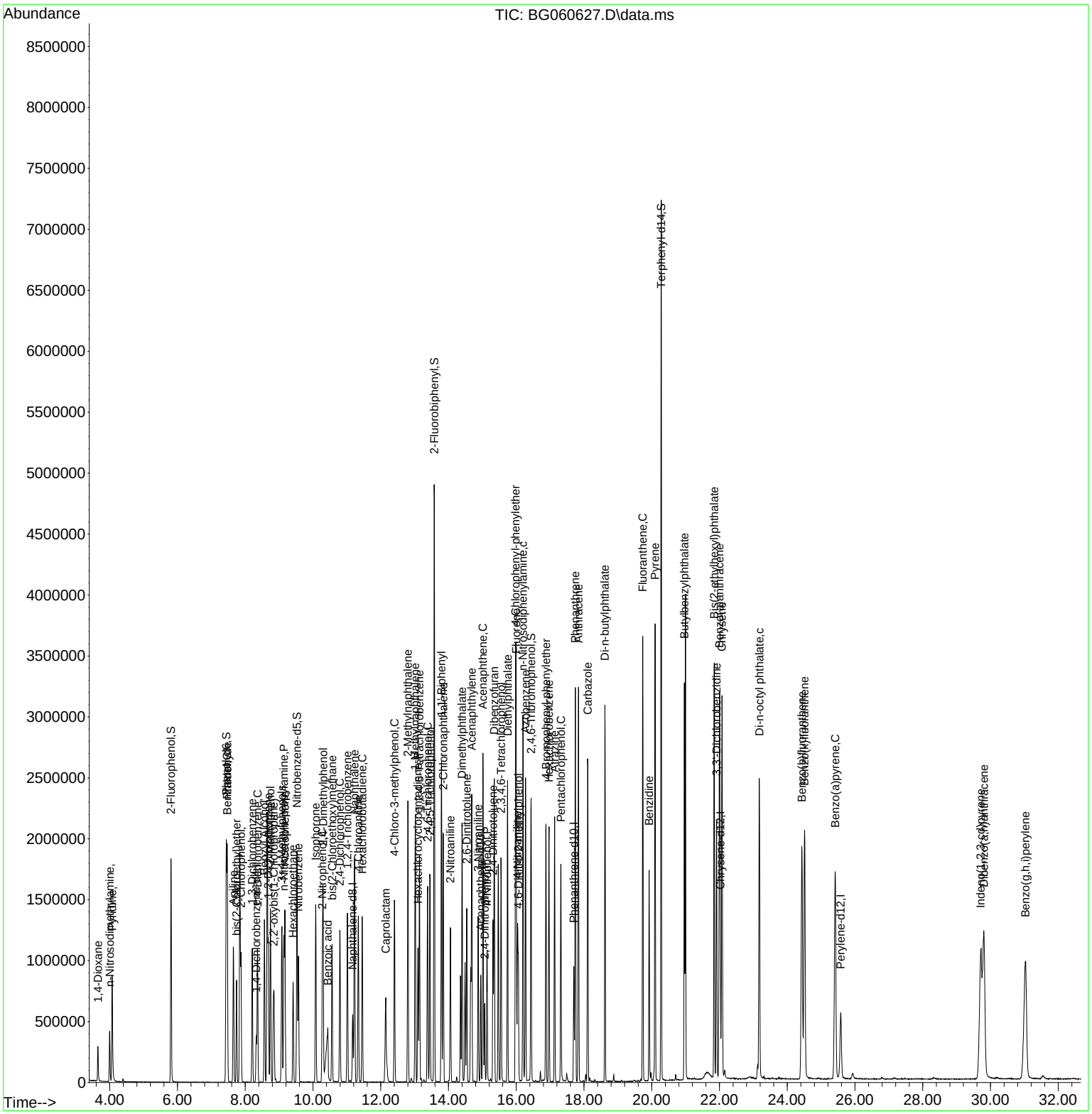
(#) = qualifier out of range (m) = manual integration (+) = signals summed

ICAL Form

Data Path : Z:\svoasrv\HPCHEM1\BNA_G\Data\BG031324\
Data File : BG060627.D
Acq On : 13 Mar 2024 14:47
Operator : MA/JU
Sample : SSTDICC060
Misc :
ALS Vial : 8 Sample Multiplier: 1

Instrument :
BNA_G
ClientSampleId :
SSTDICC060

Quant Time: Mar 14 00:40:25 2024
Quant Method : Z:\svoasrv\HPCHEM1\BNA_G\Methods\8270-BG031324.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION
QLast Update : Thu Mar 14 00:26:58 2024
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

ICAL Form

Data Path : Z:\svoasrv\HPCHEM1\BNA_G\Data\BG031324\
Data File : BG060628.D
Acq On : 13 Mar 2024 15:27
Operator : MA/JU
Sample : SSTDICC080
Misc :
ALS Vial : 9 Sample Multiplier: 1

Instrument :
BNA_G
ClientSampleId :
SSTDICC080

Quant Time: Mar 14 00:42:35 2024
Quant Method : Z:\svoasrv\HPCHEM1\BNA_G\Methods\8270-BG031324.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION
QLast Update : Thu Mar 14 00:26:58 2024
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) 1,4-Dichlorobenzene-d4	8.324	152	99166	20.000	ng		0.00
21) Naphthalene-d8	11.173	136	456414	20.000	ng		0.00
39) Acenaphthene-d10	14.951	164	293443	20.000	ng		0.00
64) Phenanthrene-d10	17.701	188	614294	20.000	ng		0.00
76) Chrysene-d12	22.025	240	547397	20.000	ng		0.00
86) Perylene-d12	25.574	264	626160	20.000	ng		0.00
System Monitoring Compounds							
5) 2-Fluorophenol	5.809	112	974802	154.527	ng		0.00
7) Phenol-d6	7.442	99	1417403	154.892	ng		0.00
23) Nitrobenzene-d5	9.528	82	1437028	163.860	ng		0.00
42) 2,4,6-Tribromophenol	16.438	330	575984	169.387	ng		0.00
45) 2-Fluorobiphenyl	13.582	172	3145420	144.926	ng		0.00
79) Terphenyl-d14	20.280	244	3971191	131.131	ng		0.00
Target Compounds							Qvalue
2) 1,4-Dioxane	3.653	88	187876	71.151	ng		99
3) Pyridine	4.070	79	604063	77.404	ng		98
4) n-Nitrosodimethylamine	3.999	42	292780	76.479	ng		100
6) Aniline	7.654	93	872452	78.023	ng		99
8) 2-Chlorophenol	7.877	128	541524	78.529	ng		98
9) Benzaldehyde	7.472	77	339893	66.352	ng		95
10) Phenol	7.472	94	704318	76.707	ng		97
11) bis(2-Chloroethyl)ether	7.742	93	557198	76.125	ng		99
12) 1,3-Dichlorobenzene	8.206	146	569505	76.584	ng		99
13) 1,4-Dichlorobenzene	8.365	146	581911	77.196	ng		99
14) 1,2-Dichlorobenzene	8.682	146	571199	76.296	ng		96
15) Benzyl Alcohol	8.571	79	577437	79.816	ng		98
16) 2,2'-oxybis(1-Chloropr...	8.847	45	1099833m	77.405	ng		
17) 2-Methylphenol	8.747	107	560946	79.561	ng		100
18) Hexachloroethane	9.411	117	204418	79.385	ng		96
19) n-Nitroso-di-n-propyla...	9.146	70	505472	79.689	ng		99
20) 3+4-Methylphenols	9.082	107	752384	79.123	ng		98
22) Acetophenone	9.170	105	942831	77.049	ng	#	98
24) Nitrobenzene	9.575	77	716130	81.679	ng		97
25) Isophorone	10.086	82	1391877	79.297	ng		99
26) 2-Nitrophenol	10.274	139	285401	78.851	ng		99
27) 2,4-Dimethylphenol	10.298	122	582105	74.928	ng		97
28) bis(2-Chloroethoxy)met...	10.562	93	810232	76.999	ng		98
29) 2,4-Dichlorophenol	10.797	162	557595	79.971	ng		99
30) 1,2,4-Trichlorobenzene	11.015	180	567680	76.679	ng		99
31) Naphthalene	11.226	128	1922570	75.416	ng		98
32) Benzoic acid	10.457	122	427628	78.311	ng		98
33) 4-Chloroaniline	11.338	127	843993	78.512	ng		99
34) Hexachlorobutadiene	11.455	225	387739	76.785	ng		97
35) Caprolactam	12.160	113	191570	81.619	ng		93
36) 4-Chloro-3-methylphenol	12.407	107	676931	79.221	ng		99
37) 2-Methylnaphthalene	12.801	142	1331082	75.597	ng		99
38) 1-Methylnaphthalene	13.018	142	1243044	75.215	ng		98
40) 1,2,4,5-Tetrachloroben...	13.142	216	700990	77.787	ng		100
41) Hexachlorocyclopentadiene	13.101	237	388032	87.561	ng		98
43) 2,4,6-Trichlorophenol	13.383	196	473525	81.833	ng		99

ICAL Form

Data Path : Z:\svoasrv\HPCHEM1\BNA_G\Data\BG031324\
Data File : BG060628.D
Acq On : 13 Mar 2024 15:27
Operator : MA/JU
Sample : SSTDICC080
Misc :
ALS Vial : 9 Sample Multiplier: 1

Instrument :
BNA_G
ClientSampleId :
SSTDICC080

Quant Time: Mar 14 00:42:35 2024
Quant Method : Z:\svoasrv\HPCHEM1\BNA_G\Methods\8270-BG031324.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION
QLast Update : Thu Mar 14 00:26:58 2024
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
44) 2,4,5-Trichlorophenol	13.453	196	559553	81.744	ng		96
46) 1,1'-Biphenyl	13.794	154	1695103	75.996	ng		98
47) 2-Chloronaphthalene	13.847	162	1305303	77.541	ng		97
48) 2-Nitroaniline	14.058	65	487470	87.740	ng		98
49) Acenaphthylene	14.687	152	2095556	76.416	ng		99
50) Dimethylphthalate	14.405	163	1688543	76.725	ng		98
51) 2,6-Dinitrotoluene	14.540	165	350254	86.372	ng		98
52) Acenaphthene	15.022	154	1260146	76.898	ng		98
53) 3-Nitroaniline	14.881	138	388081	83.116	ng		100
54) 2,4-Dinitrophenol	15.069	184	168918	81.249	ng		94
55) Dibenzofuran	15.351	168	1981429	74.678	ng		97
56) 4-Nitrophenol	15.139	139	292252	83.881	ng		99
57) 2,4-Dinitrotoluene	15.316	165	450000	88.211	ng		95
58) Fluorene	15.997	166	1597836	75.269	ng		99
59) 2,3,4,6-Tetrachlorophenol	15.556	232	471331m	82.348	ng		
60) Diethylphthalate	15.745	149	1728715	76.343	ng		99
61) 4-Chlorophenyl-phenyle...	15.980	204	820419	76.298	ng		98
62) 4-Nitroaniline	16.044	138	401781m	84.054	ng		
63) Azobenzene	16.273	77	1804432	76.999	ng		98
65) 4,6-Dinitro-2-methylph...	16.068	198	231081	79.711	ng		94
66) n-Nitrosodiphenylamine	16.203	169	1464084	76.155	ng		99
67) 4-Bromophenyl-phenylether	16.878	248	525591	79.343	ng		97
68) Hexachlorobenzene	16.967	284	593191	77.885	ng		98
69) Atrazine	17.137	200	506955	78.840	ng		99
70) Pentachlorophenol	17.319	266	431643	87.441	ng		98
71) Phenanthrene	17.742	178	2430156	73.440	ng		100
72) Anthracene	17.836	178	2494003	74.542	ng		99
73) Carbazole	18.112	167	2199539	75.607	ng		99
74) Di-n-butylphthalate	18.618	149	2694429	76.001	ng		97
75) Fluoranthene	19.734	202	2705475	73.914	ng		98
77) Benzidine	19.922	184	1142202	85.307	ng		97
78) Pyrene	20.098	202	2815295	73.697	ng		98
80) Butylbenzylphthalate	20.962	149	1197345	82.908	ng		99
81) Benzo(a)anthracene	22.002	228	2876142	76.310	ng		97
82) 3,3'-Dichlorobenzidine	21.914	252	1025103	80.694	ng		96
83) Chrysene	22.078	228	2782467	76.031	ng		99
84) Bis(2-ethylhexyl)phtha...	21.837	149	1752082	82.134	ng		99
85) Di-n-octyl phthalate	23.177	149	2951603	84.024	ng		100
87) Indeno(1,2,3-cd)pyrene	29.722	276	3474611	81.386	ng	#	95
88) Benzo(b)fluoranthene	24.434	252	2710701	78.691	ng		99
89) Benzo(k)fluoranthene	24.517	252	2856322	78.926	ng		99
90) Benzo(a)pyrene	25.421	252	2703336	80.046	ng		99
91) Dibenzo(a,h)anthracene	29.816	278	2944441	81.166	ng		99
92) Benzo(g,h,i)perylene	31.032	276	2848871	81.152	ng		99

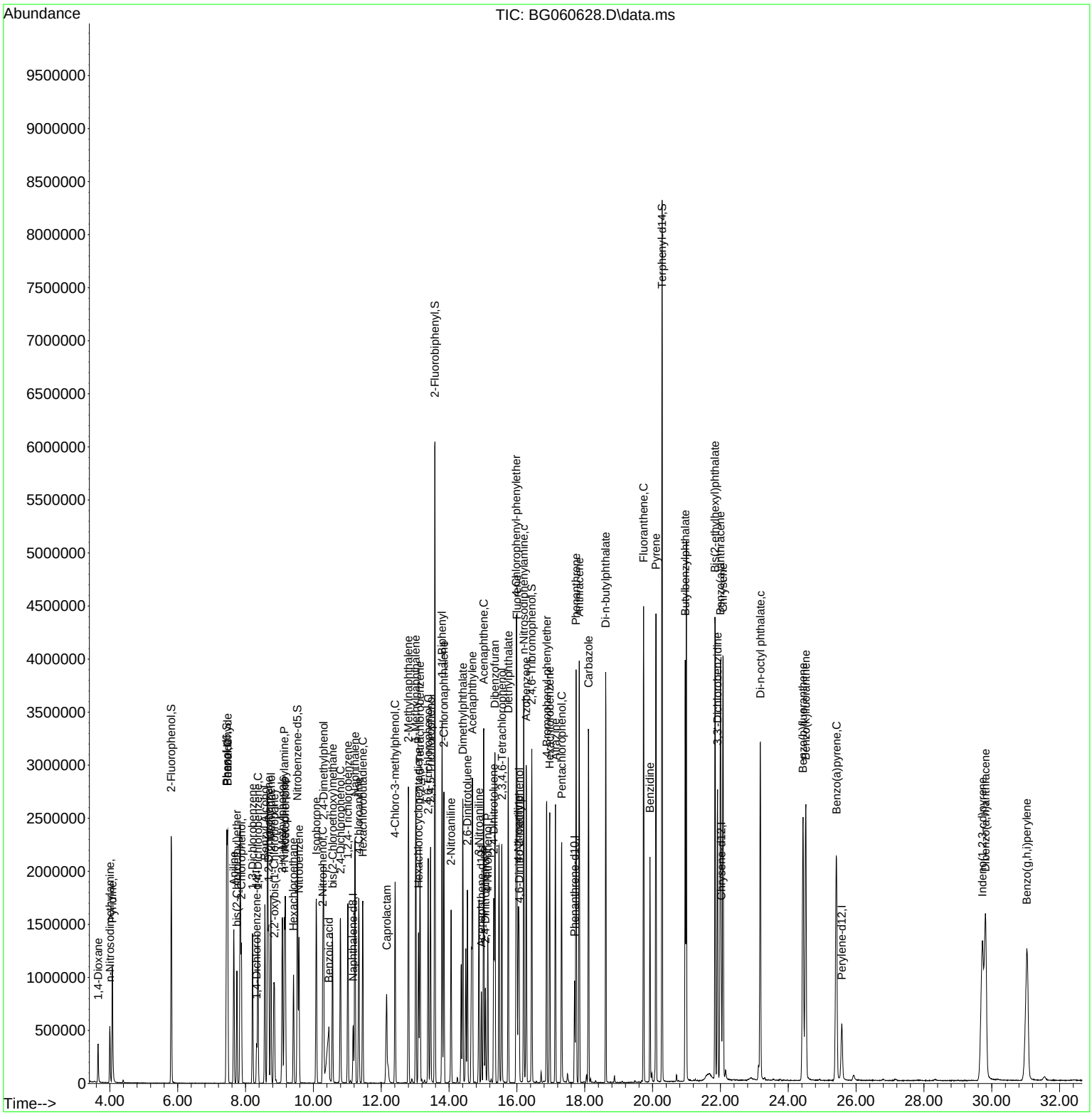
(#) = qualifier out of range (m) = manual integration (+) = signals summed

ICAL Form

Data Path : Z:\svoasrv\HPCHEM1\BNA_G\Data\BG031324\
Data File : BG060628.D
Acq On : 13 Mar 2024 15:27
Operator : MA/JU
Sample : SSTDICC080
Misc :
ALS Vial : 9 Sample Multiplier: 1

Instrument :
BNA_G
ClientSampleId :
SSTDICC080

Quant Time: Mar 14 00:42:35 2024
Quant Method : Z:\svoasrv\HPCHEM1\BNA_G\Methods\8270-BG031324.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION
QLast Update : Thu Mar 14 00:26:58 2024
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

ICAL Form

Data Path : Z:\svoasrv\HPCHEM1\BNA_G\Data\BG031324\
Data File : BG060629.D
Acq On : 13 Mar 2024 16:08
Operator : MA/JU
Sample : SSTDICV040
Misc :
ALS Vial : 10 Sample Multiplier: 1

Instrument :
BNA_G
ClientSampleId :
ICVBG031324

Quant Time: Mar 14 00:47:28 2024
Quant Method : Z:\svoasrv\HPCHEM1\BNA_G\Methods\8270-BG031324.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION
QLast Update : Thu Mar 14 00:45:22 2024
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) 1,4-Dichlorobenzene-d4	8.323	152	95545	20.000	ng		0.00
21) Naphthalene-d8	11.167	136	445386	20.000	ng		0.00
39) Acenaphthene-d10	14.951	164	303357	20.000	ng		0.00
64) Phenanthrene-d10	17.701	188	629226	20.000	ng		0.00
76) Chrysene-d12	22.019	240	565660	20.000	ng		0.00
86) Perylene-d12	25.574	264	639152	20.000	ng		0.00
System Monitoring Compounds							
5) 2-Fluorophenol	5.809	112	462281	76.059	ng		0.00
7) Phenol-d6	7.436	99	675600	76.627	ng		0.00
23) Nitrobenzene-d5	9.522	82	657978	76.885	ng		0.00
42) 2,4,6-Tribromophenol	16.431	330	290177	82.547	ng		0.00
45) 2-Fluorobiphenyl	13.576	172	1634743	72.859	ng		0.00
79) Terphenyl-d14	20.274	244	2340543	74.791	ng		0.00
Target Compounds							Qvalue
2) 1,4-Dioxane	3.652	88	92770	36.465	ng		98
3) Pyridine	4.069	79	250390	33.301	ng		97
4) n-Nitrosodimethylamine	3.999	42	143694	38.958	ng		94
6) Aniline	7.648	93	431609	40.062	ng		96
8) 2-Chlorophenol	7.871	128	270880	40.770	ng		98
9) Benzaldehyde	7.466	77	187277	37.945	ng		99
10) Phenol	7.466	94	366939	41.478	ng		97
11) bis(2-Chloroethyl)ether	7.736	93	277895	39.405	ng		100
12) 1,3-Dichlorobenzene	8.206	146	302937	42.281	ng		99
13) 1,4-Dichlorobenzene	8.359	146	307871	42.390	ng		99
14) 1,2-Dichlorobenzene	8.682	146	301467	41.794	ng		99
15) Benzyl Alcohol	8.564	79	290924	41.737	ng		97
16) 2,2'-oxybis(1-Chloropr...	8.846	45	557206	40.699	ng		99
17) 2-Methylphenol	8.741	107	262048	38.576	ng		99
18) Hexachloroethane	9.410	117	105276	42.433	ng		99
19) n-Nitroso-di-n-propyla...	9.134	70	244303	39.975	ng		98
20) 3+4-Methylphenols	9.075	107	358777	39.160	ng		97
22) Acetophenone	9.169	105	492815	41.271	ng	#	98
24) Nitrobenzene	9.569	77	346155	40.458	ng		98
25) Isophorone	10.074	82	721246	42.108	ng		99
26) 2-Nitrophenol	10.274	139	142316	41.386	ng		95
27) 2,4-Dimethylphenol	10.292	122	260237	34.327	ng		97
28) bis(2-Chloroethoxy)met...	10.556	93	415301	40.445	ng		99
29) 2,4-Dichlorophenol	10.791	162	282094	41.460	ng		99
30) 1,2,4-Trichlorobenzene	11.014	180	297784	41.219	ng		96
31) Naphthalene	11.220	128	989876	39.791	ng		99
32) Benzoic acid	10.409	122	196287	40.478	ng		95
33) 4-Chloroaniline	11.337	127	417798	39.828	ng		97
34) Hexachlorobutadiene	11.449	225	199165	40.418	ng		98
35) Caprolactam	12.131	113	98653	43.072	ng		97
36) 4-Chloro-3-methylphenol	12.401	107	353945	42.448	ng		98
37) 2-Methylnaphthalene	12.800	142	653715	38.046	ng		98
38) 1-Methylnaphthalene	13.018	142	644093	39.938	ng		99
40) 1,2,4,5-Tetrachloroben...	13.141	216	380910	40.887	ng		100
41) Hexachlorocyclopentadiene	13.094	237	194278	42.407	ng		97
43) 2,4,6-Trichlorophenol	13.376	196	243485	40.703	ng		98

ICAL Form

Data Path : Z:\svoasrv\HPCHEM1\BNA_G\Data\BG031324\
Data File : BG060629.D
Acq On : 13 Mar 2024 16:08
Operator : MA/JU
Sample : SSTDICV040
Misc :
ALS Vial : 10 Sample Multiplier: 1

Instrument :
BNA_G
ClientSampleId :
ICVBG031324

Quant Time: Mar 14 00:47:28 2024
Quant Method : Z:\svoasrv\HPCHEM1\BNA_G\Methods\8270-BG031324.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION
QLast Update : Thu Mar 14 00:45:22 2024
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
44) 2,4,5-Trichlorophenol	13.447	196	267519	37.804	ng		96
46) 1,1'-Biphenyl	13.788	154	927950	40.243	ng		99
47) 2-Chloronaphthalene	13.840	162	706383	40.591	ng		97
48) 2-Nitroaniline	14.052	65	242316	42.189	ng		99
49) Acenaphthylene	14.681	152	1184091	41.768	ng		98
50) Dimethylphthalate	14.399	163	896572	39.407	ng		99
51) 2,6-Dinitrotoluene	14.534	165	179834	42.897	ng		99
52) Acenaphthene	15.015	154	654902	38.658	ng		98
53) 3-Nitroaniline	14.874	138	196640	40.738	ng		94
54) 2,4-Dinitrophenol	15.068	184	77276	39.770	ng		97
55) Dibenzofuran	15.345	168	1074524	39.174	ng		99
56) 4-Nitrophenol	15.133	139	155247	43.102	ng		97
57) 2,4-Dinitrotoluene	15.309	165	229210	43.462	ng	#	95
58) Fluorene	15.991	166	863253	39.336	ng		99
59) 2,3,4,6-Tetrachlorophenol	15.550	232	245015m	41.519	ng		
60) Diethylphthalate	15.738	149	920109	39.305	ng		99
61) 4-Chlorophenyl-phenyle...	15.979	204	426518	38.369	ng		97
62) 4-Nitroaniline	16.032	138	205612	41.598	ng		95
63) Azobenzene	16.273	77	950383	39.230	ng		98
65) 4,6-Dinitro-2-methylph...	16.061	198	108829	39.250	ng		93
66) n-Nitrosodiphenylamine	16.196	169	793747	40.307	ng		99
67) 4-Bromophenyl-phenylether	16.872	248	272319	40.133	ng		96
68) Hexachlorobenzene	16.960	284	333122	42.700	ng		98
69) Atrazine	17.131	200	259867	39.455	ng		100
70) Pentachlorophenol	17.313	266	188231	37.226	ng		97
71) Phenanthrene	17.742	178	1364225	40.249	ng		99
72) Anthracene	17.830	178	1379189	40.243	ng		99
73) Carbazole	18.106	167	1222935	41.040	ng		99
74) Di-n-butylphthalate	18.617	149	1520723	41.877	ng		99
75) Fluoranthene	19.733	202	1521017	40.568	ng		99
77) Benzidine	19.922	184	603797	43.640	ng		98
78) Pyrene	20.098	202	1573501	39.860	ng		99
80) Butylbenzylphthalate	20.961	149	621550	41.649	ng		96
81) Benzo(a)anthracene	21.996	228	1568614	40.275	ng		99
82) 3,3'-Dichlorobenzidine	21.907	252	549628	41.868	ng		94
83) Chrysene	22.072	228	1476068	39.031	ng		99
84) Bis(2-ethylhexyl)phtha...	21.837	149	918088	41.648	ng		99
85) Di-n-octyl phthalate	23.171	149	1558468	42.933	ng		99
87) Indeno(1,2,3-cd)pyrene	29.698	276	1818899	41.720	ng	#	95
88) Benzo(b)fluoranthene	24.422	252	1487671	42.309	ng		99
89) Benzo(k)fluoranthene	24.504	252	1448266	39.205	ng		98
90) Benzo(a)pyrene	25.403	252	1327105	38.497	ng		100
91) Dibenzo(a,h)anthracene	29.786	278	1526850	41.255	ng		97
92) Benzo(g,h,i)perylene	31.014	276	1455400	40.615	ng		99

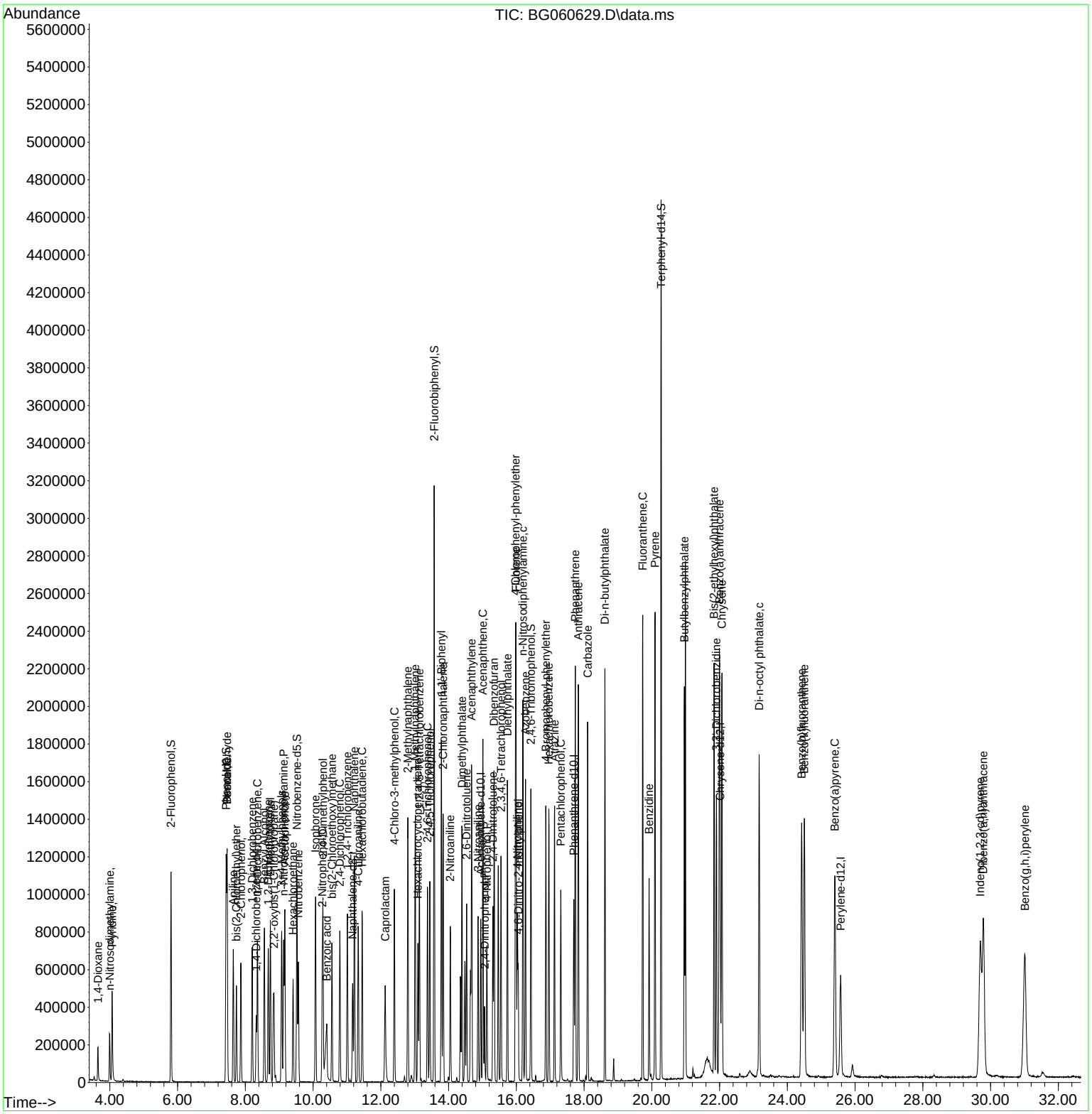
(#) = qualifier out of range (m) = manual integration (+) = signals summed

ICAL Form

Data Path : Z:\svoasrv\HPCHEM1\BNA_G\Data\BG031324\
Data File : BG060629.D
Acq On : 13 Mar 2024 16:08
Operator : MA/JU
Sample : SSTDICV040
Misc :
ALS Vial : 10 Sample Multiplier: 1

Instrument :
BNA_G
ClientSampleId :
ICVBG031324

Quant Time: Mar 14 00:47:28 2024
Quant Method : Z:\svoasrv\HPCHEM1\BNA_G\Methods\8270-BG031324.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION
QLast Update : Thu Mar 14 00:45:22 2024
Response via : Initial Calibration



Evaluate Continuing Calibration Report

ICAL Form

Data Path : Z:\svoasrv\HPCHEM1\BNA_G\Data\BG031324\
Data File : BG060629.D
Acq On : 13 Mar 2024 16:08
Operator : MA/JU
Sample : SSTDICV040
Misc :
ALS Vial : 10 Sample Multiplier: 1

Instrument :
BNA_G
ClientSampleId :
ICVBG031324

Quant Time: Mar 14 00:47:28 2024
Quant Method : Z:\svoasrv\HPCHEM1\BNA_G\Methods\8270-BG031324.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION
QLast Update : Thu Mar 14 00:45:22 2024
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	90	0.00
2		1,4-Dioxane	0.533	0.485	9.0	84	0.00
3		Pyridine	1.574	1.310	16.8	74	0.00
4		n-Nitrosodimethylamine	0.772	0.752	2.6	87	0.00
5	S	2-Fluorophenol	1.272	1.210	4.9	84	0.00
6		Aniline	2.255	2.259	-0.2	87	0.00
7	S	Phenol-d6	1.846	1.768	4.2	83	0.00
8		2-Chlorophenol	1.391	1.418	-1.9	89	0.00
9		Benzaldehyde	1.033	0.980	5.1	82	0.00
10	C	Phenol	1.852	1.920	-3.7	90	0.00
11		bis(2-Chloroethyl)ether	1.476	1.454	1.5	86	0.00
12		1,3-Dichlorobenzene	1.500	1.585	-5.7	95	0.00
13	C	1,4-Dichlorobenzene	1.520	1.611	-6.0	93	0.00
14		1,2-Dichlorobenzene	1.510	1.578	-4.5	93	0.00
15		Benzyl Alcohol	1.459	1.522	-4.3	89	0.00
16		2,2'-oxybis(1-Chloropropane	2.866	2.916	-1.7	90	0.00
17		2-Methylphenol	1.422	1.371	3.6	83	0.00
18		Hexachloroethane	0.519	0.551	-6.2	94	0.00
19	P	n-Nitroso-di-n-propylamine	1.279	1.278	0.1	86	0.00
20		3+4-Methylphenols	1.918	1.878	2.1	84	0.00
21	I	Naphthalene-d8	1.000	1.000	0.0	89	0.00
22		Acetophenone	0.536	0.553	-3.2	90	0.00
23	S	Nitrobenzene-d5	0.384	0.369	3.9	83	0.00
24		Nitrobenzene	0.384	0.389	-1.3	87	0.00
25		Isophorone	0.769	0.810	-5.3	92	0.00
26	C	2-Nitrophenol	0.142	0.160	-12.7	94	0.00
27		2,4-Dimethylphenol	0.340	0.292	14.1	77	0.00
28		bis(2-Chloroethoxy)methane	0.461	0.466	-1.1	89	0.00
29	C	2,4-Dichlorophenol	0.306	0.317	-3.6	90	0.00
30		1,2,4-Trichlorobenzene	0.324	0.334	-3.1	93	0.00
31		Naphthalene	1.117	1.111	0.5	89	0.00
32		Benzoic acid	0.199	0.220	-10.6	91	0.00
33		4-Chloroaniline	0.471	0.469	0.4	87	0.00
34	C	Hexachlorobutadiene	0.221	0.224	-1.4	90	0.00
35		Caprolactam	0.103	0.111	-7.8	94	0.00
36	C	4-Chloro-3-methylphenol	0.374	0.397	-6.1	92	0.00
37		2-Methylnaphthalene	0.772	0.734	4.9	85	0.00
38		1-Methylnaphthalene	0.724	0.723	0.1	88	0.00
39	I	Acenaphthene-d10	1.000	1.000	0.0	92	0.00
40		1,2,4,5-Tetrachlorobenzene	0.614	0.628	-2.3	95	0.00
41	P	Hexachlorocyclopentadiene	0.302	0.320	-6.0	94	0.00
42	S	2,4,6-Tribromophenol	0.232	0.239	-3.0	90	0.00
43	C	2,4,6-Trichlorophenol	0.394	0.401	-1.8	91	0.00
44		2,4,5-Trichlorophenol	0.467	0.441	5.6	84	0.00
45	S	2-Fluorobiphenyl	1.479	1.347	8.9	84	0.00
46		1,1'-Biphenyl	1.520	1.529	-0.6	93	0.00
47		2-Chloronaphthalene	1.147	1.164	-1.5	92	0.00

ICAL Form

Data Path : Z:\svoasrv\HPCHEM1\BNA_G\Data\BG031324\
Data File : BG060629.D
Acq On : 13 Mar 2024 16:08
Operator : MA/JU
Sample : SSTDICV040
Misc :
ALS Vial : 10 Sample Multiplier: 1

Instrument :
BNA_G
ClientSampleId :
ICVBG031324

Quant Time: Mar 14 00:47:28 2024
Quant Method : Z:\svoasrv\HPCHEM1\BNA_G\Methods\8270-BG031324.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION
QLast Update : Thu Mar 14 00:45:22 2024
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
48		2-Nitroaniline	0.379	0.399	-5.3	90	0.00
49		Acenaphthylene	1.869	1.952	-4.4	96	0.00
50		Dimethylphthalate	1.500	1.478	1.5	90	0.00
51		2,6-Dinitrotoluene	0.276	0.296	-7.2	93	0.00
52	C	Acenaphthene	1.117	1.079	3.4	89	0.00
53		3-Nitroaniline	0.318	0.324	-1.9	90	0.00
54	P	2,4-Dinitrophenol	0.118	0.127	-7.6	96	0.00
55		Dibenzofuran	1.808	1.771	2.0	91	0.00
56	P	4-Nitrophenol	0.237	0.256	-8.0	96	0.00
57		2,4-Dinitrotoluene	0.348	0.378	-8.6	93	0.00
58		Fluorene	1.447	1.423	1.7	90	0.00
59		2,3,4,6-Tetrachlorophenol	0.389	0.404	-3.9	92	0.00
60		Diethylphthalate	1.543	1.517	1.7	90	0.00
61		4-Chlorophenyl-phenylether	0.733	0.703	4.1	89	0.00
62		4-Nitroaniline	0.326	0.339	-4.0	90	0.00
63		Azobenzene	1.597	1.566	1.9	89	0.00
64	I	Phenanthrene-d10	1.000	1.000	0.0	90	0.00
65		4,6-Dinitro-2-methylphenol	0.083	0.086	-3.6	90	0.00
66	c	n-Nitrosodiphenylamine	0.626	0.631	-0.8	90	0.00
67		4-Bromophenyl-phenylether	0.216	0.216	0.0	92	0.00
68		Hexachlorobenzene	0.248	0.265	-6.9	97	0.00
69		Atrazine	0.209	0.206	1.4	87	0.00
70	C	Pentachlorophenol	0.161	0.150	6.8	79	0.00
71		Phenanthrene	1.077	1.084	-0.6	91	0.00
72		Anthracene	1.089	1.096	-0.6	91	0.00
73		Carbazole	0.947	0.972	-2.6	92	0.00
74		Di-n-butylphthalate	1.154	1.208	-4.7	91	0.00
75	C	Fluoranthene	1.192	1.209	-1.4	90	0.00
76	I	Chrysene-d12	1.000	1.000	0.0	92	0.00
77		Benzidine	0.489	0.534	-9.2	90	0.00
78		Pyrene	1.396	1.391	0.4	90	0.00
79	S	Terphenyl-d14	1.106	1.034	6.5	86	0.00
80		Butylbenzylphthalate	0.528	0.549	-4.0	90	0.00
81		Benzo(a)anthracene	1.377	1.387	-0.7	91	0.00
82		3,3'-Dichlorobenzidine	0.464	0.486	-4.7	90	0.00
83		Chrysene	1.337	1.305	2.4	89	0.00
84		Bis(2-ethylhexyl)phthalate	0.779	0.812	-4.2	90	0.00
85	c	Di-n-octyl phthalate	1.283	1.378	-7.4	92	0.00
86	I	Perylene-d12	1.000	1.000	0.0	91	0.00
87		Indeno(1,2,3-cd)pyrene	1.364	1.423	-4.3	93	-0.01
88		Benzo(b)fluoranthene	1.100	1.164	-5.8	93	0.00
89		Benzo(k)fluoranthene	1.156	1.133	2.0	89	0.00
90	C	Benzo(a)pyrene	1.079	1.038	3.8	86	0.00
91		Dibenzo(a,h)anthracene	1.158	1.194	-3.1	92	-0.02
92		Benzo(g,h,i)perylene	1.121	1.139	-1.6	90	0.00

ICAL Form

Data Path : Z:\svoasrv\HPCHEM1\BNA_G\Data\BG031324\
Data File : BG060629.D
Acq On : 13 Mar 2024 16:08
Operator : MA/JU
Sample : SSTDICV040
Misc :
ALS Vial : 10 Sample Multiplier: 1

Instrument :
BNA_G
ClientSampleId :
ICVBG031324

Quant Time: Mar 14 00:47:28 2024
Quant Method : Z:\svoasrv\HPCHEM1\BNA_G\Methods\8270-BG031324.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION
QLast Update : Thu Mar 14 00:45:22 2024
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

Compound	AvgRF	CCRF	%Dev Area%	Dev(min)

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Evaluate Continuing Calibration Report

ICAL Form

Data Path : Z:\svoasrv\HPCHEM1\BNA_G\Data\BG031324\
Data File : BG060629.D
Acq On : 13 Mar 2024 16:08
Operator : MA/JU
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Quant Time: Mar 14 00:47:28 2024
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Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION
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Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	1,4-Dichlorobenzene-d4	20.000	20.000	0.0	90	0.00
2		1,4-Dioxane	40.000	36.465	8.8	84	0.00
3		Pyridine	40.000	33.301	16.7	74	0.00
4		n-Nitrosodimethylamine	40.000	38.958	2.6	87	0.00
5	S	2-Fluorophenol	80.000	76.059	4.9	84	0.00
6		Aniline	40.000	40.062	-0.2	87	0.00
7	S	Phenol-d6	80.000	76.627	4.2	83	0.00
8		2-Chlorophenol	40.000	40.770	-1.9	89	0.00
9		Benzaldehyde	40.000	37.945	5.1	82	0.00
10	C	Phenol	40.000	41.478	-3.7	90	0.00
11		bis(2-Chloroethyl)ether	40.000	39.405	1.5	86	0.00
12		1,3-Dichlorobenzene	40.000	42.281	-5.7	95	0.00
13	C	1,4-Dichlorobenzene	40.000	42.390	-6.0	93	0.00
14		1,2-Dichlorobenzene	40.000	41.794	-4.5	93	0.00
15		Benzyl Alcohol	40.000	41.737	-4.3	89	0.00
16		2,2'-oxybis(1-Chloropropane	40.000	40.699	-1.7	90	0.00
17		2-Methylphenol	40.000	38.576	3.6	83	0.00
18		Hexachloroethane	40.000	42.433	-6.1	94	0.00
19	P	n-Nitroso-di-n-propylamine	40.000	39.975	0.1	86	0.00
20		3+4-Methylphenols	40.000	39.160	2.1	84	0.00
21	I	Naphthalene-d8	20.000	20.000	0.0	89	0.00
22		Acetophenone	40.000	41.271	-3.2	90	0.00
23	S	Nitrobenzene-d5	80.000	76.885	3.9	83	0.00
24		Nitrobenzene	40.000	40.458	-1.1	87	0.00
25		Isophorone	40.000	42.108	-5.3	92	0.00
26	C	2-Nitrophenol	40.000	41.386	-3.5	94	0.00
27		2,4-Dimethylphenol	40.000	34.327	14.2	77	0.00
28		bis(2-Chloroethoxy)methane	40.000	40.445	-1.1	89	0.00
29	C	2,4-Dichlorophenol	40.000	41.460	-3.7	90	0.00
30		1,2,4-Trichlorobenzene	40.000	41.219	-3.0	93	0.00
31		Naphthalene	40.000	39.791	0.5	89	0.00
32		Benzoic acid	40.000	40.478	-1.2	91	0.00
33		4-Chloroaniline	40.000	39.828	0.4	87	0.00
34	C	Hexachlorobutadiene	40.000	40.418	-1.0	90	0.00
35		Caprolactam	40.000	43.072	-7.7	94	0.00
36	C	4-Chloro-3-methylphenol	40.000	42.448	-6.1	92	0.00
37		2-Methylnaphthalene	40.000	38.046	4.9	85	0.00
38		1-Methylnaphthalene	40.000	39.938	0.2	88	0.00
39	I	Acenaphthene-d10	20.000	20.000	0.0	92	0.00
40		1,2,4,5-Tetrachlorobenzene	40.000	40.887	-2.2	95	0.00
41	P	Hexachlorocyclopentadiene	40.000	42.407	-6.0	94	0.00
42	S	2,4,6-Tribromophenol	80.000	82.547	-3.2	90	0.00
43	C	2,4,6-Trichlorophenol	40.000	40.703	-1.8	91	0.00
44		2,4,5-Trichlorophenol	40.000	37.804	5.5	84	0.00
45	S	2-Fluorobiphenyl	80.000	72.859	8.9	84	0.00
46		1,1'-Biphenyl	40.000	40.243	-0.6	93	0.00
47		2-Chloronaphthalene	40.000	40.591	-1.5	92	0.00

ICAL Form

Data Path : Z:\svoasrv\HPCHEM1\BNA_G\Data\BG031324\
Data File : BG060629.D
Acq On : 13 Mar 2024 16:08
Operator : MA/JU
Sample : SSTDICV040
Misc :
ALS Vial : 10 Sample Multiplier: 1

Instrument :
BNA_G
ClientSampleId :
ICVBG031324

Quant Time: Mar 14 00:47:28 2024
Quant Method : Z:\svoasrv\HPCHEM1\BNA_G\Methods\8270-BG031324.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION
QLast Update : Thu Mar 14 00:45:22 2024
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
48		2-Nitroaniline	40.000	42.189	-5.5	90	0.00
49		Acenaphthylene	40.000	41.768	-4.4	96	0.00
50		Dimethylphthalate	40.000	39.407	1.5	90	0.00
51		2,6-Dinitrotoluene	40.000	42.897	-7.2	93	0.00
52	C	Acenaphthene	40.000	38.658	3.4	89	0.00
53		3-Nitroaniline	40.000	40.738	-1.8	90	0.00
54	P	2,4-Dinitrophenol	40.000	39.770	0.6	96	0.00
55		Dibenzofuran	40.000	39.174	2.1	91	0.00
56	P	4-Nitrophenol	40.000	43.102	-7.8	96	0.00
57		2,4-Dinitrotoluene	40.000	43.462	-8.7	93	0.00
58		Fluorene	40.000	39.336	1.7	90	0.00
59		2,3,4,6-Tetrachlorophenol	40.000	41.519	-3.8	92	0.00
60		Diethylphthalate	40.000	39.305	1.7	90	0.00
61		4-Chlorophenyl-phenylether	40.000	38.369	4.1	89	0.00
62		4-Nitroaniline	40.000	41.598	-4.0	90	0.00
63		Azobenzene	40.000	39.230	1.9	89	0.00
64	I	Phenanthrene-d10	20.000	20.000	0.0	90	0.00
65		4,6-Dinitro-2-methylphenol	40.000	39.250	1.9	90	0.00
66	c	n-Nitrosodiphenylamine	40.000	40.307	-0.8	90	0.00
67		4-Bromophenyl-phenylether	40.000	40.133	-0.3	92	0.00
68		Hexachlorobenzene	40.000	42.700	-6.8	97	0.00
69		Atrazine	40.000	39.455	1.4	87	0.00
70	C	Pentachlorophenol	40.000	37.226	6.9	79	0.00
71		Phenanthrene	40.000	40.249	-0.6	91	0.00
72		Anthracene	40.000	40.243	-0.6	91	0.00
73		Carbazole	40.000	41.040	-2.6	92	0.00
74		Di-n-butylphthalate	40.000	41.877	-4.7	91	0.00
75	C	Fluoranthene	40.000	40.568	-1.4	90	0.00
76	I	Chrysene-d12	20.000	20.000	0.0	92	0.00
77		Benzidine	40.000	43.640	-9.1	90	0.00
78		Pyrene	40.000	39.860	0.4	90	0.00
79	S	Terphenyl-d14	80.000	74.791	6.5	86	0.00
80		Butylbenzylphthalate	40.000	41.649	-4.1	90	0.00
81		Benzo(a)anthracene	40.000	40.275	-0.7	91	0.00
82		3,3'-Dichlorobenzidine	40.000	41.868	-4.7	90	0.00
83		Chrysene	40.000	39.031	2.4	89	0.00
84		Bis(2-ethylhexyl)phthalate	40.000	41.648	-4.1	90	0.00
85	c	Di-n-octyl phthalate	40.000	42.933	-7.3	92	0.00
86	I	Perylene-d12	20.000	20.000	0.0	91	0.00
87		Indeno(1,2,3-cd)pyrene	40.000	41.720	-4.3	93	-0.01
88		Benzo(b)fluoranthene	40.000	42.309	-5.8	93	0.00
89		Benzo(k)fluoranthene	40.000	39.205	2.0	89	0.00
90	C	Benzo(a)pyrene	40.000	38.497	3.8	86	0.00
91		Dibenzo(a,h)anthracene	40.000	41.255	-3.1	92	-0.02
92		Benzo(g,h,i)perylene	40.000	40.615	-1.5	90	0.00

ICAL Form

Data Path : Z:\svoasrv\HPCHEM1\BNA_G\Data\BG031324\
Data File : BG060629.D
Acq On : 13 Mar 2024 16:08
Operator : MA/JU
Sample : SSTDICV040
Misc :
ALS Vial : 10 Sample Multiplier: 1

Instrument :
BNA_G
ClientSampleId :
ICVBG031324

Quant Time: Mar 14 00:47:28 2024
Quant Method : Z:\svoasrv\HPCHEM1\BNA_G\Methods\8270-BG031324.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION
QLast Update : Thu Mar 14 00:45:22 2024
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

Compound	Amount	Calc.	%Dev	Area%	Dev(min)

(#) = Out of Range SPCC's out = 0 CCC's out = 0

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

7C

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: CHEMTECH Contract: LIRO01

Lab Code: CHEM Case No.: P1747 SAS No.: P1747 SDG No.: P1747

Instrument ID: BNA_G Calibration Date/Time: 03/14/2024 10:25

Lab File ID: BG060632.D Init. Calib. Date(s): 03/13/2024 03/13/2024

EPA Sample No.: SSTDCCC040 Init. Calib. Time(s): 10:44 15:27

GC Column: ZB-GR ID: 0.25 (mm)

COMPOUND	RRF	RRF040	MIN RRF	%D	MAX%D
2-Fluorophenol	1.272	1.299		2.1	
Benzaldehyde	1.033	1.042		0.9	
Phenol-d6	1.846	1.897		2.8	
Phenol	1.852	1.891		2.1	20.0
bis(2-Chloroethyl)ether	1.476	1.478		0.1	
2-Chlorophenol	1.391	1.423		2.3	
2-Methylphenol	1.422	1.427		0.4	
2,2-oxybis(1-Chloropropane)	2.866	2.809		-2.0	
Acetophenone	0.536	0.557		3.9	
3+4-Methylphenols	1.918	1.954		1.9	
n-Nitroso-di-n-propylamine	1.279	1.276	0.050	-0.2	
Nitrobenzene-d5	0.384	0.404		5.2	
Hexachloroethane	0.519	0.548		5.6	
Nitrobenzene	0.384	0.402		4.7	
Isophorone	0.769	0.794		3.3	
2-Nitrophenol	0.142	0.151		6.3	20.0
2,4-Dimethylphenol	0.340	0.337		-0.9	
bis(2-Chloroethoxy)methane	0.461	0.467		1.3	
2,4-Dichlorophenol	0.306	0.316		3.3	20.0
Naphthalene	1.117	1.130		1.2	
4-Chloroaniline	0.471	0.478		1.5	
Hexachlorobutadiene	0.221	0.223		0.9	20.0
Caprolactam	0.103	0.105		1.9	
4-Chloro-3-methylphenol	0.374	0.379		1.3	20.0
2-Methylnaphthalene	0.772	0.772		0.0	
Hexachlorocyclopentadiene	0.302	0.303	0.050	0.3	
2,4,6-Trichlorophenol	0.394	0.404		2.5	20.0
2-Fluorobiphenyl	1.479	1.464		-1.0	
2,4,5-Trichlorophenol	0.467	0.480		2.8	
1,1-Biphenyl	1.520	1.515		-0.3	
2-Chloronaphthalene	1.147	1.146		-0.1	
2-Nitroaniline	0.379	0.390		2.9	
Dimethylphthalate	1.500	1.516		1.1	
Acenaphthylene	1.869	1.881		0.6	
2,6-Dinitrotoluene	0.276	0.290		5.1	
3-Nitroaniline	0.318	0.328		3.1	
Acenaphthene	1.117	1.103		-1.3	20.0
2,4-Dinitrophenol	0.118	0.114	0.050	-3.4	
4-Nitrophenol	0.237	0.244	0.050	3.0	
Dibenzofuran	1.808	1.785		-1.3	
2,4-Dinitrotoluene	0.348	0.370		6.3	

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

7C

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: CHEMTECH Contract: LIRO01

Lab Code: CHEM Case No.: P1747 SAS No.: P1747 SDG No.: P1747

Instrument ID: BNA_G Calibration Date/Time: 03/14/2024 10:25

Lab File ID: BG060632.D Init. Calib. Date(s): 03/13/2024 03/13/2024

EPA Sample No.: SSTDCCC040 Init. Calib. Time(s): 10:44 15:27

GC Column: ZB-GR ID: 0.25 (mm)

COMPOUND	RRF	RRF040	MIN RRF	%D	MAX%D
Diethylphthalate	1.543	1.539		-0.3	
4-Chlorophenyl-phenylether	0.733	0.721		-1.6	
Fluorene	1.447	1.454		0.5	
4-Nitroaniline	0.326	0.349		7.1	
4,6-Dinitro-2-methylphenol	0.083	0.082		-1.2	
n-Nitrosodiphenylamine	0.626	0.643		2.7	20.0
2,4,6-Tribromophenol	0.232	0.242		4.3	
4-Bromophenyl-phenylether	0.216	0.222		2.8	
Hexachlorobenzene	0.248	0.253		2.0	
Atrazine	0.209	0.212		1.4	
Pentachlorophenol	0.161	0.170		5.6	20.0
Phenanthrene	1.077	1.089		1.1	
Anthracene	1.089	1.122		3.0	
Carbazole	0.947	0.977		3.2	
Di-n-butylphthalate	1.154	1.230		6.6	
Fluoranthene	1.192	1.249		4.8	20.0
Pyrene	1.396	1.403		0.5	
Terphenyl-d14	1.106	1.099		-0.6	
Butylbenzylphthalate	0.528	0.566		7.2	
3,3-Dichlorobenzidine	0.464	0.485		4.5	
Benzo(a)anthracene	1.377	1.389		0.9	
Chrysene	1.337	1.353		1.2	
Bis(2-ethylhexyl)phthalate	0.779	0.835		7.2	
Di-n-octyl phthalate	1.283	1.389		8.3	20.0
Benzo(b)fluoranthene	1.100	1.121		1.9	
Benzo(k)fluoranthene	1.156	1.200		3.8	
Benzo(a)pyrene	1.079	1.112		3.1	20.0
Indeno(1,2,3-cd)pyrene	1.364	1.412		3.5	
Dibenzo(a,h)anthracene	1.158	1.195		3.2	
Benzo(g,h,i)perylene	1.121	1.146		2.2	
1,2,4,5-Tetrachlorobenzene	0.614	0.617		0.5	
1,4-Dioxane	0.533	0.550		3.2	20.0
2,3,4,6-Tetrachlorophenol	0.389	0.397		2.1	

All other compounds must meet a minimum RRF of 0.010.

Sample Results: **BG060632.D**

Data Path : Z:\svoasrv\HPCHEM1\BNA_G\Data\BG031424\
Data File : BG060632.D
Acq On : 14 Mar 2024 10:25
Operator : MA/JU
Sample : SSTDCCC040
Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Mar 14 12:05:39 2024
Quant Method : Z:\svoasrv\HPCHEM1\BNA_G\Methods\8270-BG031324.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION
QLast Update : Thu Mar 14 00:45:22 2024
Response via : Initial Calibration

Instrument :
BNA_G
ClientSampleId :
SSTDCCC040

Manual Integrations APPROVED

Reviewed By :Jagrut Upadhyay

03/15/2024
Supervised By :mohammad ahmed

03/16/2024

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) 1,4-Dichlorobenzene-d4	8.322	152	100214	20.000	ng		0.00
21) Naphthalene-d8	11.166	136	455197	20.000	ng		0.00
39) Acenaphthene-d10	14.950	164	300034	20.000	ng		0.00
64) Phenanthrene-d10	17.694	188	621112	20.000	ng		0.00
76) Chrysene-d12	22.018	240	570870	20.000	ng		0.00
86) Perylene-d12	25.567	264	652588	20.000	ng		0.00
System Monitoring Compounds							
5) 2-Fluorophenol	5.808	112	520602	81.663	ng		0.00
7) Phenol-d6	7.435	99	760362	82.223	ng		0.00
23) Nitrobenzene-d5	9.521	82	735358	84.075	ng		0.00
42) 2,4,6-Tribromophenol	16.431	330	289989	83.408	ng		0.00
45) 2-Fluorobiphenyl	13.575	172	1756466	79.152	ng		0.00
79) Terphenyl-d14	20.273	244	2509630	79.462	ng		0.00
Target Compounds							Qvalue
2) 1,4-Dioxane	3.651	88	110164	41.284	ng		98
3) Pyridine	4.069	79	328990	41.716	ng		97
4) n-Nitrosodimethylamine	3.998	42	162445	41.990	ng		99
6) Aniline	7.647	93	462377	40.918	ng		99
8) 2-Chlorophenol	7.870	128	285200	40.926	ng		98
9) Benzaldehyde	7.465	77	208751	40.325	ng		99
10) Phenol	7.465	94	379096	40.856	ng		99
11) bis(2-Chloroethyl)ether	7.741	93	296135	40.035	ng		97
12) 1,3-Dichlorobenzene	8.205	146	304156	40.473	ng		99
13) 1,4-Dichlorobenzene	8.358	146	309319	40.605	ng		98
14) 1,2-Dichlorobenzene	8.681	146	299844	39.632	ng		98
15) Benzyl Alcohol	8.563	79	293568	40.154	ng		98
16) 2,2'-oxybis(1-Chloropr...	8.839	45	563092m	39.213	ng		
17) 2-Methylphenol	8.740	107	285950	40.133	ng		97
18) Hexachloroethane	9.409	117	109919	42.240	ng		97
19) n-Nitroso-di-n-propyla...	9.133	70	255726	39.894	ng		96
20) 3+4-Methylphenols	9.074	107	391580	40.749	ng		98
22) Acetophenone	9.168	105	507200	41.560	ng	#	97
24) Nitrobenzene	9.562	77	365957	41.851	ng		95
25) Isophorone	10.073	82	723014	41.301	ng		98
26) 2-Nitrophenol	10.273	139	137015	39.116	ng		99
27) 2,4-Dimethylphenol	10.291	122	307009	39.624	ng		99
28) bis(2-Chloroethoxy)met...	10.555	93	425027	40.500	ng		97
29) 2,4-Dichlorophenol	10.790	162	288138	41.436	ng		97
30) 1,2,4-Trichlorobenzene	11.013	180	298703	40.455	ng		99
31) Naphthalene	11.219	128	1028621	40.457	ng		99
32) Benzoic acid	10.402	122	195968	39.681	ng		99
33) 4-Chloroaniline	11.337	127	435277	40.600	ng		98
34) Hexachlorobutadiene	11.448	225	202973	40.303	ng		94
35) Caprolactam	12.130	113	95182	40.661	ng		93
36) 4-Chloro-3-methylphenol	12.400	107	345105	40.496	ng		97
37) 2-Methylnaphthalene	12.800	142	702389	39.998	ng		100
38) 1-Methylnaphthalene	13.017	142	658207	39.934	ng		96
40) 1,2,4,5-Tetrachloroben...	13.140	216	370234	40.182	ng		98
41) Hexachlorocyclopentadiene	13.093	237	181884	40.141	ng		99
43) 2,4,6-Trichlorophenol	13.375	196	242307	40.955	ng		95

Data Path : Z:\svoasrv\HPCHEM1\BNA_G\Data\BG031424\
Data File : BG060632.D
Acq On : 14 Mar 2024 10:25
Operator : MA/JU
Sample : SSTDCCC040
Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Mar 14 12:05:39 2024
Quant Method : Z:\svoasrv\HPCHEM1\BNA_G\Methods\8270-BG031324.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION
QLast Update : Thu Mar 14 00:45:22 2024
Response via : Initial Calibration

Instrument :
BNA_G
ClientSampleId :
SSTDCCC040

Manual Integrations APPROVED

Reviewed By :Jagrut Upadhyay

03/15/2024
Supervised By :mohammad ahmed

03/16/2024

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
44) 2,4,5-Trichlorophenol	13.446	196	288100	41.163	ng		98
46) 1,1'-Biphenyl	13.787	154	909118	39.863	ng		98
47) 2-Chloronaphthalene	13.839	162	687612	39.950	ng		95
48) 2-Nitroaniline	14.051	65	234119	41.214	ng		97
49) Acenaphthylene	14.680	152	1128988	40.265	ng		98
50) Dimethylphthalate	14.398	163	909697	40.427	ng		99
51) 2,6-Dinitrotoluene	14.533	165	173967	41.958	ng		98
52) Acenaphthene	15.015	154	662161	39.520	ng		97
53) 3-Nitroaniline	14.874	138	196883	41.240	ng		95
54) 2,4-Dinitrophenol	15.062	184	68411	36.316	ng		91
55) Dibenzofuran	15.344	168	1071291	39.489	ng		99
56) 4-Nitrophenol	15.132	139	146226	41.047	ng		97
57) 2,4-Dinitrotoluene	15.308	165	222286	42.616	ng		95
58) Fluorene	15.990	166	872418	40.194	ng		100
59) 2,3,4,6-Tetrachlorophenol	15.549	232	237953m	40.768	ng		
60) Diethylphthalate	15.737	149	923712	39.896	ng		100
61) 4-Chlorophenyl-phenyle...	15.972	204	432422	39.331	ng		98
62) 4-Nitroaniline	16.031	138	209215	42.796	ng		98
63) Azobenzene	16.272	77	952744	39.763	ng		98
65) 4,6-Dinitro-2-methylph...	16.055	198	102191	37.572	ng		90
66) n-Nitrosodiphenylamine	16.196	169	798155	41.061	ng		98
67) 4-Bromophenyl-phenylether	16.871	248	276006	41.208	ng		97
68) Hexachlorobenzene	16.959	284	314735	40.871	ng		98
69) Atrazine	17.130	200	263816	40.577	ng		98
70) Pentachlorophenol	17.312	266	210728	42.220	ng		99
71) Phenanthrene	17.741	178	1352453	40.423	ng		99
72) Anthracene	17.829	178	1393774	41.200	ng		98
73) Carbazole	18.105	167	1213682	41.261	ng		99
74) Di-n-butylphthalate	18.616	149	1527911	42.624	ng		99
75) Fluoranthene	19.733	202	1551654	41.926	ng		98
77) Benzidine	19.921	184	617281	44.207	ng		99
78) Pyrene	20.097	202	1601917	40.210	ng		99
80) Butylbenzylphthalate	20.955	149	645864	42.883	ng		97
81) Benzo(a)anthracene	21.995	228	1585523	40.338	ng		99
82) 3,3'-Dichlorobenzidine	21.907	252	554248	41.835	ng		96
83) Chrysene	22.065	228	1544267	40.462	ng		98
84) Bis(2-ethylhexyl)phtha...	21.836	149	953004	42.838	ng		99
85) Di-n-octyl phthalate	23.170	149	1585902	43.290	ng		99
87) Indeno(1,2,3-cd)pyrene	29.686	276	1842954	41.402	ng	#	94
88) Benzo(b)fluoranthene	24.421	252	1463350	40.760	ng		99
89) Benzo(k)fluoranthene	24.503	252	1565949	41.518	ng		99
90) Benzo(a)pyrene	25.402	252	1451253	41.231	ng		99
91) Dibenzo(a,h)anthracene	29.785	278	1560020	41.283	ng		99
92) Benzo(g,h,i)perylene	30.996	276	1495412	40.873	ng		98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

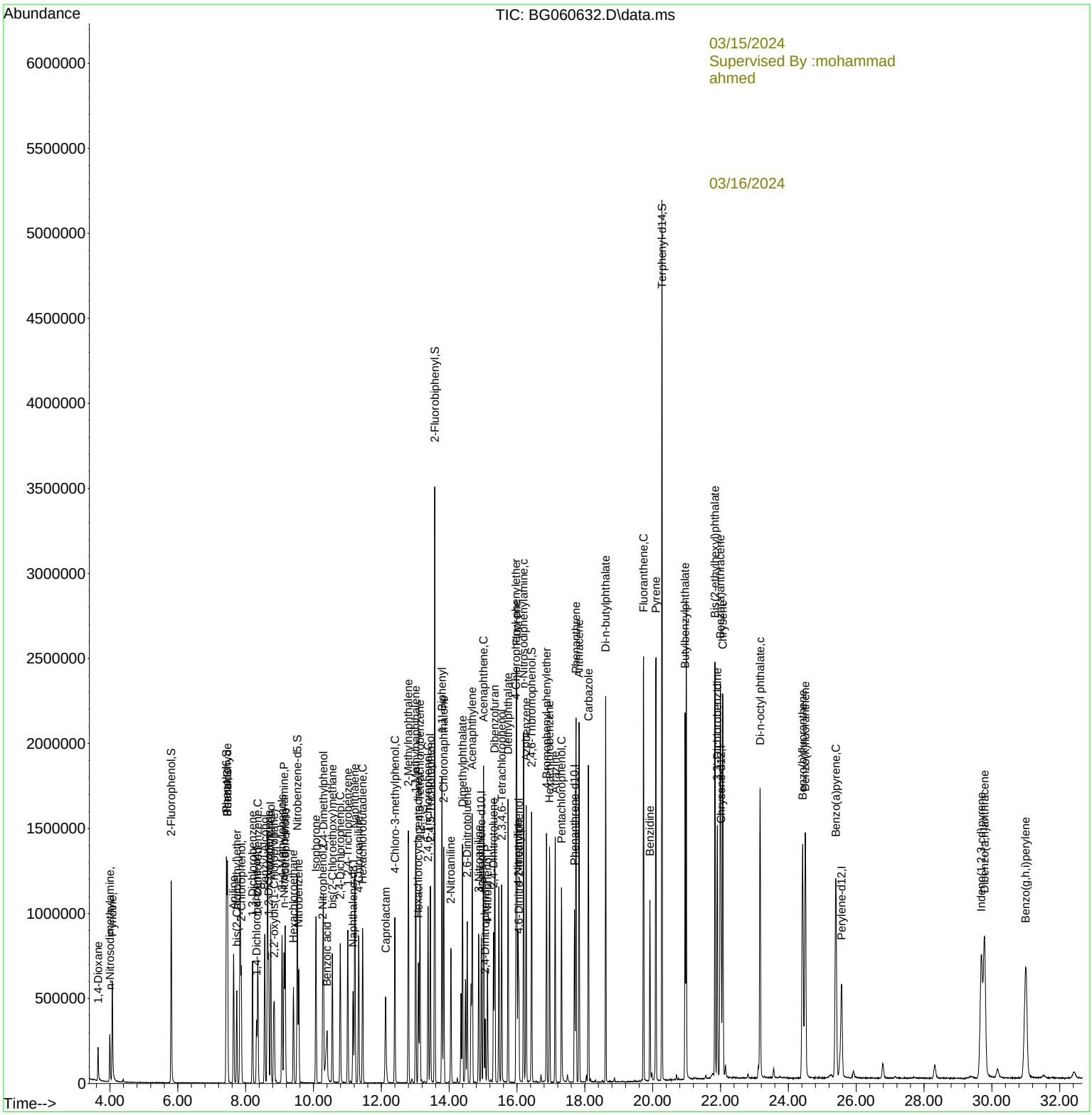
Data Path : Z:\svoasrv\HPCHEM1\BNA_G\Data\BG031424\
Data File : BG060632.D
Acq On : 14 Mar 2024 10:25
Operator : MA/JU
Sample : SSTDCCC040
Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Mar 14 12:05:39 2024
Quant Method : Z:\svoasrv\HPCHEM1\BNA_G\Methods\8270-BG031324.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION
QLast Update : Thu Mar 14 00:45:22 2024
Response via : Initial Calibration

Instrument :
BNA_G
ClientSampleId :
SSTDCCC040

Manual Integrations APPROVED

Reviewed By :Jagrut Upadhyay



Sample Results: **BG060632.D**

Data Path : Z:\svoasrv\HPCHEM1\BNA_G\Data\BG031424\
Data File : BG060632.D
Acq On : 14 Mar 2024 10:25
Operator : MA/JU
Sample : SSTDCCC040
Misc :
ALS Vial : 2 Sample Multiplier: 1

Instrument :
BNA_G
LabSampleId :
SSTDCCC040

Quant Time: Mar 14 12:05:39 2024
Quant Method : Z:\svoasrv\HPCHEM1\BNA_G\Methods\8270-BG031324.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION
QLast Update : Thu Mar 14 00:45:22 2024
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	95	0.00
2		1,4-Dioxane	0.533	0.550	-3.2	100	0.00
3		Pyridine	1.574	1.641	-4.3	98	0.00
4		n-Nitrosodimethylamine	0.772	0.810	-4.9	99	0.00
5	S	2-Fluorophenol	1.272	1.299	-2.1	95	0.00
6		Aniline	2.255	2.307	-2.3	94	0.00
7	S	Phenol-d6	1.846	1.897	-2.8	94	0.00
8		2-Chlorophenol	1.391	1.423	-2.3	94	0.00
9		Benzaldehyde	1.033	1.042	-0.9	91	0.00
10	C	Phenol	1.852	1.891	-2.1	93	0.00
11		bis(2-Chloroethyl)ether	1.476	1.478	-0.1	92	0.00
12		1,3-Dichlorobenzene	1.500	1.518	-1.2	96	0.00
13	C	1,4-Dichlorobenzene	1.520	1.543	-1.5	94	0.00
14		1,2-Dichlorobenzene	1.510	1.496	0.9	93	0.00
15		Benzyl Alcohol	1.459	1.465	-0.4	89	0.00
16		2,2'-oxybis(1-Chloropropane	2.866	2.809	2.0	91	0.00
17		2-Methylphenol	1.422	1.427	-0.4	90	0.00
18		Hexachloroethane	0.519	0.548	-5.6	98	0.00
19	P	n-Nitroso-di-n-propylamine	1.279	1.276	0.2	90	0.00
20		3+4-Methylphenols	1.918	1.954	-1.9	91	0.00
21	I	Naphthalene-d8	1.000	1.000	0.0	91	0.00
22		Acetophenone	0.536	0.557	-3.9	93	0.00
23	S	Nitrobenzene-d5	0.384	0.404	-5.2	93	0.00
24		Nitrobenzene	0.384	0.402	-4.7	92	0.00
25		Isophorone	0.769	0.794	-3.3	92	0.00
26	C	2-Nitrophenol	0.142	0.151	-6.3	90	0.00
27		2,4-Dimethylphenol	0.340	0.337	0.9	91	0.00
28		bis(2-Chloroethoxy)methane	0.461	0.467	-1.3	92	0.00
29	C	2,4-Dichlorophenol	0.306	0.316	-3.3	91	0.00
30		1,2,4-Trichlorobenzene	0.324	0.328	-1.2	93	0.00
31		Naphthalene	1.117	1.130	-1.2	93	0.00
32		Benzoic acid	0.199	0.215	-8.0	91	-0.01
33		4-Chloroaniline	0.471	0.478	-1.5	91	0.00
34	C	Hexachlorobutadiene	0.221	0.223	-0.9	92	0.00
35		Caprolactam	0.103	0.105	-1.9	91	0.00
36	C	4-Chloro-3-methylphenol	0.374	0.379	-1.3	90	0.00
37		2-Methylnaphthalene	0.772	0.772	0.0	91	0.00
38		1-Methylnaphthalene	0.724	0.723	0.1	90	0.00
39	I	Acenaphthene-d10	1.000	1.000	0.0	91	0.00
40		1,2,4,5-Tetrachlorobenzene	0.614	0.617	-0.5	92	0.00
41	P	Hexachlorocyclopentadiene	0.302	0.303	-0.3	88	0.00
42	S	2,4,6-Tribromophenol	0.232	0.242	-4.3	90	0.00
43	C	2,4,6-Trichlorophenol	0.394	0.404	-2.5	91	0.00
44		2,4,5-Trichlorophenol	0.467	0.480	-2.8	90	0.00
45	S	2-Fluorobiphenyl	1.479	1.464	1.0	91	0.00
46		1,1'-Biphenyl	1.520	1.515	0.3	91	0.00
47		2-Chloronaphthalene	1.147	1.146	0.1	89	0.00

Sample Results: **BG060632.D**

Data Path : Z:\svoasrv\HPCHEM1\BNA_G\Data\BG031424\
Data File : BG060632.D
Acq On : 14 Mar 2024 10:25
Operator : MA/JU
Sample : SSTDCCC040
Misc :
ALS Vial : 2 Sample Multiplier: 1

Instrument :
BNA_G
LabSampleId :
SSTDCCC040

Quant Time: Mar 14 12:05:39 2024
Quant Method : Z:\svoasrv\HPCHEM1\BNA_G\Methods\8270-BG031324.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION
QLast Update : Thu Mar 14 00:45:22 2024
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
48		2-Nitroaniline	0.379	0.390	-2.9	87	0.00
49		Acenaphthylene	1.869	1.881	-0.6	91	0.00
50		Dimethylphthalate	1.500	1.516	-1.1	91	0.00
51		2,6-Dinitrotoluene	0.276	0.290	-5.1	90	0.00
52	C	Acenaphthene	1.117	1.103	1.3	90	0.00
53		3-Nitroaniline	0.318	0.328	-3.1	90	0.00
54	P	2,4-Dinitrophenol	0.118	0.114	3.4	85	0.00
55		Dibenzofuran	1.808	1.785	1.3	90	0.00
56	P	4-Nitrophenol	0.237	0.244	-3.0	90	0.00
57		2,4-Dinitrotoluene	0.348	0.370	-6.3	91	0.00
58		Fluorene	1.447	1.454	-0.5	91	0.00
59		2,3,4,6-Tetrachlorophenol	0.389	0.397	-2.1	89	0.00
60		Diethylphthalate	1.543	1.539	0.3	90	0.00
61		4-Chlorophenyl-phenylether	0.733	0.721	1.6	90	0.00
62		4-Nitroaniline	0.326	0.349	-7.1	92	0.00
63		Azobenzene	1.597	1.588	0.6	89	0.00
64	I	Phenanthrene-d10	1.000	1.000	0.0	89	0.00
65		4,6-Dinitro-2-methylphenol	0.083	0.082	1.2	84	0.00
66	c	n-Nitrosodiphenylamine	0.626	0.643	-2.7	91	0.00
67		4-Bromophenyl-phenylether	0.216	0.222	-2.8	93	0.00
68		Hexachlorobenzene	0.248	0.253	-2.0	92	0.00
69		Atrazine	0.209	0.212	-1.4	89	0.00
70	C	Pentachlorophenol	0.161	0.170	-5.6	89	0.00
71		Phenanthrene	1.077	1.089	-1.1	91	0.00
72		Anthracene	1.089	1.122	-3.0	92	0.00
73		Carbazole	0.947	0.977	-3.2	91	0.00
74		Di-n-butylphthalate	1.154	1.230	-6.6	92	0.00
75	C	Fluoranthene	1.192	1.249	-4.8	92	0.00
76	I	Chrysene-d12	1.000	1.000	0.0	92	0.00
77		Benzidine	0.489	0.541	-10.6	92	0.00
78		Pyrene	1.396	1.403	-0.5	92	0.00
79	S	Terphenyl-d14	1.106	1.099	0.6	93	0.00
80		Butylbenzylphthalate	0.528	0.566	-7.2	94	0.00
81		Benzo(a)anthracene	1.377	1.389	-0.9	92	0.00
82		3,3'-Dichlorobenzidine	0.464	0.485	-4.5	91	0.00
83		Chrysene	1.337	1.353	-1.2	93	0.00
84		Bis(2-ethylhexyl)phthalate	0.779	0.835	-7.2	93	0.00
85	c	Di-n-octyl phthalate	1.283	1.389	-8.3	93	0.00
86	I	Perylene-d12	1.000	1.000	0.0	93	0.00
87		Indeno(1,2,3-cd)pyrene	1.364	1.412	-3.5	94	-0.02
88		Benzo(b)fluoranthene	1.100	1.121	-1.9	92	0.00
89		Benzo(k)fluoranthene	1.156	1.200	-3.8	96	0.00
90	C	Benzo(a)pyrene	1.079	1.112	-3.1	94	0.00
91		Dibenzo(a,h)anthracene	1.158	1.195	-3.2	94	-0.02
92		Benzo(g,h,i)perylene	1.121	1.146	-2.2	92	-0.02

Sample Results: **BG060632.D**

Data Path : Z:\svoasrv\HPCHEM1\BNA_G\Data\BG031424\
Data File : BG060632.D
Acq On : 14 Mar 2024 10:25
Operator : MA/JU
Sample : SSTDCCC040
Misc :
ALS Vial : 2 Sample Multiplier: 1

Instrument :
BNA_G
LabSampleId :
SSTDCCC040

Quant Time: Mar 14 12:05:39 2024
Quant Method : Z:\svoasrv\HPCHEM1\BNA_G\Methods\8270-BG031324.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION
QLast Update : Thu Mar 14 00:45:22 2024
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

Compound	AvgRF	CCRF	%Dev Area%	Dev(min)

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Sample Results: **BG060632.D**

Data Path : Z:\svoasrv\HPCHEM1\BNA_G\Data\BG031424\
Data File : BG060632.D
Acq On : 14 Mar 2024 10:25
Operator : MA/JU
Sample : SSTDCCC040
Misc :
ALS Vial : 2 Sample Multiplier: 1

Instrument :
BNA_G
LabSampleId :
SSTDCCC040

Quant Time: Mar 14 12:05:39 2024
Quant Method : Z:\svoasrv\HPCHEM1\BNA_G\Methods\8270-BG031324.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION
QLast Update : Thu Mar 14 00:45:22 2024
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	1,4-Dichlorobenzene-d4	20.000	20.000	0.0	95	0.00
2		1,4-Dioxane	40.000	41.284	-3.2	100	0.00
3		Pyridine	40.000	41.716	-4.3	98	0.00
4		n-Nitrosodimethylamine	40.000	41.990	-5.0	99	0.00
5	S	2-Fluorophenol	80.000	81.663	-2.1	95	0.00
6		Aniline	40.000	40.918	-2.3	94	0.00
7	S	Phenol-d6	80.000	82.223	-2.8	94	0.00
8		2-Chlorophenol	40.000	40.926	-2.3	94	0.00
9		Benzaldehyde	40.000	40.325	-0.8	91	0.00
10	C	Phenol	40.000	40.856	-2.1	93	0.00
11		bis(2-Chloroethyl)ether	40.000	40.035	-0.1	92	0.00
12		1,3-Dichlorobenzene	40.000	40.473	-1.2	96	0.00
13	C	1,4-Dichlorobenzene	40.000	40.605	-1.5	94	0.00
14		1,2-Dichlorobenzene	40.000	39.632	0.9	93	0.00
15		Benzyl Alcohol	40.000	40.154	-0.4	89	0.00
16		2,2'-oxybis(1-Chloropropane	40.000	39.213	2.0	91	0.00
17		2-Methylphenol	40.000	40.133	-0.3	90	0.00
18		Hexachloroethane	40.000	42.240	-5.6	98	0.00
19	P	n-Nitroso-di-n-propylamine	40.000	39.894	0.3	90	0.00
20		3+4-Methylphenols	40.000	40.749	-1.9	91	0.00
21	I	Naphthalene-d8	20.000	20.000	0.0	91	0.00
22		Acetophenone	40.000	41.560	-3.9	93	0.00
23	S	Nitrobenzene-d5	80.000	84.075	-5.1	93	0.00
24		Nitrobenzene	40.000	41.851	-4.6	92	0.00
25		Isophorone	40.000	41.301	-3.3	92	0.00
26	C	2-Nitrophenol	40.000	39.116	2.2	90	0.00
27		2,4-Dimethylphenol	40.000	39.624	0.9	91	0.00
28		bis(2-Chloroethoxy)methane	40.000	40.500	-1.3	92	0.00
29	C	2,4-Dichlorophenol	40.000	41.436	-3.6	91	0.00
30		1,2,4-Trichlorobenzene	40.000	40.455	-1.1	93	0.00
31		Naphthalene	40.000	40.457	-1.1	93	0.00
32		Benzoic acid	40.000	39.681	0.8	91	-0.01
33		4-Chloroaniline	40.000	40.600	-1.5	91	0.00
34	C	Hexachlorobutadiene	40.000	40.303	-0.8	92	0.00
35		Caprolactam	40.000	40.661	-1.7	91	0.00
36	C	4-Chloro-3-methylphenol	40.000	40.496	-1.2	90	0.00
37		2-Methylnaphthalene	40.000	39.998	0.0	91	0.00
38		1-Methylnaphthalene	40.000	39.934	0.2	90	0.00
39	I	Acenaphthene-d10	20.000	20.000	0.0	91	0.00
40		1,2,4,5-Tetrachlorobenzene	40.000	40.182	-0.5	92	0.00
41	P	Hexachlorocyclopentadiene	40.000	40.141	-0.4	88	0.00
42	S	2,4,6-Tribromophenol	80.000	83.408	-4.3	90	0.00
43	C	2,4,6-Trichlorophenol	40.000	40.955	-2.4	91	0.00
44		2,4,5-Trichlorophenol	40.000	41.163	-2.9	90	0.00
45	S	2-Fluorobiphenyl	80.000	79.152	1.1	91	0.00
46		1,1'-Biphenyl	40.000	39.863	0.3	91	0.00
47		2-Chloronaphthalene	40.000	39.950	0.1	89	0.00

Sample Results: **BG060632.D**

Data Path : Z:\svoasrv\HPCHEM1\BNA_G\Data\BG031424\
Data File : BG060632.D
Acq On : 14 Mar 2024 10:25
Operator : MA/JU
Sample : SSTDCCC040
Misc :
ALS Vial : 2 Sample Multiplier: 1

Instrument :
BNA_G
LabSampleId :
SSTDCCC040

Quant Time: Mar 14 12:05:39 2024
Quant Method : Z:\svoasrv\HPCHEM1\BNA_G\Methods\8270-BG031324.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION
QLast Update : Thu Mar 14 00:45:22 2024
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
48		2-Nitroaniline	40.000	41.214	-3.0	87	0.00
49		Acenaphthylene	40.000	40.265	-0.7	91	0.00
50		Dimethylphthalate	40.000	40.427	-1.1	91	0.00
51		2,6-Dinitrotoluene	40.000	41.958	-4.9	90	0.00
52	C	Acenaphthene	40.000	39.520	1.2	90	0.00
53		3-Nitroaniline	40.000	41.240	-3.1	90	0.00
54	P	2,4-Dinitrophenol	40.000	36.316	9.2	85	0.00
55		Dibenzofuran	40.000	39.489	1.3	90	0.00
56	P	4-Nitrophenol	40.000	41.047	-2.6	90	0.00
57		2,4-Dinitrotoluene	40.000	42.616	-6.5	91	0.00
58		Fluorene	40.000	40.194	-0.5	91	0.00
59		2,3,4,6-Tetrachlorophenol	40.000	40.768	-1.9	89	0.00
60		Diethylphthalate	40.000	39.896	0.3	90	0.00
61		4-Chlorophenyl-phenylether	40.000	39.331	1.7	90	0.00
62		4-Nitroaniline	40.000	42.796	-7.0	92	0.00
63		Azobenzene	40.000	39.763	0.6	89	0.00
64	I	Phenanthrene-d10	20.000	20.000	0.0	89	0.00
65		4,6-Dinitro-2-methylphenol	40.000	37.572	6.1	84	0.00
66	c	n-Nitrosodiphenylamine	40.000	41.061	-2.7	91	0.00
67		4-Bromophenyl-phenylether	40.000	41.208	-3.0	93	0.00
68		Hexachlorobenzene	40.000	40.871	-2.2	92	0.00
69		Atrazine	40.000	40.577	-1.4	89	0.00
70	C	Pentachlorophenol	40.000	42.220	-5.5	89	0.00
71		Phenanthrene	40.000	40.423	-1.1	91	0.00
72		Anthracene	40.000	41.200	-3.0	92	0.00
73		Carbazole	40.000	41.261	-3.2	91	0.00
74		Di-n-butylphthalate	40.000	42.624	-6.6	92	0.00
75	C	Fluoranthene	40.000	41.926	-4.8	92	0.00
76	I	Chrysene-d12	20.000	20.000	0.0	92	0.00
77		Benzidine	40.000	44.207	-10.5	92	0.00
78		Pyrene	40.000	40.210	-0.5	92	0.00
79	S	Terphenyl-d14	80.000	79.462	0.7	93	0.00
80		Butylbenzylphthalate	40.000	42.883	-7.2	94	0.00
81		Benzo(a)anthracene	40.000	40.338	-0.8	92	0.00
82		3,3'-Dichlorobenzidine	40.000	41.835	-4.6	91	0.00
83		Chrysene	40.000	40.462	-1.2	93	0.00
84		Bis(2-ethylhexyl)phthalate	40.000	42.838	-7.1	93	0.00
85	c	Di-n-octyl phthalate	40.000	43.290	-8.2	93	0.00
86	I	Perylene-d12	20.000	20.000	0.0	93	0.00
87		Indeno(1,2,3-cd)pyrene	40.000	41.402	-3.5	94	-0.02
88		Benzo(b)fluoranthene	40.000	40.760	-1.9	92	0.00
89		Benzo(k)fluoranthene	40.000	41.518	-3.8	96	0.00
90	C	Benzo(a)pyrene	40.000	41.231	-3.1	94	0.00
91		Dibenzo(a,h)anthracene	40.000	41.283	-3.2	94	-0.02
92		Benzo(g,h,i)perylene	40.000	40.873	-2.2	92	-0.02

Sample Results: **BG060632.D**

Data Path : Z:\svoasrv\HPCHEM1\BNA_G\Data\BG031424\
Data File : BG060632.D
Acq On : 14 Mar 2024 10:25
Operator : MA/JU
Sample : SSTDCCC040
Misc :
ALS Vial : 2 Sample Multiplier: 1

Instrument :
BNA_G
LabSampleId :
SSTDCCC040

Quant Time: Mar 14 12:05:39 2024
Quant Method : Z:\svoasrv\HPCHEM1\BNA_G\Methods\8270-BG031324.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION
QLast Update : Thu Mar 14 00:45:22 2024
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

Compound	Amount	Calc.	%Dev	Area%	Dev(min)

(#) = Out of Range SPCC's out = 0 CCC's out = 0

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

7C

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: CHEMTECH Contract: LIRO01

Lab Code: CHEM Case No.: P1747 SAS No.: P1747 SDG No.: P1747

Instrument ID: BNA_G Calibration Date/Time: 03/14/2024 22:39

Lab File ID: BG060649.D Init. Calib. Date(s): 03/13/2024 03/13/2024

EPA Sample No.: SSTDCCC040 Init. Calib. Time(s): 10:44 15:27

GC Column: ZB-GR ID: 0.25 (mm)

COMPOUND	RRF	RRF040	MIN RRF	%D	MAX%D
2-Fluorophenol	1.272	1.260		-0.9	
Benzaldehyde	1.033	0.984		-4.7	
Phenol-d6	1.846	1.824		-1.2	
Phenol	1.852	1.801		-2.8	20.0
bis(2-Chloroethyl)ether	1.476	1.411		-4.4	
2-Chlorophenol	1.391	1.366		-1.8	
2-Methylphenol	1.422	1.370		-3.7	
2,2-oxybis(1-Chloropropane)	2.866	2.624		-8.4	
Acetophenone	0.536	0.514		-4.1	
3+4-Methylphenols	1.918	1.833		-4.4	
n-Nitroso-di-n-propylamine	1.279	1.189	0.050	-7.0	
Nitrobenzene-d5	0.384	0.384		0.0	
Hexachloroethane	0.519	0.511		-1.5	
Nitrobenzene	0.384	0.383		-0.3	
Isophorone	0.769	0.730		-5.1	
2-Nitrophenol	0.142	0.153		7.7	20.0
2,4-Dimethylphenol	0.340	0.330		-2.9	
bis(2-Chloroethoxy)methane	0.461	0.438		-5.0	
2,4-Dichlorophenol	0.306	0.303		-1.0	20.0
Naphthalene	1.117	1.055		-5.6	
4-Chloroaniline	0.471	0.458		-2.8	
Hexachlorobutadiene	0.221	0.206		-6.8	20.0
Caprolactam	0.103	0.103		0.0	
4-Chloro-3-methylphenol	0.374	0.365		-2.4	20.0
2-Methylnaphthalene	0.772	0.714		-7.5	
Hexachlorocyclopentadiene	0.302	0.293	0.050	-3.0	
2,4,6-Trichlorophenol	0.394	0.395		0.3	20.0
2-Fluorobiphenyl	1.479	1.421		-3.9	
2,4,5-Trichlorophenol	0.467	0.468		0.2	
1,1-Biphenyl	1.520	1.451		-4.5	
2-Chloronaphthalene	1.147	1.097		-4.4	
2-Nitroaniline	0.379	0.391		3.2	
Dimethylphthalate	1.500	1.467		-2.2	
Acenaphthylene	1.869	1.818		-2.7	
2,6-Dinitrotoluene	0.276	0.297		7.6	
3-Nitroaniline	0.318	0.328		3.1	
Acenaphthene	1.117	1.092		-2.2	20.0
2,4-Dinitrophenol	0.118	0.121	0.050	2.5	
4-Nitrophenol	0.237	0.248	0.050	4.6	
Dibenzofuran	1.808	1.748		-3.3	
2,4-Dinitrotoluene	0.348	0.376		8.0	

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

7C

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: CHEMTECH Contract: LIRO01

Lab Code: CHEM Case No.: P1747 SAS No.: P1747 SDG No.: P1747

Instrument ID: BNA_G Calibration Date/Time: 03/14/2024 22:39

Lab File ID: BG060649.D Init. Calib. Date(s): 03/13/2024 03/13/2024

EPA Sample No.: SSTDCCC040 Init. Calib. Time(s): 10:44 15:27

GC Column: ZB-GR ID: 0.25 (mm)

COMPOUND	RRF	RRF040	MIN RRF	%D	MAX%D
Diethylphthalate	1.543	1.502		-2.7	
4-Chlorophenyl-phenylether	0.733	0.704		-4.0	
Fluorene	1.447	1.418		-2.0	
4-Nitroaniline	0.326	0.338		3.7	
4,6-Dinitro-2-methylphenol	0.083	0.086		3.6	
n-Nitrosodiphenylamine	0.626	0.594		-5.1	20.0
2,4,6-Tribromophenol	0.232	0.231		-0.4	
4-Bromophenyl-phenylether	0.216	0.194		-10.2	
Hexachlorobenzene	0.248	0.232		-6.5	
Atrazine	0.209	0.206		-1.4	
Pentachlorophenol	0.161	0.164		1.9	20.0
Phenanthrene	1.077	1.029		-4.5	
Anthracene	1.089	1.062		-2.5	
Carbazole	0.947	0.926		-2.2	
Di-n-butylphthalate	1.154	1.160		0.5	
Fluoranthene	1.192	1.170		-1.8	20.0
Pyrene	1.396	1.349		-3.4	
Terphenyl-d14	1.106	1.051		-5.0	
Butylbenzylphthalate	0.528	0.541		2.5	
3,3-Dichlorobenzidine	0.464	0.467		0.6	
Benzo(a)anthracene	1.377	1.316		-4.4	
Chrysene	1.337	1.286		-3.8	
Bis(2-ethylhexyl)phthalate	0.779	0.798		2.4	
Di-n-octyl phthalate	1.283	1.327		3.4	20.0
Benzo(b)fluoranthene	1.100	1.060		-3.6	
Benzo(k)fluoranthene	1.156	1.108		-4.2	
Benzo(a)pyrene	1.079	1.045		-3.2	20.0
Indeno(1,2,3-cd)pyrene	1.364	1.330		-2.5	
Dibenzo(a,h)anthracene	1.158	1.121		-3.2	
Benzo(g,h,i)perylene	1.121	1.082		-3.5	
1,2,4,5-Tetrachlorobenzene	0.614	0.580		-5.5	
1,4-Dioxane	0.533	0.540		1.3	20.0
2,3,4,6-Tetrachlorophenol	0.389	0.392		0.8	

All other compounds must meet a minimum RRF of 0.010.

Sample Results: **BG060649.D**

Data Path : Z:\svoasrv\HPCHEM1\BNA_G\Data\BG031424\
Data File : BG060649.D
Acq On : 14 Mar 2024 22:39
Operator : MA/JU
Sample : SSTDCCC040
Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Mar 15 01:38:03 2024
Quant Method : Z:\svoasrv\HPCHEM1\BNA_G\Methods\8270-BG031324.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION
QLast Update : Thu Mar 14 00:45:22 2024
Response via : Initial Calibration

Instrument :
BNA_G
ClientSampleId :
SSTDCCC040

Manual Integrations APPROVED

Reviewed By :Jagrut Upadhyay
03/15/2024
Supervised By :mohammad ahmed
03/16/2024

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) 1,4-Dichlorobenzene-d4	8.323	152	96079	20.000	ng		0.00
21) Naphthalene-d8	11.167	136	434457	20.000	ng		0.00
39) Acenaphthene-d10	14.951	164	283666	20.000	ng		0.00
64) Phenanthrene-d10	17.695	188	613917	20.000	ng		0.00
76) Chrysene-d12	22.019	240	559496	20.000	ng		0.00
86) Perylene-d12	25.568	264	646720	20.000	ng		0.00
System Monitoring Compounds							
5) 2-Fluorophenol	5.809	112	484175	79.218	ng		0.00
7) Phenol-d6	7.436	99	700945	79.060	ng		0.00
23) Nitrobenzene-d5	9.522	82	667361	79.943	ng		0.00
42) 2,4,6-Tribromophenol	16.431	330	261800	79.645	ng		0.00
45) 2-Fluorobiphenyl	13.576	172	1611873	76.827	ng		0.00
79) Terphenyl-d14	20.274	244	2351517	75.969	ng		0.00
Target Compounds							Qvalue
2) 1,4-Dioxane	3.652	88	103803m	40.575	ng		
3) Pyridine	4.069	79	301742	39.907	ng		99
4) n-Nitrosodimethylamine	3.999	42	147992	39.900	ng	#	96
6) Aniline	7.648	93	419826	38.751	ng		98
8) 2-Chlorophenol	7.871	128	262559	39.298	ng		99
9) Benzaldehyde	7.465	77	189163	38.114	ng		99
10) Phenol	7.465	94	346123	38.907	ng		99
11) bis(2-Chloroethyl)ether	7.736	93	271224	38.246	ng		100
12) 1,3-Dichlorobenzene	8.206	146	270580	37.555	ng		98
13) 1,4-Dichlorobenzene	8.358	146	280866	38.457	ng		96
14) 1,2-Dichlorobenzene	8.682	146	273511	37.707	ng		97
15) Benzyl Alcohol	8.564	79	267448	38.155	ng		99
16) 2,2'-oxybis(1-Chloropr...	8.840	45	504259m	36.627	ng		
17) 2-Methylphenol	8.740	107	263192	38.529	ng		98
18) Hexachloroethane	9.410	117	98107	39.323	ng		98
19) n-Nitroso-di-n-propyla...	9.128	70	228546	37.188	ng		99
20) 3+4-Methylphenols	9.075	107	352169	38.225	ng		95
22) Acetophenone	9.163	105	446990	38.375	ng		98
24) Nitrobenzene	9.569	77	332422	39.831	ng		99
25) Isophorone	10.074	82	633924	37.941	ng		97
26) 2-Nitrophenol	10.274	139	132533	39.612	ng		98
27) 2,4-Dimethylphenol	10.291	122	286877	38.793	ng		98
28) bis(2-Chloroethoxy)met...	10.556	93	380256	37.963	ng		98
29) 2,4-Dichlorophenol	10.791	162	263037	39.632	ng		97
30) 1,2,4-Trichlorobenzene	11.014	180	267677	37.984	ng		98
31) Naphthalene	11.220	128	916985	37.788	ng		99
32) Benzoic acid	10.397	122	182000	38.774	ng		96
33) 4-Chloroaniline	11.331	127	397868	38.882	ng		98
34) Hexachlorobutadiene	11.449	225	179381	37.319	ng		98
35) Caprolactam	12.125	113	89918	40.246	ng		92
36) 4-Chloro-3-methylphenol	12.401	107	316893	38.960	ng		98
37) 2-Methylnaphthalene	12.794	142	620461	37.019	ng		98
38) 1-Methylnaphthalene	13.018	142	603860	38.386	ng		96
40) 1,2,4,5-Tetrachloroben...	13.141	216	329093	37.777	ng		99
41) Hexachlorocyclopentadiene	13.094	237	166377	38.838	ng		93
43) 2,4,6-Trichlorophenol	13.376	196	223846	40.018	ng		97

Sample Results: **BG060649.D**

Data Path : Z:\svoasrv\HPCHEM1\BNA_G\Data\BG031424\
Data File : BG060649.D
Acq On : 14 Mar 2024 22:39
Operator : MA/JU
Sample : SSTDCCC040
Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Mar 15 01:38:03 2024
Quant Method : Z:\svoasrv\HPCHEM1\BNA_G\Methods\8270-BG031324.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION
QLast Update : Thu Mar 14 00:45:22 2024
Response via : Initial Calibration

Instrument :
BNA_G
ClientSampleId :
SSTDCCC040

Manual Integrations APPROVED

Reviewed By :Jagrut Upadhyay
03/15/2024
Supervised By :mohammad ahmed
03/16/2024

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
44) 2,4,5-Trichlorophenol	13.447	196	265668	40.148	ng		99
46) 1,1'-Biphenyl	13.787	154	823286	38.182	ng		100
47) 2-Chloronaphthalene	13.840	162	622290	38.241	ng		98
48) 2-Nitroaniline	14.052	65	221946	41.325	ng		98
49) Acenaphthylene	14.680	152	1031519	38.912	ng		99
50) Dimethylphthalate	14.393	163	832397	39.126	ng		98
51) 2,6-Dinitrotoluene	14.534	165	168493	42.982	ng		97
52) Acenaphthene	15.015	154	619607	39.114	ng		98
53) 3-Nitroaniline	14.868	138	186363	41.289	ng		98
54) 2,4-Dinitrophenol	15.062	184	68378	38.001	ng		87
55) Dibenzofuran	15.344	168	991723	38.665	ng		99
56) 4-Nitrophenol	15.133	139	140458	41.703	ng		92
57) 2,4-Dinitrotoluene	15.309	165	213575	43.309	ng		95
58) Fluorene	15.991	166	804707	39.214	ng		98
59) 2,3,4,6-Tetrachlorophenol	15.550	232	222389	40.300	ng		93
60) Diethylphthalate	15.738	149	852314	38.937	ng		99
61) 4-Chlorophenyl-phenyle...	15.973	204	399134	38.398	ng		98
62) 4-Nitroaniline	16.032	138	191991	41.539	ng		98
63) Azobenzene	16.267	77	878044	38.760	ng		98
65) 4,6-Dinitro-2-methylph...	16.055	198	105606	39.064	ng		91
66) n-Nitrosodiphenylamine	16.190	169	729560	37.972	ng		98
67) 4-Bromophenyl-phenylether	16.872	248	238118	35.968	ng		97
68) Hexachlorobenzene	16.960	284	284815	37.419	ng		97
69) Atrazine	17.125	200	252570	39.303	ng		99
70) Pentachlorophenol	17.313	266	201963	40.938	ng		97
71) Phenanthrene	17.742	178	1263464	38.205	ng		99
72) Anthracene	17.830	178	1303662	38.988	ng		98
73) Carbazole	18.106	167	1137384	39.120	ng		99
74) Di-n-butylphthalate	18.617	149	1424810	40.214	ng		99
75) Fluoranthene	19.728	202	1437147	39.287	ng		99
77) Benzidine	19.921	184	621362	45.404	ng		98
78) Pyrene	20.092	202	1510018	38.674	ng		98
80) Butylbenzylphthalate	20.955	149	605316	41.008	ng		99
81) Benzo(a)anthracene	21.995	228	1472832	38.232	ng		100
82) 3,3'-Dichlorobenzidine	21.907	252	522756	40.260	ng		95
83) Chrysene	22.066	228	1439311	38.479	ng		98
84) Bis(2-ethylhexyl)phtha...	21.837	149	893459	40.978	ng		100
85) Di-n-octyl phthalate	23.165	149	1485393	41.371	ng		99
87) Indeno(1,2,3-cd)pyrene	29.686	276	1719747	38.985	ng	#	94
88) Benzo(b)fluoranthene	24.422	252	1370800	38.529	ng		98
89) Benzo(k)fluoranthene	24.498	252	1433755	38.358	ng		99
90) Benzo(a)pyrene	25.397	252	1351324	38.741	ng		99
91) Dibenzo(a,h)anthracene	29.775	278	1450131	38.723	ng		98
92) Benzo(g,h,i)perylene	31.003	276	1399813	38.607	ng		99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : Z:\svoasrv\HPCHEM1\BNA_G\Data\BG031424\
Data File : BG060649.D
Acq On : 14 Mar 2024 22:39
Operator : MA/JU
Sample : SSTDCCC040
Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Mar 15 01:38:03 2024
Quant Method : Z:\svoasrv\HPCHEM1\BNA_G\Methods\8270-BG031324.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION
QLast Update : Thu Mar 14 00:45:22 2024
Response via : Initial Calibration

Instrument :
BNA_G
ClientSampleId :
SSTDCCC040

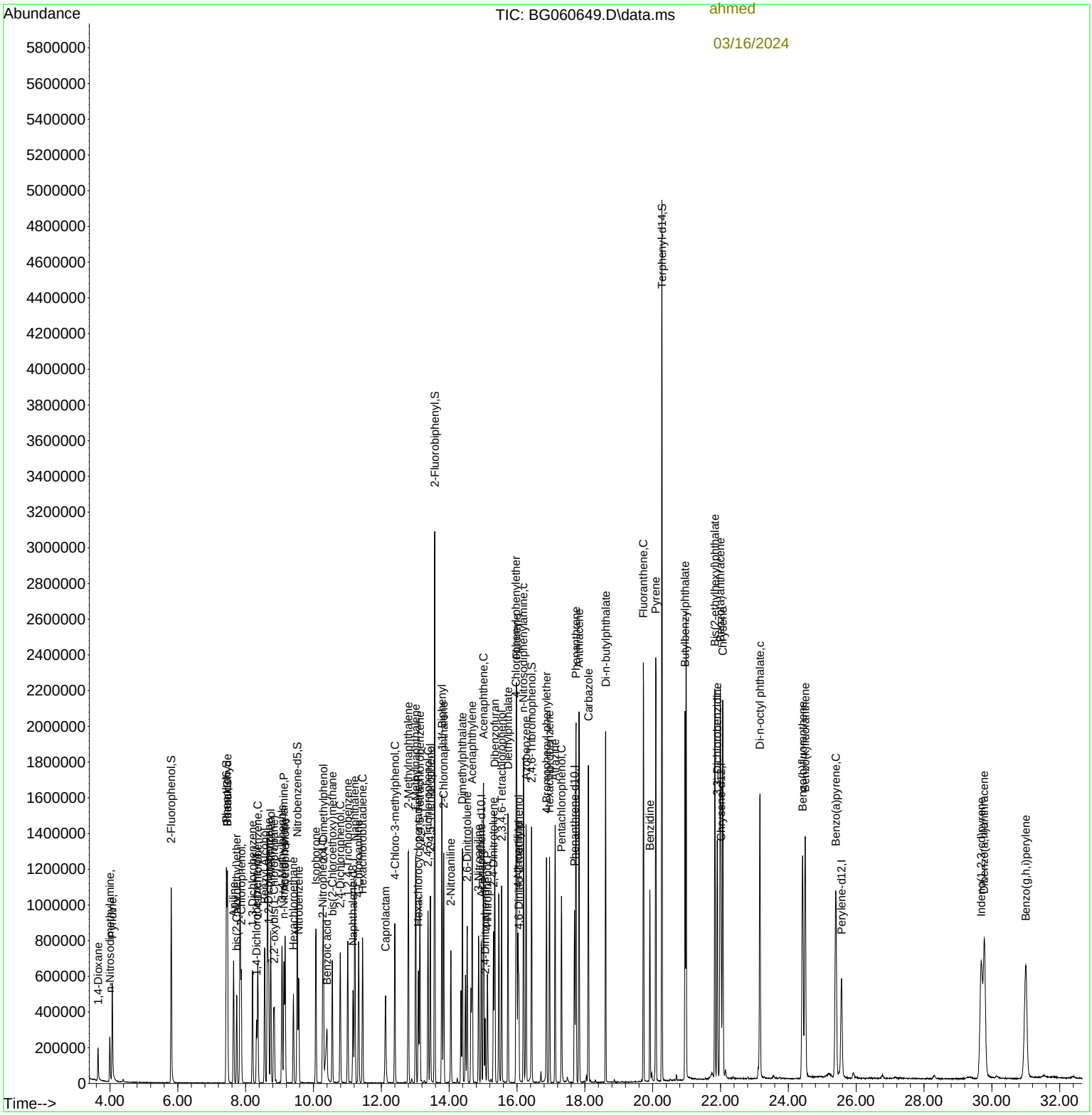
Manual Integrations APPROVED

Reviewed By :Jagrut Upadhyay

03/15/2024

Supervised By :mohammad ahmed

03/16/2024



Sample Results: **BG060649.D**

Data Path : Z:\svoasrv\HPCHEM1\BNA_G\Data\BG031424\
Data File : BG060649.D
Acq On : 14 Mar 2024 22:39
Operator : MA/JU
Sample : SSTDCCC040
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ALS Vial : 2 Sample Multiplier: 1

Instrument :
BNA_G
LabSampleId :
SSTDCCC040

Quant Time: Mar 15 01:38:03 2024
Quant Method : Z:\svoasrv\HPCHEM1\BNA_G\Methods\8270-BG031324.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION
QLast Update : Thu Mar 14 00:45:22 2024
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	91	0.00
2		1,4-Dioxane	0.533	0.540	-1.3	94	0.00
3		Pyridine	1.574	1.570	0.3	90	0.00
4		n-Nitrosodimethylamine	0.772	0.770	0.3	90	0.00
5	S	2-Fluorophenol	1.272	1.260	0.9	88	0.00
6		Aniline	2.255	2.185	3.1	85	0.00
7	S	Phenol-d6	1.846	1.824	1.2	86	0.00
8		2-Chlorophenol	1.391	1.366	1.8	87	0.00
9		Benzaldehyde	1.033	0.984	4.7	82	0.00
10	C	Phenol	1.852	1.801	2.8	84	0.00
11		bis(2-Chloroethyl)ether	1.476	1.411	4.4	84	0.00
12		1,3-Dichlorobenzene	1.500	1.408	6.1	85	0.00
13	C	1,4-Dichlorobenzene	1.520	1.462	3.8	85	0.00
14		1,2-Dichlorobenzene	1.510	1.423	5.8	85	0.00
15		Benzyl Alcohol	1.459	1.392	4.6	81	0.00
16		2,2'-oxybis(1-Chloropropane	2.866	2.624	8.4	81	0.00
17		2-Methylphenol	1.422	1.370	3.7	83	0.00
18		Hexachloroethane	0.519	0.511	1.5	88	0.00
19	P	n-Nitroso-di-n-propylamine	1.279	1.189	7.0	80	0.00
20		3+4-Methylphenols	1.918	1.833	4.4	82	0.00
21	I	Naphthalene-d8	1.000	1.000	0.0	87	0.00
22		Acetophenone	0.536	0.514	4.1	82	0.00
23	S	Nitrobenzene-d5	0.384	0.384	0.0	84	0.00
24		Nitrobenzene	0.384	0.383	0.3	83	0.00
25		Isophorone	0.769	0.730	5.1	81	0.00
26	C	2-Nitrophenol	0.142	0.153	-7.7	87	0.00
27		2,4-Dimethylphenol	0.340	0.330	2.9	85	0.00
28		bis(2-Chloroethoxy)methane	0.461	0.438	5.0	82	0.00
29	C	2,4-Dichlorophenol	0.306	0.303	1.0	83	0.00
30		1,2,4-Trichlorobenzene	0.324	0.308	4.9	84	0.00
31		Naphthalene	1.117	1.055	5.6	83	0.00
32		Benzoic acid	0.199	0.209	-5.0	84	-0.02
33		4-Chloroaniline	0.471	0.458	2.8	83	0.00
34	C	Hexachlorobutadiene	0.221	0.206	6.8	81	0.00
35		Caprolactam	0.103	0.103	0.0	86	-0.01
36	C	4-Chloro-3-methylphenol	0.374	0.365	2.4	83	0.00
37		2-Methylnaphthalene	0.772	0.714	7.5	81	0.00
38		1-Methylnaphthalene	0.724	0.695	4.0	83	0.00
39	I	Acenaphthene-d10	1.000	1.000	0.0	86	0.00
40		1,2,4,5-Tetrachlorobenzene	0.614	0.580	5.5	82	0.00
41	P	Hexachlorocyclopentadiene	0.302	0.293	3.0	80	0.00
42	S	2,4,6-Tribromophenol	0.232	0.231	0.4	81	0.00
43	C	2,4,6-Trichlorophenol	0.394	0.395	-0.3	84	0.00
44		2,4,5-Trichlorophenol	0.467	0.468	-0.2	83	0.00
45	S	2-Fluorobiphenyl	1.479	1.421	3.9	83	0.00
46		1,1'-Biphenyl	1.520	1.451	4.5	82	0.00
47		2-Chloronaphthalene	1.147	1.097	4.4	81	0.00

Sample Results: **BG060649.D**

Data Path : Z:\svoasrv\HPCHEM1\BNA_G\Data\BG031424\
Data File : BG060649.D
Acq On : 14 Mar 2024 22:39
Operator : MA/JU
Sample : SSTDCCC040
Misc :
ALS Vial : 2 Sample Multiplier: 1

Instrument :
BNA_G
LabSampleId :
SSTDCCC040

Quant Time: Mar 15 01:38:03 2024
Quant Method : Z:\svoasrv\HPCHEM1\BNA_G\Methods\8270-BG031324.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION
QLast Update : Thu Mar 14 00:45:22 2024
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
48		2-Nitroaniline	0.379	0.391	-3.2	82	0.00
49		Acenaphthylene	1.869	1.818	2.7	83	0.00
50		Dimethylphthalate	1.500	1.467	2.2	83	0.00
51		2,6-Dinitrotoluene	0.276	0.297	-7.6	87	0.00
52	C	Acenaphthene	1.117	1.092	2.2	85	0.00
53		3-Nitroaniline	0.318	0.328	-3.1	85	0.00
54	P	2,4-Dinitrophenol	0.118	0.121	-2.5	85	0.00
55		Dibenzofuran	1.808	1.748	3.3	84	0.00
56	P	4-Nitrophenol	0.237	0.248	-4.6	87	0.00
57		2,4-Dinitrotoluene	0.348	0.376	-8.0	87	0.00
58		Fluorene	1.447	1.418	2.0	84	0.00
59		2,3,4,6-Tetrachlorophenol	0.389	0.392	-0.8	83	0.00
60		Diethylphthalate	1.543	1.502	2.7	83	0.00
61		4-Chlorophenyl-phenylether	0.733	0.704	4.0	83	0.00
62		4-Nitroaniline	0.326	0.338	-3.7	84	0.00
63		Azobenzene	1.597	1.548	3.1	82	0.00
64	I	Phenanthrene-d10	1.000	1.000	0.0	88	0.00
65		4,6-Dinitro-2-methylphenol	0.083	0.086	-3.6	87	0.00
66	c	n-Nitrosodiphenylamine	0.626	0.594	5.1	83	0.00
67		4-Bromophenyl-phenylether	0.216	0.194	10.2	80	0.00
68		Hexachlorobenzene	0.248	0.232	6.5	83	0.00
69		Atrazine	0.209	0.206	1.4	85	0.00
70	C	Pentachlorophenol	0.161	0.164	-1.9	85	0.00
71		Phenanthrene	1.077	1.029	4.5	85	0.00
72		Anthracene	1.089	1.062	2.5	86	0.00
73		Carbazole	0.947	0.926	2.2	86	0.00
74		Di-n-butylphthalate	1.154	1.160	-0.5	85	0.00
75	C	Fluoranthene	1.192	1.170	1.8	85	0.00
76	I	Chrysene-d12	1.000	1.000	0.0	91	0.00
77		Benzidine	0.489	0.555	-13.5	92	0.00
78		Pyrene	1.396	1.349	3.4	86	0.00
79	S	Terphenyl-d14	1.106	1.051	5.0	87	0.00
80		Butylbenzylphthalate	0.528	0.541	-2.5	88	0.00
81		Benzo(a)anthracene	1.377	1.316	4.4	85	0.00
82		3,3'-Dichlorobenzidine	0.464	0.467	-0.6	86	0.00
83		Chrysene	1.337	1.286	3.8	87	0.00
84		Bis(2-ethylhexyl)phthalate	0.779	0.798	-2.4	88	0.00
85	c	Di-n-octyl phthalate	1.283	1.327	-3.4	88	-0.01
86	I	Perylene-d12	1.000	1.000	0.0	92	0.00
87		Indeno(1,2,3-cd)pyrene	1.364	1.330	2.5	88	-0.02
88		Benzo(b)fluoranthene	1.100	1.060	3.6	86	0.00
89		Benzo(k)fluoranthene	1.156	1.108	4.2	88	0.00
90	C	Benzo(a)pyrene	1.079	1.045	3.2	87	-0.01
91		Dibenzo(a,h)anthracene	1.158	1.121	3.2	87	-0.03
92		Benzo(g,h,i)perylene	1.121	1.082	3.5	86	-0.01

Sample Results: **BG060649.D**

Data Path : Z:\svoasrv\HPCHEM1\BNA_G\Data\BG031424\
Data File : BG060649.D
Acq On : 14 Mar 2024 22:39
Operator : MA/JU
Sample : SSTDCCC040
Misc :
ALS Vial : 2 Sample Multiplier: 1

Instrument :
BNA_G
LabSampleId :
SSTDCCC040

Quant Time: Mar 15 01:38:03 2024
Quant Method : Z:\svoasrv\HPCHEM1\BNA_G\Methods\8270-BG031324.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION
QLast Update : Thu Mar 14 00:45:22 2024
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Sample Results: **BG060649.D**

Data Path : Z:\svoasrv\HPCHEM1\BNA_G\Data\BG031424\
Data File : BG060649.D
Acq On : 14 Mar 2024 22:39
Operator : MA/JU
Sample : SSTDCCC040
Misc :
ALS Vial : 2 Sample Multiplier: 1

Instrument :
BNA_G
LabSampleId :
SSTDCCC040

Quant Time: Mar 15 01:38:03 2024
Quant Method : Z:\svoasrv\HPCHEM1\BNA_G\Methods\8270-BG031324.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION
QLast Update : Thu Mar 14 00:45:22 2024
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	1,4-Dichlorobenzene-d4	20.000	20.000	0.0	91	0.00
2		1,4-Dioxane	40.000	40.575	-1.4	94	0.00
3		Pyridine	40.000	39.907	0.2	90	0.00
4		n-Nitrosodimethylamine	40.000	39.900	0.3	90	0.00
5	S	2-Fluorophenol	80.000	79.218	1.0	88	0.00
6		Aniline	40.000	38.751	3.1	85	0.00
7	S	Phenol-d6	80.000	79.060	1.2	86	0.00
8		2-Chlorophenol	40.000	39.298	1.8	87	0.00
9		Benzaldehyde	40.000	38.114	4.7	82	0.00
10	C	Phenol	40.000	38.907	2.7	84	0.00
11		bis(2-Chloroethyl)ether	40.000	38.246	4.4	84	0.00
12		1,3-Dichlorobenzene	40.000	37.555	6.1	85	0.00
13	C	1,4-Dichlorobenzene	40.000	38.457	3.9	85	0.00
14		1,2-Dichlorobenzene	40.000	37.707	5.7	85	0.00
15		Benzyl Alcohol	40.000	38.155	4.6	81	0.00
16		2,2'-oxybis(1-Chloropropane	40.000	36.627	8.4	81	0.00
17		2-Methylphenol	40.000	38.529	3.7	83	0.00
18		Hexachloroethane	40.000	39.323	1.7	88	0.00
19	P	n-Nitroso-di-n-propylamine	40.000	37.188	7.0	80	0.00
20		3+4-Methylphenols	40.000	38.225	4.4	82	0.00
21	I	Naphthalene-d8	20.000	20.000	0.0	87	0.00
22		Acetophenone	40.000	38.375	4.1	82	0.00
23	S	Nitrobenzene-d5	80.000	79.943	0.1	84	0.00
24		Nitrobenzene	40.000	39.831	0.4	83	0.00
25		Isophorone	40.000	37.941	5.1	81	0.00
26	C	2-Nitrophenol	40.000	39.612	1.0	87	0.00
27		2,4-Dimethylphenol	40.000	38.793	3.0	85	0.00
28		bis(2-Chloroethoxy)methane	40.000	37.963	5.1	82	0.00
29	C	2,4-Dichlorophenol	40.000	39.632	0.9	83	0.00
30		1,2,4-Trichlorobenzene	40.000	37.984	5.0	84	0.00
31		Naphthalene	40.000	37.788	5.5	83	0.00
32		Benzoic acid	40.000	38.774	3.1	84	-0.02
33		4-Chloroaniline	40.000	38.882	2.8	83	0.00
34	C	Hexachlorobutadiene	40.000	37.319	6.7	81	0.00
35		Caprolactam	40.000	40.246	-0.6	86	-0.01
36	C	4-Chloro-3-methylphenol	40.000	38.960	2.6	83	0.00
37		2-Methylnaphthalene	40.000	37.019	7.5	81	0.00
38		1-Methylnaphthalene	40.000	38.386	4.0	83	0.00
39	I	Acenaphthene-d10	20.000	20.000	0.0	86	0.00
40		1,2,4,5-Tetrachlorobenzene	40.000	37.777	5.6	82	0.00
41	P	Hexachlorocyclopentadiene	40.000	38.838	2.9	80	0.00
42	S	2,4,6-Tribromophenol	80.000	79.645	0.4	81	0.00
43	C	2,4,6-Trichlorophenol	40.000	40.018	-0.0	84	0.00
44		2,4,5-Trichlorophenol	40.000	40.148	-0.4	83	0.00
45	S	2-Fluorobiphenyl	80.000	76.827	4.0	83	0.00
46		1,1'-Biphenyl	40.000	38.182	4.5	82	0.00
47		2-Chloronaphthalene	40.000	38.241	4.4	81	0.00

Data Path : Z:\svoasrv\HPCHEM1\BNA_G\Data\BG031424\
Data File : BG060649.D
Acq On : 14 Mar 2024 22:39
Operator : MA/JU
Sample : SSTDCCC040
Misc :
ALS Vial : 2 Sample Multiplier: 1

Instrument :
BNA_G
LabSampleId :
SSTDCCC040

Quant Time: Mar 15 01:38:03 2024
Quant Method : Z:\svoasrv\HPCHEM1\BNA_G\Methods\8270-BG031324.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION
QLast Update : Thu Mar 14 00:45:22 2024
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
48		2-Nitroaniline	40.000	41.325	-3.3	82	0.00
49		Acenaphthylene	40.000	38.912	2.7	83	0.00
50		Dimethylphthalate	40.000	39.126	2.2	83	0.00
51		2,6-Dinitrotoluene	40.000	42.982	-7.5	87	0.00
52	C	Acenaphthene	40.000	39.114	2.2	85	0.00
53		3-Nitroaniline	40.000	41.289	-3.2	85	0.00
54	P	2,4-Dinitrophenol	40.000	38.001	5.0	85	0.00
55		Dibenzofuran	40.000	38.665	3.3	84	0.00
56	P	4-Nitrophenol	40.000	41.703	-4.3	87	0.00
57		2,4-Dinitrotoluene	40.000	43.309	-8.3	87	0.00
58		Fluorene	40.000	39.214	2.0	84	0.00
59		2,3,4,6-Tetrachlorophenol	40.000	40.300	-0.7	83	0.00
60		Diethylphthalate	40.000	38.937	2.7	83	0.00
61		4-Chlorophenyl-phenylether	40.000	38.398	4.0	83	0.00
62		4-Nitroaniline	40.000	41.539	-3.8	84	0.00
63		Azobenzene	40.000	38.760	3.1	82	0.00
64	I	Phenanthrene-d10	20.000	20.000	0.0	88	0.00
65		4,6-Dinitro-2-methylphenol	40.000	39.064	2.3	87	0.00
66	c	n-Nitrosodiphenylamine	40.000	37.972	5.1	83	0.00
67		4-Bromophenyl-phenylether	40.000	35.968	10.1	80	0.00
68		Hexachlorobenzene	40.000	37.419	6.5	83	0.00
69		Atrazine	40.000	39.303	1.7	85	0.00
70	C	Pentachlorophenol	40.000	40.938	-2.3	85	0.00
71		Phenanthrene	40.000	38.205	4.5	85	0.00
72		Anthracene	40.000	38.988	2.5	86	0.00
73		Carbazole	40.000	39.120	2.2	86	0.00
74		Di-n-butylphthalate	40.000	40.214	-0.5	85	0.00
75	C	Fluoranthene	40.000	39.287	1.8	85	0.00
76	I	Chrysene-d12	20.000	20.000	0.0	91	0.00
77		Benzidine	40.000	45.404	-13.5	92	0.00
78		Pyrene	40.000	38.674	3.3	86	0.00
79	S	Terphenyl-d14	80.000	75.969	5.0	87	0.00
80		Butylbenzylphthalate	40.000	41.008	-2.5	88	0.00
81		Benzo(a)anthracene	40.000	38.232	4.4	85	0.00
82		3,3'-Dichlorobenzidine	40.000	40.260	-0.6	86	0.00
83		Chrysene	40.000	38.479	3.8	87	0.00
84		Bis(2-ethylhexyl)phthalate	40.000	40.978	-2.4	88	0.00
85	c	Di-n-octyl phthalate	40.000	41.371	-3.4	88	-0.01
86	I	Perylene-d12	20.000	20.000	0.0	92	0.00
87		Indeno(1,2,3-cd)pyrene	40.000	38.985	2.5	88	-0.02
88		Benzo(b)fluoranthene	40.000	38.529	3.7	86	0.00
89		Benzo(k)fluoranthene	40.000	38.358	4.1	88	0.00
90	C	Benzo(a)pyrene	40.000	38.741	3.1	87	-0.01
91		Dibenzo(a,h)anthracene	40.000	38.723	3.2	87	-0.03
92		Benzo(g,h,i)perylene	40.000	38.607	3.5	86	-0.01

Sample Results: **BG060649.D**

Data Path : Z:\svoasrv\HPCHEM1\BNA_G\Data\BG031424\
Data File : BG060649.D
Acq On : 14 Mar 2024 22:39
Operator : MA/JU
Sample : SSTDCCC040
Misc :
ALS Vial : 2 Sample Multiplier: 1

Instrument :
BNA_G
LabSampleId :
SSTDCCC040

Quant Time: Mar 15 01:38:03 2024
Quant Method : Z:\svoasrv\HPCHEM1\BNA_G\Methods\8270-BG031324.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION
QLast Update : Thu Mar 14 00:45:22 2024
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

Compound	Amount	Calc.	%Dev	Area%	Dev(min)

(#) = Out of Range SPCC's out = 0 CCC's out = 0

CHEMTECH

QC SAMPLE DATA

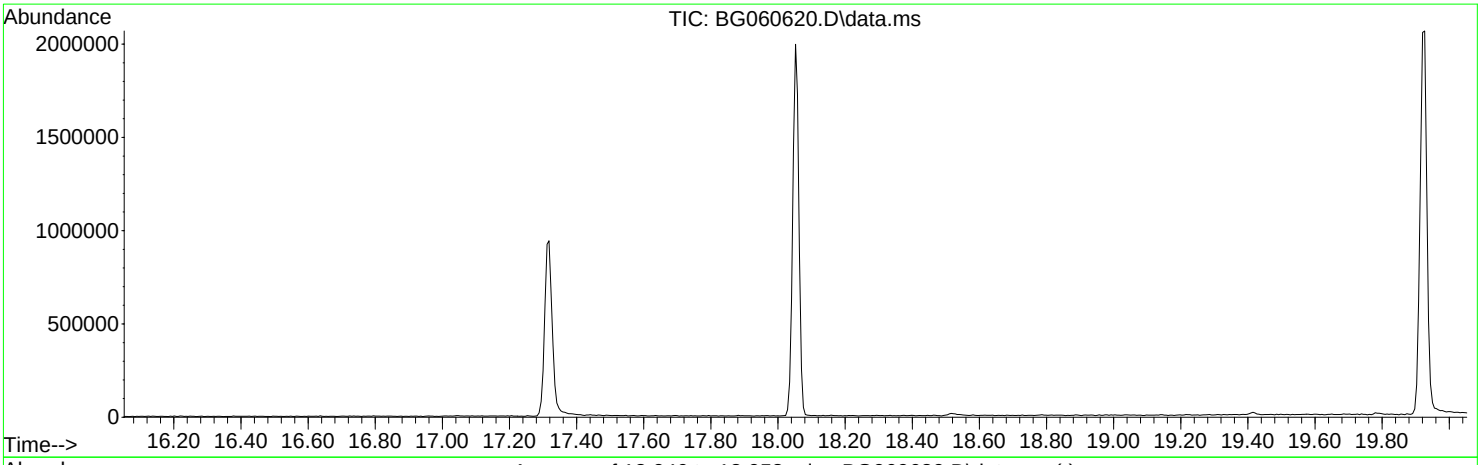
Sample Results: **BG060620.D**

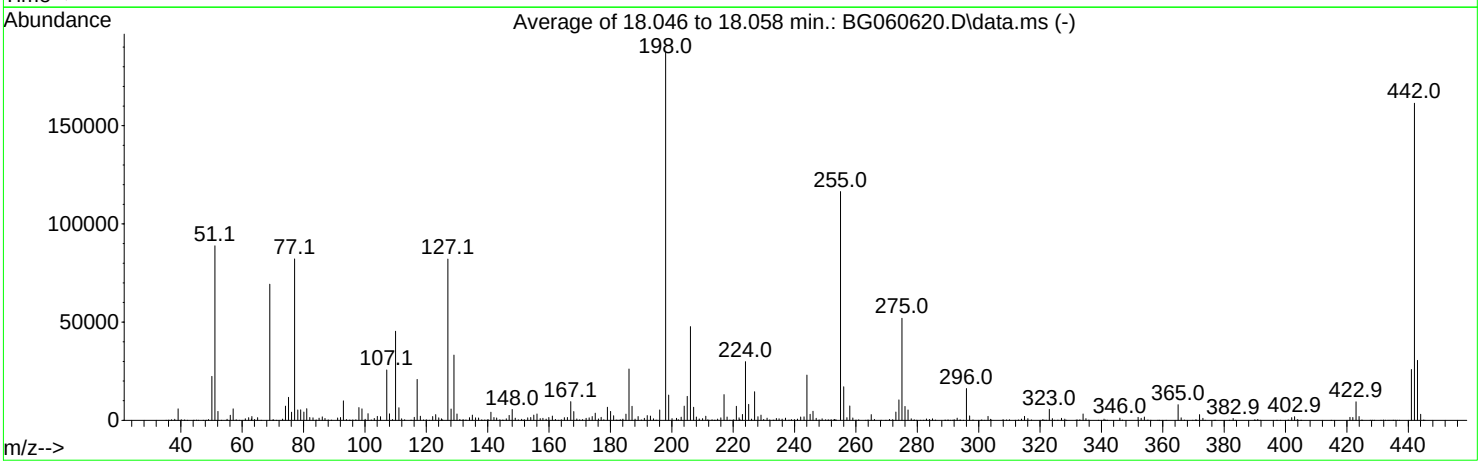
Data Path : Z:\svoasrv\HPCHEM1\BNA_G\Data\BG031324\
Data File : BG060620.D
Acq On : 13 Mar 2024 10:02
Operator : MA/JU
Sample : DFTPP
Misc :
ALS Vial : 1 Sample Multiplier: 1

Instrument :
BNA_G
ClientSampleId :
DFTPP

Integration File: rteint.p

Method : Z:\svoasrv\HPCHEM1\BNA_G\Methods\8270-BG031324.M
Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION
Last Update : Thu Mar 14 00:45:22 2024





AutoFind: Scans 2495, 2496, 2497; Background Corrected with Scan 2488

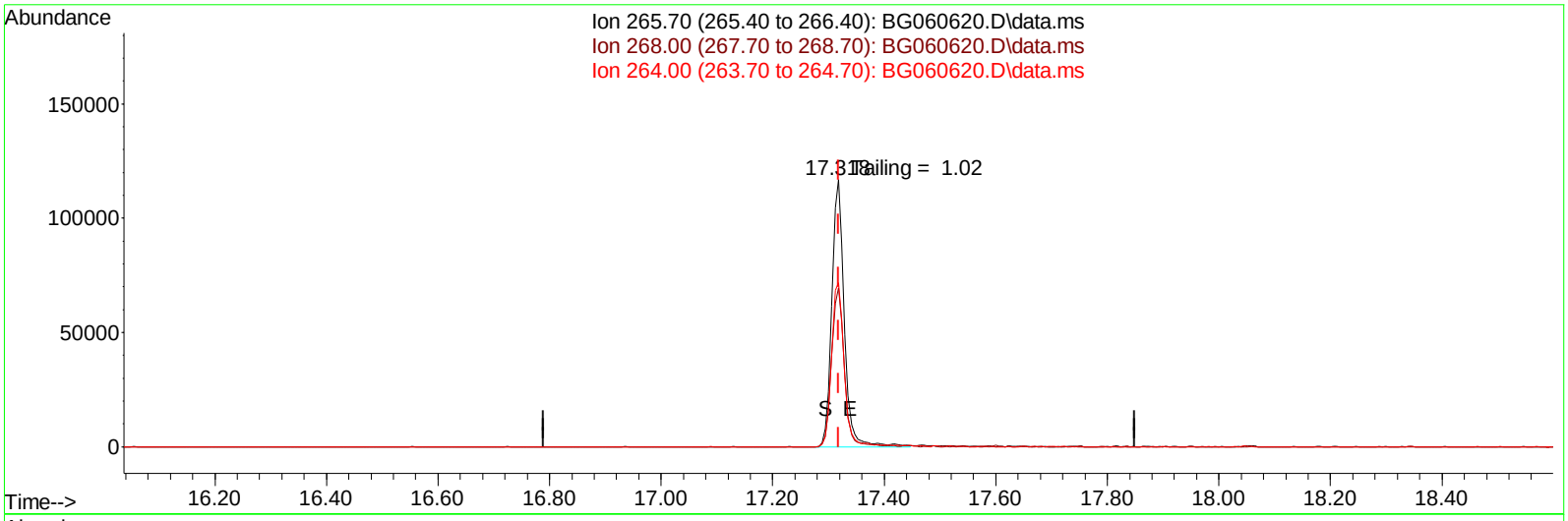
Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	10	80	47.4	88843	PASS
68	69	0.00	2	0.0	0	PASS
69	198	0.00	100	37.0	69307	PASS
70	69	0.00	2	0.5	354	PASS
127	198	10	80	43.8	82093	PASS
197	198	0.00	2	0.0	0	PASS
198	198	100	100	100.0	187264	PASS
199	198	5	9	6.9	12835	PASS
275	198	10	60	27.8	51968	PASS
365	198	1	100	4.3	7959	PASS
441	198	0.01	100	13.8	25915	PASS
442	442	50	100	100.0	161400	PASS
443	442	15	24	18.9	30555	PASS

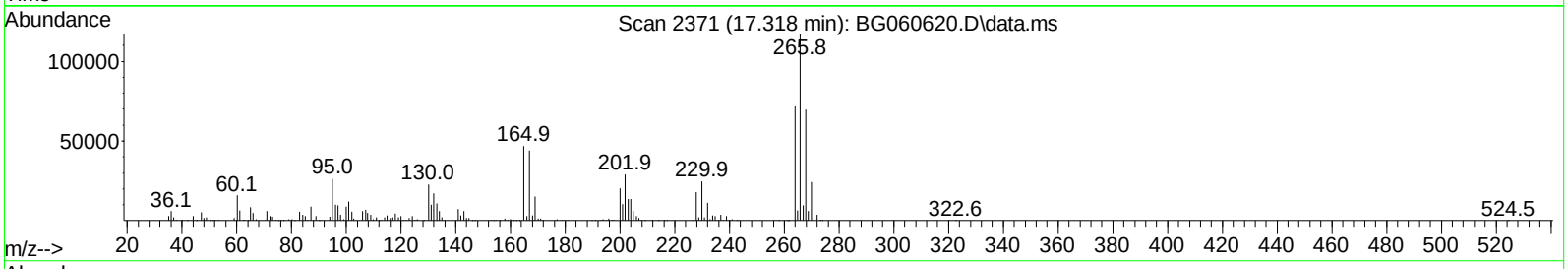
Sample Results: **BG060620.D**

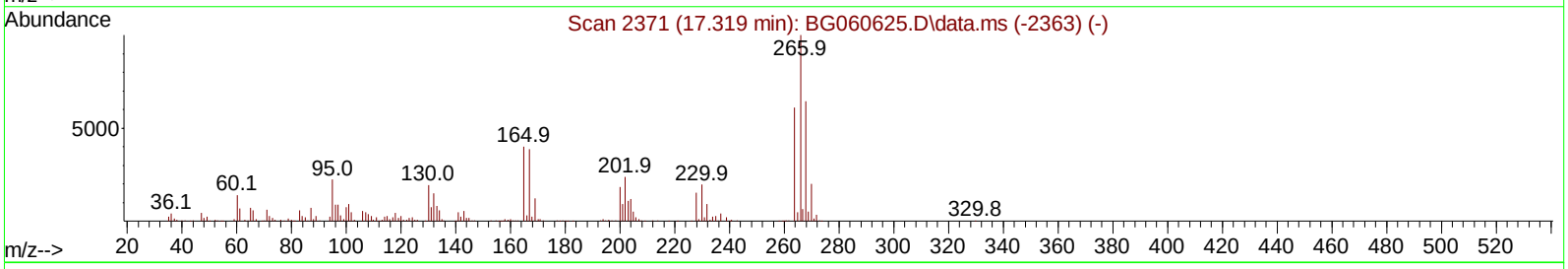
Data Path : Z:\svoasrv\HPCHEM1\BNA_G\Data\BG031324\
Data File : BG060620.D
Acq On : 13 Mar 2024 10:02
Operator : MA/JU
Sample : DFTPP
Misc :
ALS Vial : 1 Sample Multiplier: 1

Instrument :
BNA_G
ClientSampleId :
DFTPP

Quant Time: Mar 14 00:52:28 2024
Quant Method : Z:\svoasrv\HPCHEM1\BNA_G\Methods\8270-BG031324.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION
QLast Update : Thu Mar 14 00:45:22 2024
Response via : Initial Calibration







TIC: BG060620.D\data.ms

(70) Pentachlorophenol (C)

17.318min (-0.001) 405314.76 ng

response 179139

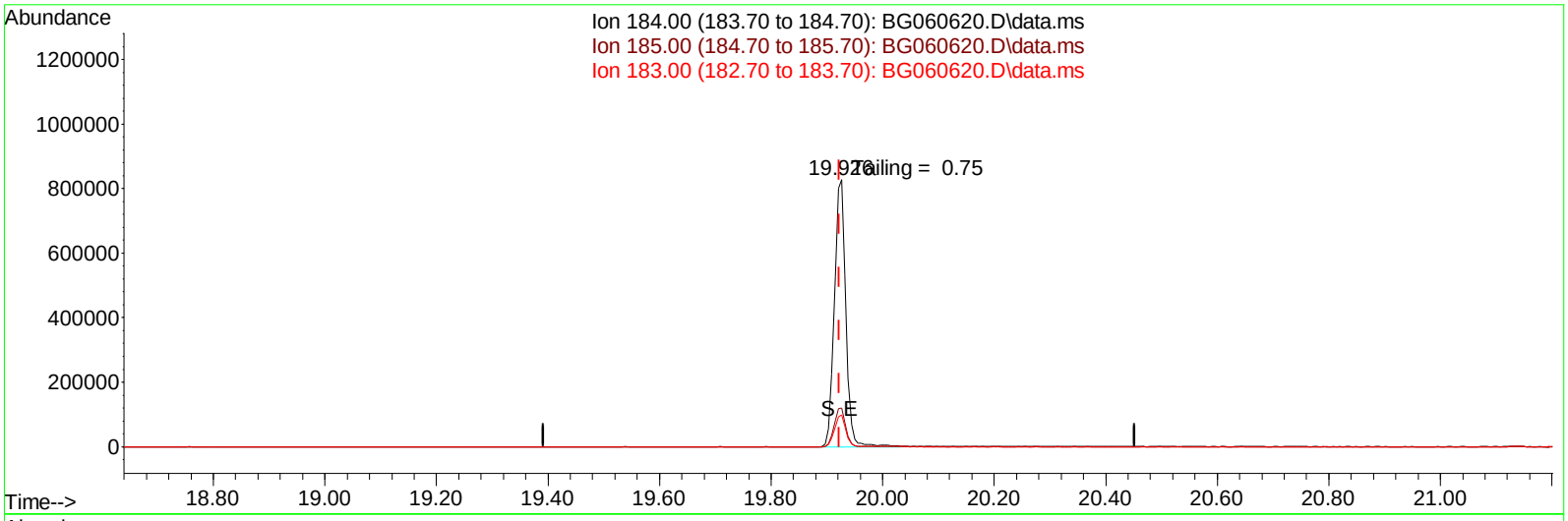
Ion	Exp%	Act%
265.70	100.00	100.00
268.00	64.40	59.60
264.00	61.10	61.40
0.00	0.00	0.00

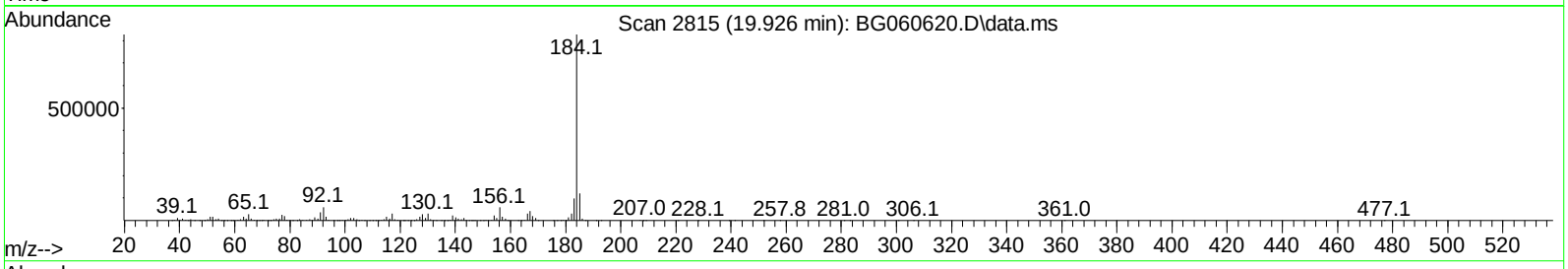
Sample Results: **BG060620.D**

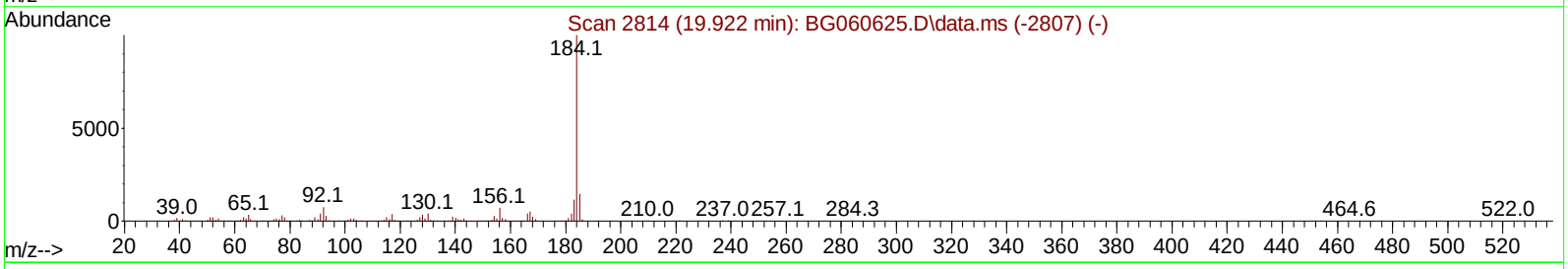
Data Path : Z:\svoasrv\HPCHEM1\BNA_G\Data\BG031324\
Data File : BG060620.D
Acq On : 13 Mar 2024 10:02
Operator : MA/JU
Sample : DFTPP
Misc :
ALS Vial : 1 Sample Multiplier: 1

Instrument :
BNA_G
ClientSampleId :
DFTPP

Quant Time: Mar 14 00:52:28 2024
Quant Method : Z:\svoasrv\HPCHEM1\BNA_G\Methods\8270-BG031324.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION
QLast Update : Thu Mar 14 00:45:22 2024
Response via : Initial Calibration







TIC: BG060620.D\data.ms

(77) Benzidine

19.926min (+ 0.004) 5804.20 ng

response 1176934

Ion	Exp%	Act%
184.00	100.00	100.00
185.00	14.60	14.62
183.00	11.50	11.86
0.00	0.00	0.00

DDT Breakdown

Date	Instrument Name	DFTPP Data File
3/13/2024	BNA_G	BG060620.D
Compound Name	**Response**	**Retention Time**
DDT	448327	21.137
DDD	10923	20.678
DDE	0	20.117
SUM(DDD+DDE)	**SUM(DDT+DDD+DDE)**	**% Breakdown Of DDT**
10923	459250	2.38

Instrument :
BNA_G
ClientSampleId :
DFTPP

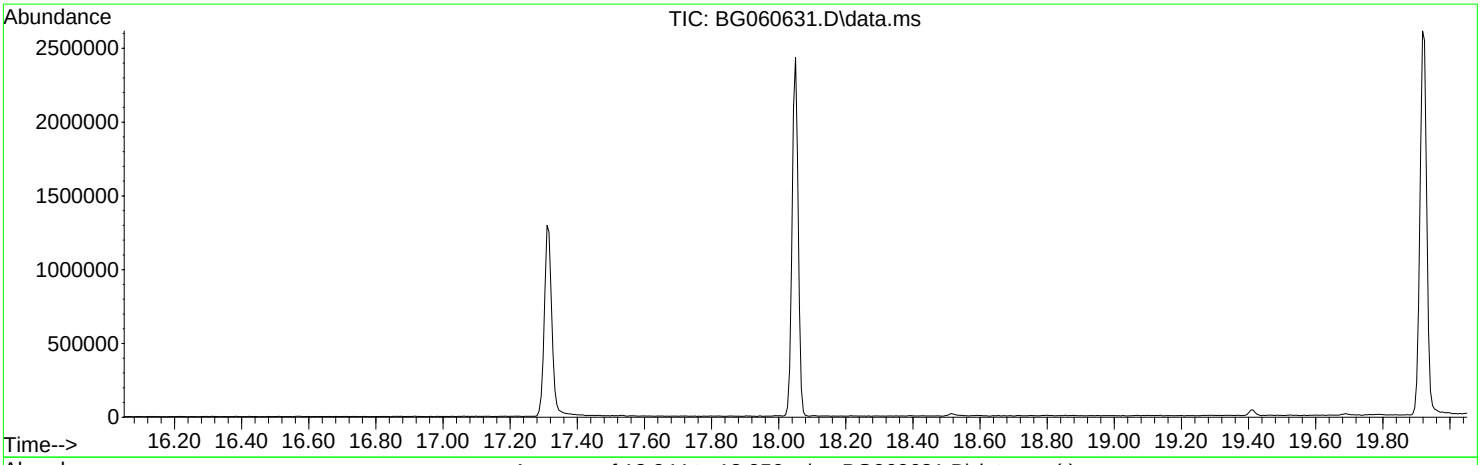
Sample Results: **BG060631.D**

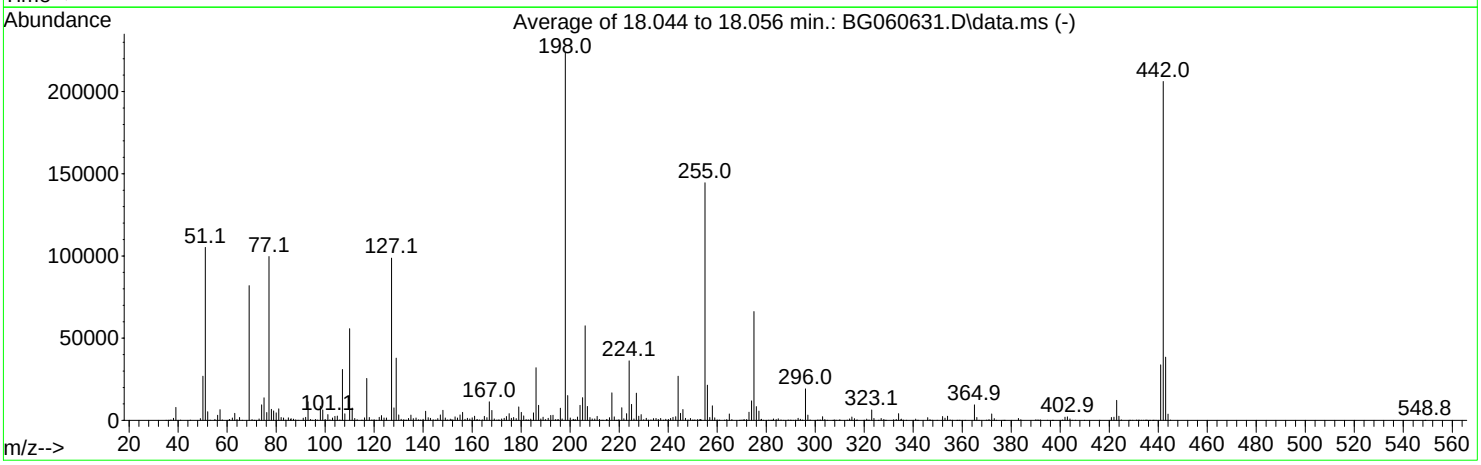
Data Path : Z:\svoasrv\HPCHEM1\BNA_G\Data\BG031424\
Data File : BG060631.D
Acq On : 14 Mar 2024 9:44
Operator : MA/JU
Sample : DFTPP
Misc :
ALS Vial : 1 Sample Multiplier: 1

Instrument :
BNA_G
ClientSampleId :
DFTPP

Integration File: rteint.p

Method : Z:\svoasrv\HPCHEM1\BNA_G\Methods\8270-BG031324.M
Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION
Last Update : Thu Mar 14 00:45:22 2024





AutoFind: Scans 2494, 2495, 2496; Background Corrected with Scan 2487

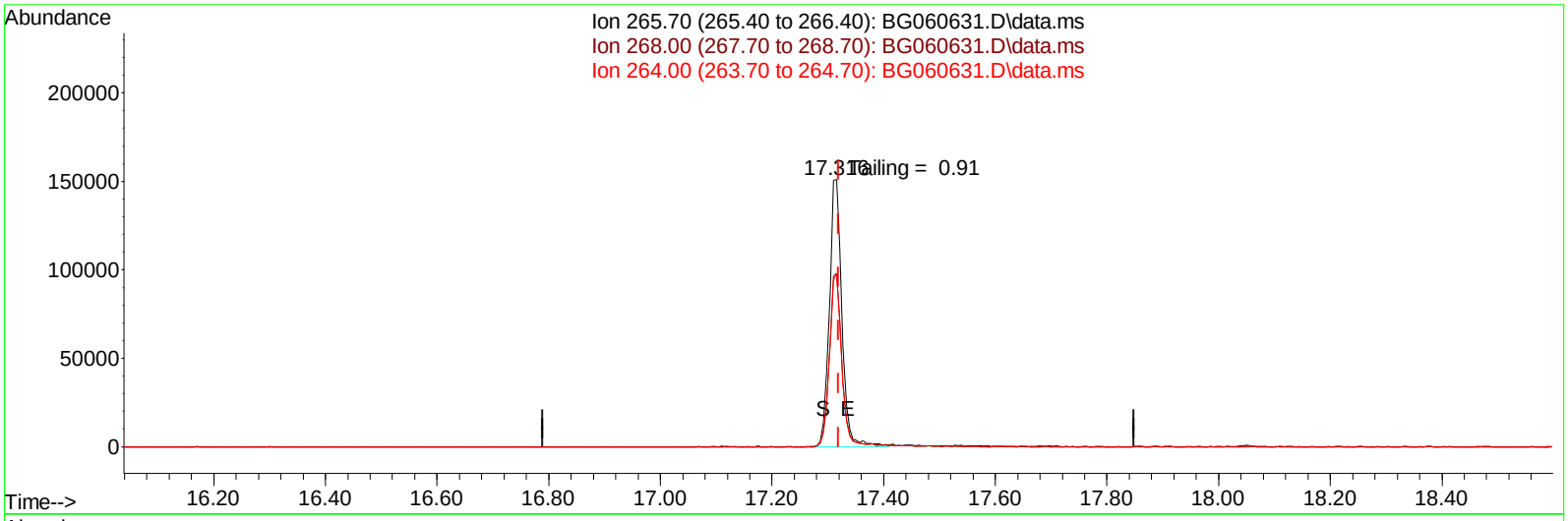
Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	10	80	47.0	105189	PASS
68	69	0.00	2	0.0	0	PASS
69	198	0.00	100	36.6	81973	PASS
70	69	0.00	2	0.6	482	PASS
127	198	10	80	44.1	98709	PASS
197	198	0.00	2	0.4	876	PASS
198	198	100	100	100.0	223765	PASS
199	198	5	9	6.7	15103	PASS
275	198	10	60	29.6	66189	PASS
365	198	1	100	4.2	9493	PASS
441	198	0.01	100	15.1	33749	PASS
442	442	50	100	100.0	206165	PASS
443	442	15	24	18.6	38427	PASS

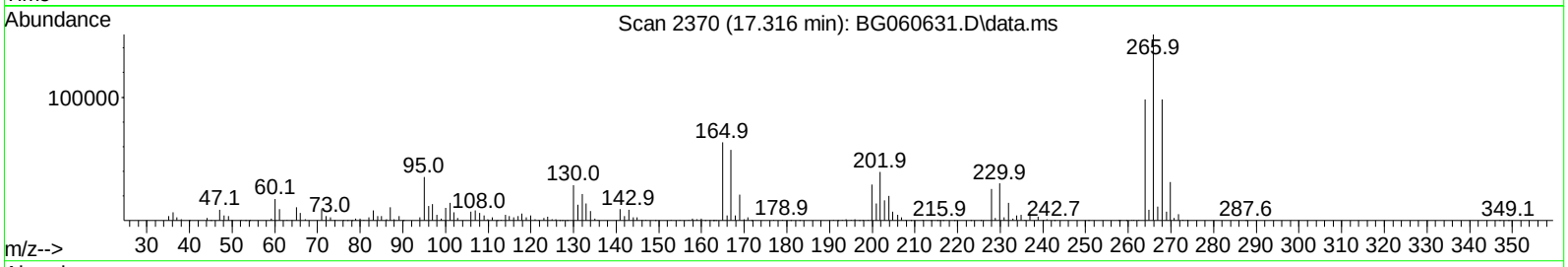
Sample Results: **BG060631.D**

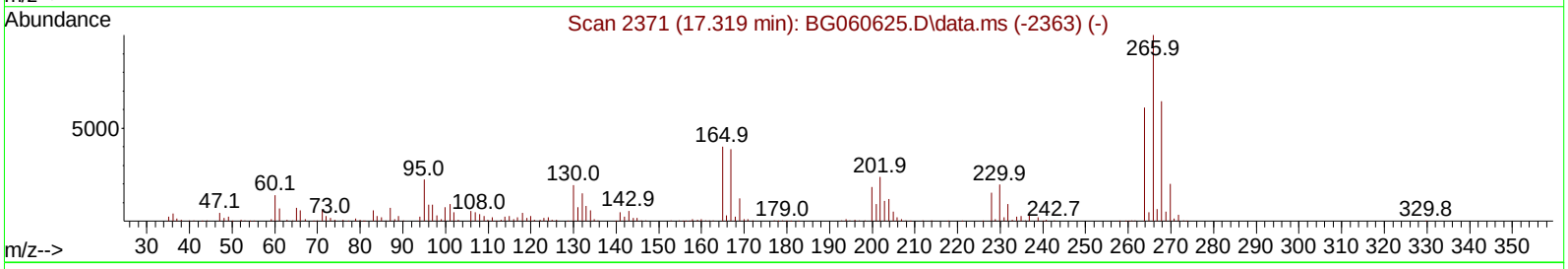
Data Path : Z:\svoasrv\HPCHEM1\BNA_G\Data\BG031424\
Data File : BG060631.D
Acq On : 14 Mar 2024 9:44
Operator : MA/JU
Sample : DFTPP
Misc :
ALS Vial : 1 Sample Multiplier: 1

Instrument :
BNA_G
ClientSampleId :
DFTPP

Quant Time: Mar 14 12:23:09 2024
Quant Method : Z:\svoasrv\HPCHEM1\BNA_G\Methods\8270-BG031324.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION
QLast Update : Thu Mar 14 00:45:22 2024
Response via : Initial Calibration







TIC: BG060631.D\data.ms

(70) Pentachlorophenol (C)

17.316min (-0.003) 241234.25 ng

response 238440

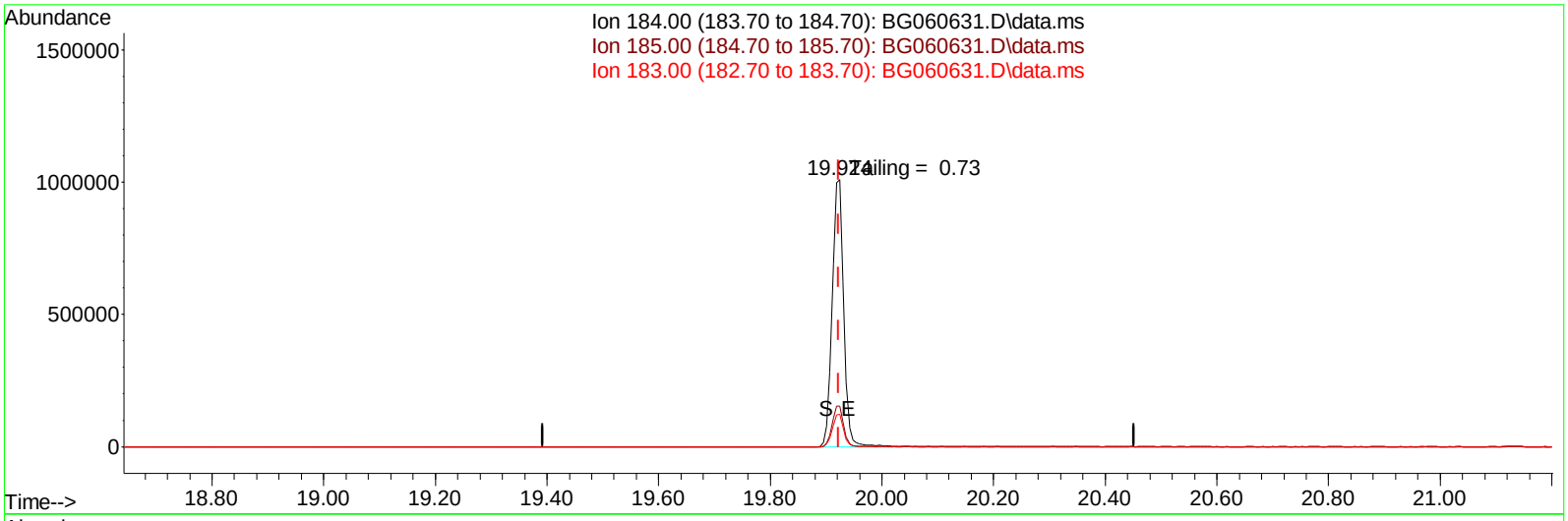
Ion	Exp%	Act%
265.70	100.00	100.00
268.00	64.40	65.08
264.00	61.10	65.07
0.00	0.00	0.00

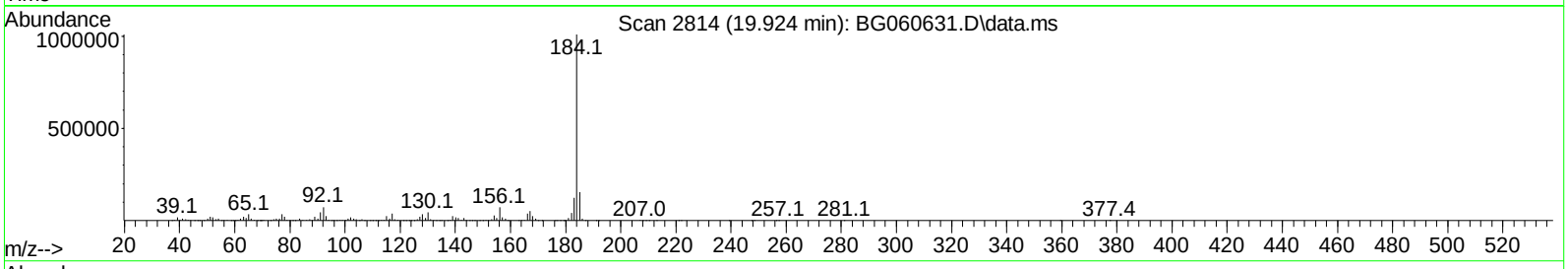
Sample Results: **BG060631.D**

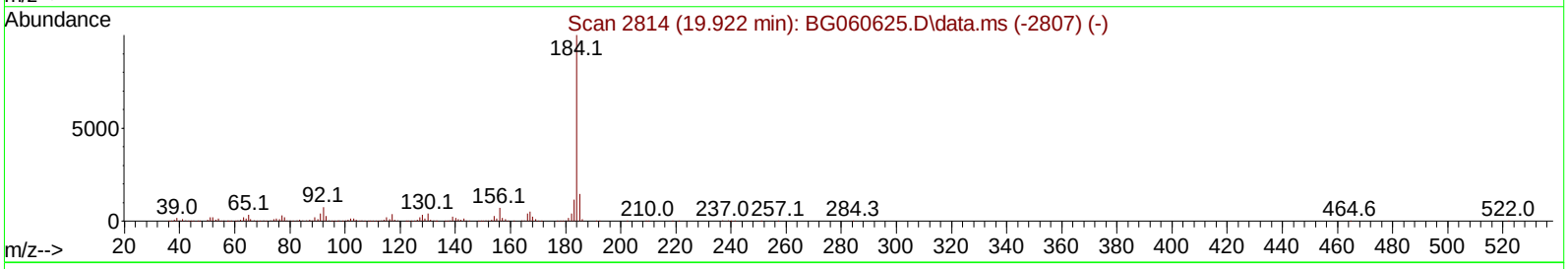
Data Path : Z:\svoasrv\HPCHEM1\BNA_G\Data\BG031424\
Data File : BG060631.D
Acq On : 14 Mar 2024 9:44
Operator : MA/JU
Sample : DFTPP
Misc :
ALS Vial : 1 Sample Multiplier: 1

Instrument :
BNA_G
ClientSampleId :
DFTPP

Quant Time: Mar 14 12:23:09 2024
Quant Method : Z:\svoasrv\HPCHEM1\BNA_G\Methods\8270-BG031324.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION
QLast Update : Thu Mar 14 00:45:22 2024
Response via : Initial Calibration







TIC: BG060631.D\data.ms

(77) Benzidine

19.924min (+ 0.002) 5207.67 ng

response 1443715

Ion	Exp%	Act%
184.00	100.00	100.00
185.00	14.60	15.11
183.00	11.50	12.20
0.00	0.00	0.00

DDT Breakdown

Date	Instrument Name	DFTPP Data File
3/14/2024	BNA_G	BG060631.D
Compound Name	**Response**	**Retention Time**
DDT	585704	21.135
DDD	13691	20.676
DDE	721	20.165
SUM(DDD+DDE)	**SUM(DDT+DDD+DDE)**	**% Breakdown Of DDT**
14412	600116	2.40

Instrument :
BNA_G
ClientSampleId :
DFTPP

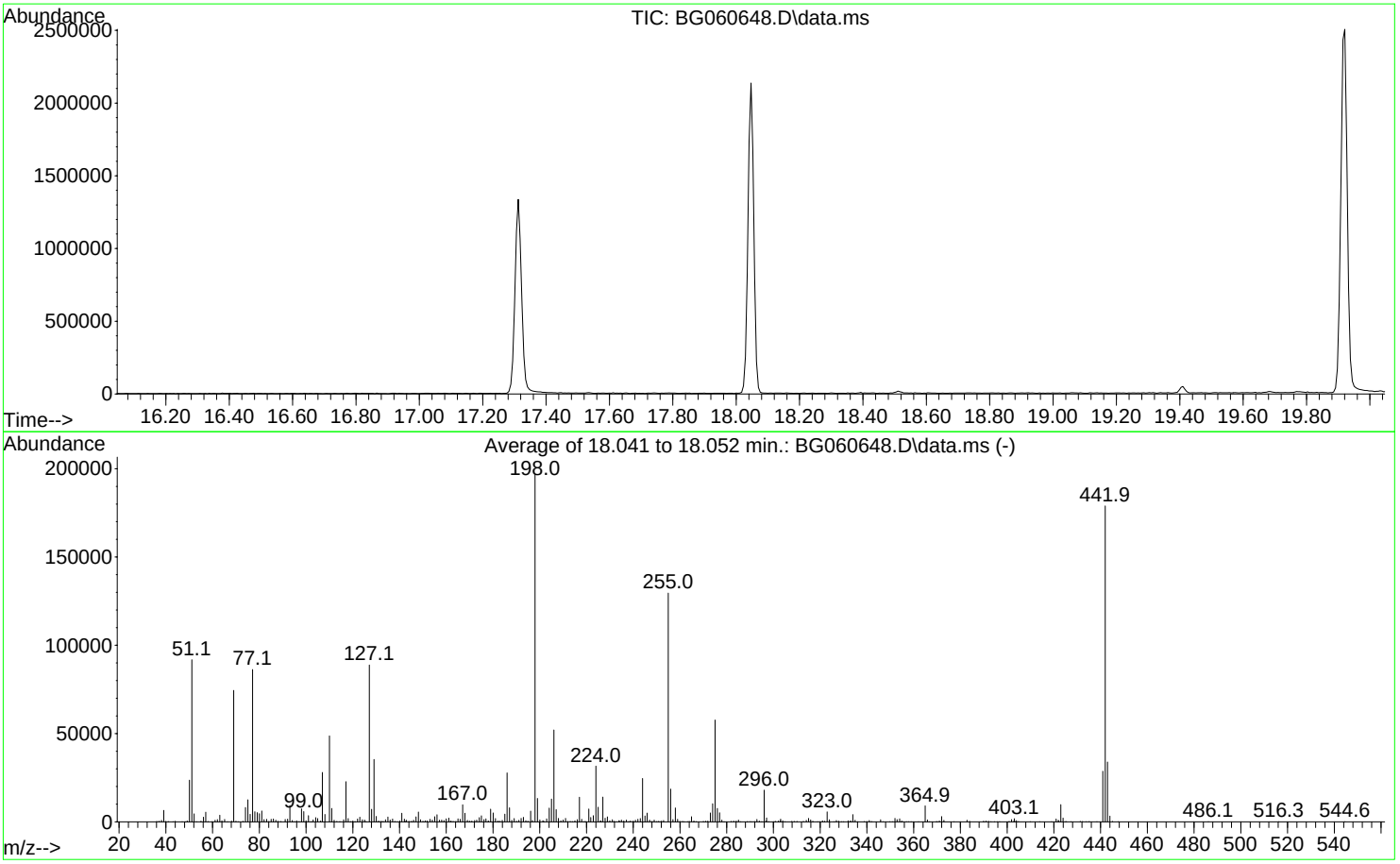
Sample Results: **BG060648.D**

Data Path : Z:\svoasrv\HPCHEM1\BNA_G\Data\BG031424\
Data File : BG060648.D
Acq On : 14 Mar 2024 21:59
Operator : MA/JU
Sample : DFTPP
Misc :
ALS Vial : 1 Sample Multiplier: 1

Instrument :
BNA_G
ClientSampleId :
DFTPP

Integration File: rteint.p

Method : Z:\svoasrv\HPCHEM1\BNA_G\Methods\8270-BG031324.M
Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION
Last Update : Thu Mar 14 00:45:22 2024



AutoFind: Scans 2494, 2495, 2496; Background Corrected with Scan 2487

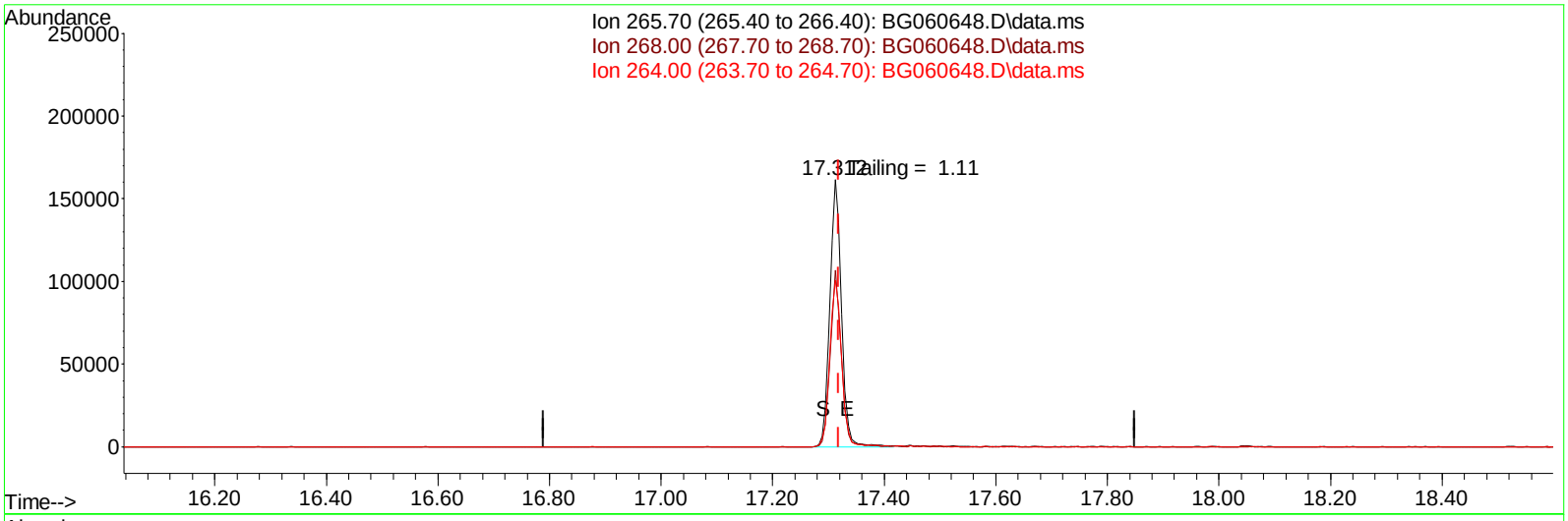
Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	10	80	46.7	91803	PASS
68	69	0.00	2	0.6	465	PASS
69	198	0.00	100	37.9	74475	PASS
70	69	0.00	2	0.5	340	PASS
127	198	10	80	45.2	88861	PASS
197	198	0.00	2	0.4	763	PASS
198	198	100	100	100.0	196736	PASS
199	198	5	9	6.8	13290	PASS
275	198	10	60	29.3	57675	PASS
365	198	1	100	4.6	9038	PASS
441	198	0.01	100	14.6	28659	PASS
442	442	50	100	100.0	178965	PASS
443	442	15	24	18.9	33907	PASS

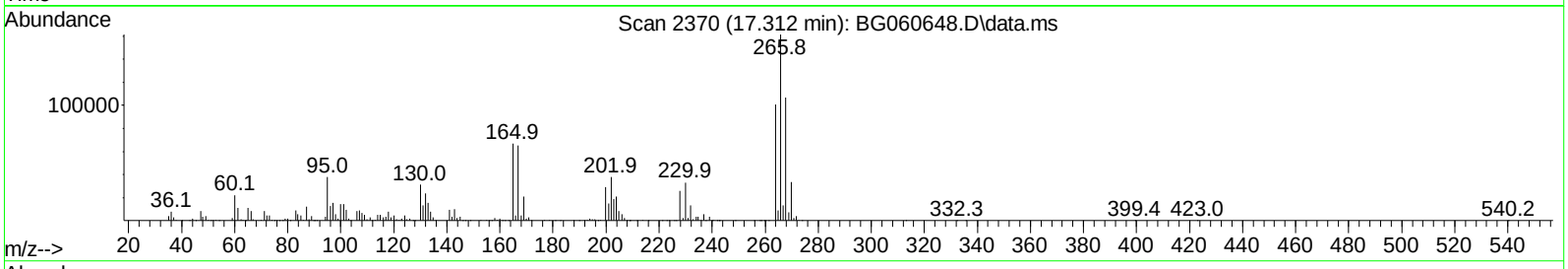
Sample Results: **BG060648.D**

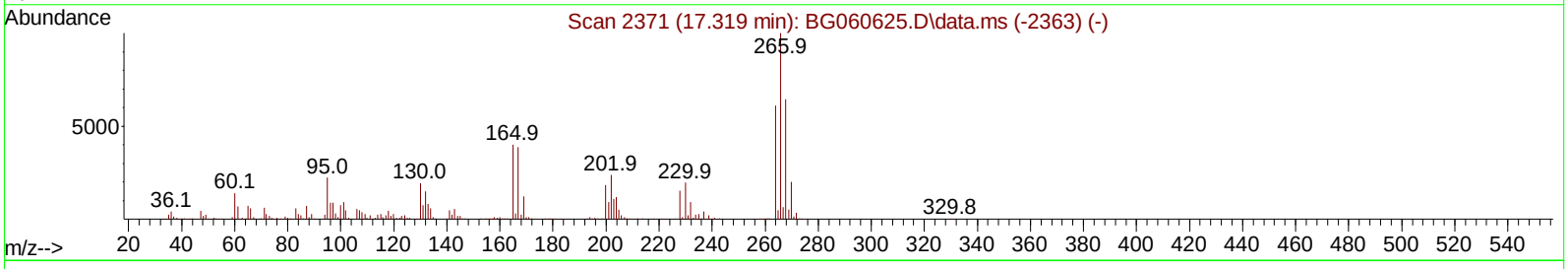
Data Path : Z:\svoasrv\HPCHEM1\BNA_G\Data\BG031424\
Data File : BG060648.D
Acq On : 14 Mar 2024 21:59
Operator : MA/JU
Sample : DFTPP
Misc :
ALS Vial : 1 Sample Multiplier: 1

Instrument :
BNA_G
ClientSampleId :
DFTPP

Quant Time: Mar 15 02:26:19 2024
Quant Method : Z:\svoasrv\HPCHEM1\BNA_G\Methods\8270-BG031324.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION
QLast Update : Thu Mar 14 00:45:22 2024
Response via : Initial Calibration







TIC: BG060648.D\data.ms

(70) Pentachlorophenol (C)

17.312min (-0.007) 359159.45 ng

response 233780

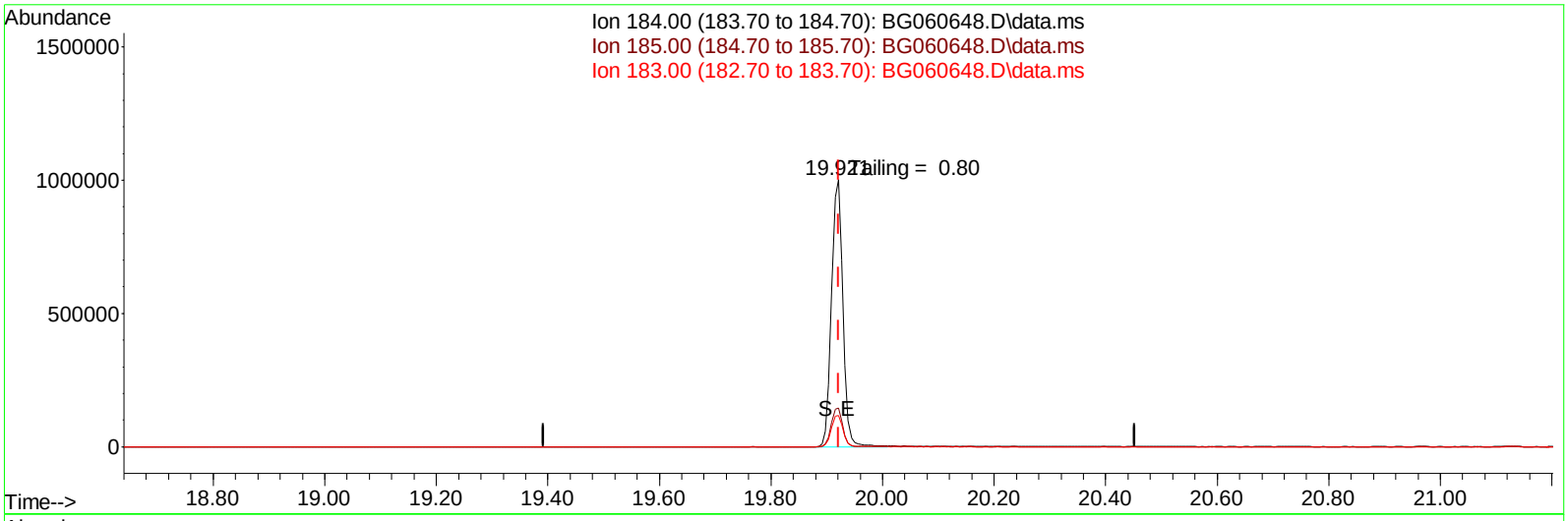
Ion	Exp%	Act%
265.70	100.00	100.00
268.00	64.40	66.07
264.00	61.10	62.35
0.00	0.00	0.00

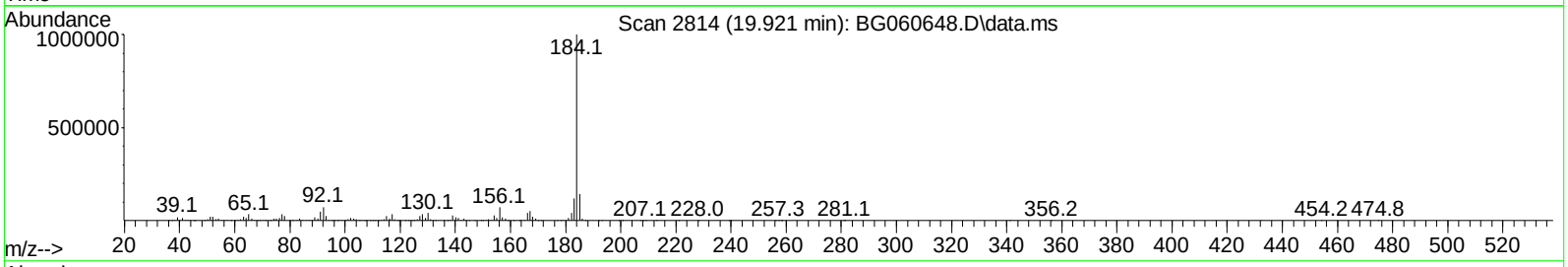
Sample Results: **BG060648.D**

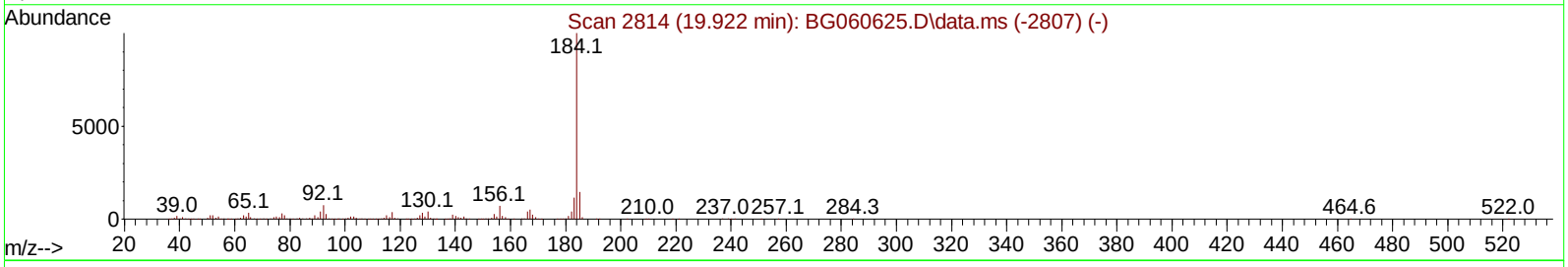
Data Path : Z:\svoasrv\HPCHEM1\BNA_G\Data\BG031424\
Data File : BG060648.D
Acq On : 14 Mar 2024 21:59
Operator : MA/JU
Sample : DFTPP
Misc :
ALS Vial : 1 Sample Multiplier: 1

Instrument :
BNA_G
ClientSampleId :
DFTPP

Quant Time: Mar 15 02:26:19 2024
Quant Method : Z:\svoasrv\HPCHEM1\BNA_G\Methods\8270-BG031324.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION
QLast Update : Thu Mar 14 00:45:22 2024
Response via : Initial Calibration







TIC: BG060648.D\data.ms

(77) Benzidine

19.921min (-0.001) 735570.01 ng

response 1421367

Ion	Exp%	Act%
184.00	100.00	100.00
185.00	14.60	14.43
183.00	11.50	11.76
0.00	0.00	0.00

DDT Breakdown

Date	Instrument Name	DFTPP Data File
3/14/2024	BNA_G	BG060648.D
Compound Name	**Response**	**Retention Time**
DDT	602623	21.131
DDD	12421	20.673
DDE	1154	20.162
SUM(DDD+DDE)	**SUM(DDT+DDD+DDE)**	**% Breakdown Of DDT**
13575	616198	2.20

Instrument :
BNA_G
ClientSampleId :
DFTPP

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Report of Analysis

Client:	LiRo Engineers, Inc.	Date Collected:	
Project:	Walter Gladwin Recreation Center, Bronx, NY	Date Received:	
Client Sample ID:	PB159586BL	SDG No.:	P1747
Lab Sample ID:	PB159586BL	Matrix:	Water
Analytical Method:	SW8270	% Solid:	0
Sample Wt/Vol:	1000 Units: mL	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOC-TCL BNA -20
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :
Prep Method :	SW3510C		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BG060650.D	1	03/14/24 10:06	03/14/24 23:20	PB159586

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units
TARGETS						
100-52-7	Benzaldehyde	4.00	U	4.00	10.0	ug/L
108-95-2	Phenol	0.93	U	0.93	5.00	ug/L
111-44-4	bis(2-Chloroethyl)ether	1.20	U	1.20	5.00	ug/L
95-57-8	2-Chlorophenol	0.71	U	0.71	5.00	ug/L
95-48-7	2-Methylphenol	1.10	U	1.10	5.00	ug/L
108-60-1	2,2-oxybis(1-Chloropropane)	1.40	U	1.40	5.00	ug/L
98-86-2	Acetophenone	1.10	U	1.10	5.00	ug/L
65794-96-9	3+4-Methylphenols	1.20	U	1.20	10.0	ug/L
621-64-7	n-Nitroso-di-n-propylamine	1.50	U	1.50	2.50	ug/L
67-72-1	Hexachloroethane	1.00	U	1.00	5.00	ug/L
98-95-3	Nitrobenzene	1.30	U	1.30	5.00	ug/L
78-59-1	Isophorone	1.10	U	1.10	5.00	ug/L
88-75-5	2-Nitrophenol	2.00	U	2.00	5.00	ug/L
105-67-9	2,4-Dimethylphenol	1.50	U	1.50	5.00	ug/L
111-91-1	bis(2-Chloroethoxy)methane	1.00	U	1.00	5.00	ug/L
120-83-2	2,4-Dichlorophenol	0.88	U	0.88	5.00	ug/L
91-20-3	Naphthalene	1.00	U	1.00	5.00	ug/L
106-47-8	4-Chloroaniline	1.30	U	1.30	5.00	ug/L
87-68-3	Hexachlorobutadiene	1.30	U	1.30	5.00	ug/L
105-60-2	Caprolactam	1.70	U	1.70	10.0	ug/L
59-50-7	4-Chloro-3-methylphenol	0.84	U	0.84	5.00	ug/L
91-57-6	2-Methylnaphthalene	1.10	U	1.10	5.00	ug/L
77-47-4	Hexachlorocyclopentadiene	5.00	U	5.00	10.0	ug/L
88-06-2	2,4,6-Trichlorophenol	0.89	U	0.89	5.00	ug/L
95-95-4	2,4,5-Trichlorophenol	1.00	U	1.00	5.00	ug/L
92-52-4	1,1-Biphenyl	0.91	U	0.91	5.00	ug/L
91-58-7	2-Chloronaphthalene	0.97	U	0.97	5.00	ug/L
88-74-4	2-Nitroaniline	1.40	U	1.40	5.00	ug/L
131-11-3	Dimethylphthalate	0.93	U	0.93	5.00	ug/L
208-96-8	Acenaphthylene	1.00	U	1.00	5.00	ug/L
606-20-2	2,6-Dinitrotoluene	1.20	U	1.20	5.00	ug/L

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Report of Analysis

Client:	LiRo Engineers, Inc.	Date Collected:	
Project:	Walter Gladwin Recreation Center, Bronx, NY	Date Received:	
Client Sample ID:	PB159586BL	SDG No.:	P1747
Lab Sample ID:	PB159586BL	Matrix:	Water
Analytical Method:	SW8270	% Solid:	0
Sample Wt/Vol:	1000 Units: mL	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOC-TCL BNA -20
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :
Prep Method :	SW3510C		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BG060650.D	1	03/14/24 10:06	03/14/24 23:20	PB159586

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units
99-09-2	3-Nitroaniline	1.40	U	1.40	5.00	ug/L
83-32-9	Acenaphthene	0.81	U	0.81	5.00	ug/L
51-28-5	2,4-Dinitrophenol	6.40	U	6.40	10.0	ug/L
100-02-7	4-Nitrophenol	2.00	U	2.00	10.0	ug/L
132-64-9	Dibenzofuran	0.93	U	0.93	5.00	ug/L
121-14-2	2,4-Dinitrotoluene	1.50	U	1.50	5.00	ug/L
84-66-2	Diethylphthalate	1.00	U	1.00	5.00	ug/L
7005-72-3	4-Chlorophenyl-phenylether	0.98	U	0.98	5.00	ug/L
86-73-7	Fluorene	0.96	U	0.96	5.00	ug/L
100-01-6	4-Nitroaniline	2.00	U	2.00	5.00	ug/L
534-52-1	4,6-Dinitro-2-methylphenol	3.10	U	3.10	10.0	ug/L
86-30-6	n-Nitrosodiphenylamine	0.89	U	0.89	5.00	ug/L
101-55-3	4-Bromophenyl-phenylether	0.95	U	0.95	5.00	ug/L
118-74-1	Hexachlorobenzene	1.10	U	1.10	5.00	ug/L
1912-24-9	Atrazine	1.30	U	1.30	5.00	ug/L
87-86-5	Pentachlorophenol	1.90	U	1.90	10.0	ug/L
85-01-8	Phenanthrene	0.89	U	0.89	5.00	ug/L
120-12-7	Anthracene	1.10	U	1.10	5.00	ug/L
86-74-8	Carbazole	1.20	U	1.20	5.00	ug/L
84-74-2	Di-n-butylphthalate	1.50	U	1.50	5.00	ug/L
206-44-0	Fluoranthene	1.30	U	1.30	5.00	ug/L
129-00-0	Pyrene	1.10	U	1.10	5.00	ug/L
85-68-7	Butylbenzylphthalate	2.10	U	2.10	5.00	ug/L
91-94-1	3,3-Dichlorobenzidine	1.30	U	1.30	10.0	ug/L
56-55-3	Benzo(a)anthracene	0.94	U	0.94	5.00	ug/L
218-01-9	Chrysene	0.86	U	0.86	5.00	ug/L
117-81-7	Bis(2-ethylhexyl)phthalate	1.90	U	1.90	5.00	ug/L
117-84-0	Di-n-octyl phthalate	2.50	U	2.50	10.0	ug/L
205-99-2	Benzo(b)fluoranthene	1.10	U	1.10	5.00	ug/L
207-08-9	Benzo(k)fluoranthene	1.20	U	1.20	5.00	ug/L
50-32-8	Benzo(a)pyrene	1.70	U	1.70	5.00	ug/L
193-39-5	Indeno(1,2,3-cd)pyrene	1.00	U	1.00	5.00	ug/L
53-70-3	Dibenzo(a,h)anthracene	1.20	U	1.20	5.00	ug/L

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Report of Analysis

Client:	LiRo Engineers, Inc.	Date Collected:	
Project:	Walter Gladwin Recreation Center, Bronx, NY	Date Received:	
Client Sample ID:	PB159586BL	SDG No.:	P1747
Lab Sample ID:	PB159586BL	Matrix:	Water
Analytical Method:	SW8270	% Solid:	0
Sample Wt/Vol:	1000 Units: mL	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOC-TCL BNA -20
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :
Prep Method :	SW3510C		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BG060650.D	1	03/14/24 10:06	03/14/24 23:20	PB159586

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units
191-24-2	Benzo(g,h,i)perylene	1.20	U	1.20	5.00	ug/L
95-94-3	1,2,4,5-Tetrachlorobenzene	1.10	U	1.10	5.00	ug/L
123-91-1	1,4-Dioxane	1.30	U	1.30	5.00	ug/L
58-90-2	2,3,4,6-Tetrachlorophenol	0.79	U	0.79	5.00	ug/L
SURROGATES						
367-12-4	2-Fluorophenol	147		10 - 139	98%	SPK: 150
13127-88-3	Phenol-d6	138		10 - 134	92%	SPK: 150
4165-60-0	Nitrobenzene-d5	86.8		49 - 133	87%	SPK: 100
321-60-8	2-Fluorobiphenyl	84.9		52 - 132	85%	SPK: 100
118-79-6	2,4,6-Tribromophenol	135		32 - 145	90%	SPK: 150
1718-51-0	Terphenyl-d14	86.7		36 - 145	87%	SPK: 100
INTERNAL STANDARDS						
3855-82-1	1,4-Dichlorobenzene-d4	87900	8.319			
1146-65-2	Naphthalene-d8	398000	11.169			
15067-26-2	Acenaphthene-d10	274000	14.947			
1517-22-2	Phenanthrene-d10	612000	17.697			
1719-03-5	Chrysene-d12	536000	22.009			
1520-96-3	Perylene-d12	605000	25.564			

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
Q = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution
() = Laboratory InHouse Limit
A = Aldol-Condensation Reaction Products

Data Path : Z:\svoasrv\HPCHEM1\BNA_G\Data\BG031424\
Data File : BG060650.D
Acq On : 15 Mar 2024 23:20
Operator : MA/JU
Sample : PB159586BL
Misc :
ALS Vial : 21 Sample Multiplier: 1

Instrument :
BNA_G
ClientSampleId :
PB159586BL

Quant Time: Mar 15 03:29:49 2024
Quant Method : Z:\svoasrv\HPCHEM1\BNA_G\Methods\8270-BG031324.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION
QLast Update : Thu Mar 14 00:45:22 2024
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	8.319	152	87880	20.000	ng	0.00
21) Naphthalene-d8	11.169	136	398324	20.000	ng	0.00
39) Acenaphthene-d10	14.947	164	273634	20.000	ng	0.00
64) Phenanthrene-d10	17.697	188	611698	20.000	ng	0.00
76) Chrysene-d12	22.009	240	536075	20.000	ng	-0.02
86) Perylene-d12	25.564	264	604634	20.000	ng	-0.01
System Monitoring Compounds						
5) 2-Fluorophenol	5.811	112	819045	146.510	ng	0.00
7) Phenol-d6	7.438	99	1115204	137.519	ng	0.00
23) Nitrobenzene-d5	9.518	82	664309	86.796	ng	-0.01
42) 2,4,6-Tribromophenol	16.433	330	428713	135.204	ng	0.00
45) 2-Fluorobiphenyl	13.572	172	1717861	84.881	ng	0.00
79) Terphenyl-d14	20.270	244	2571969	86.722	ng	-0.01
Target Compounds						Qvalue

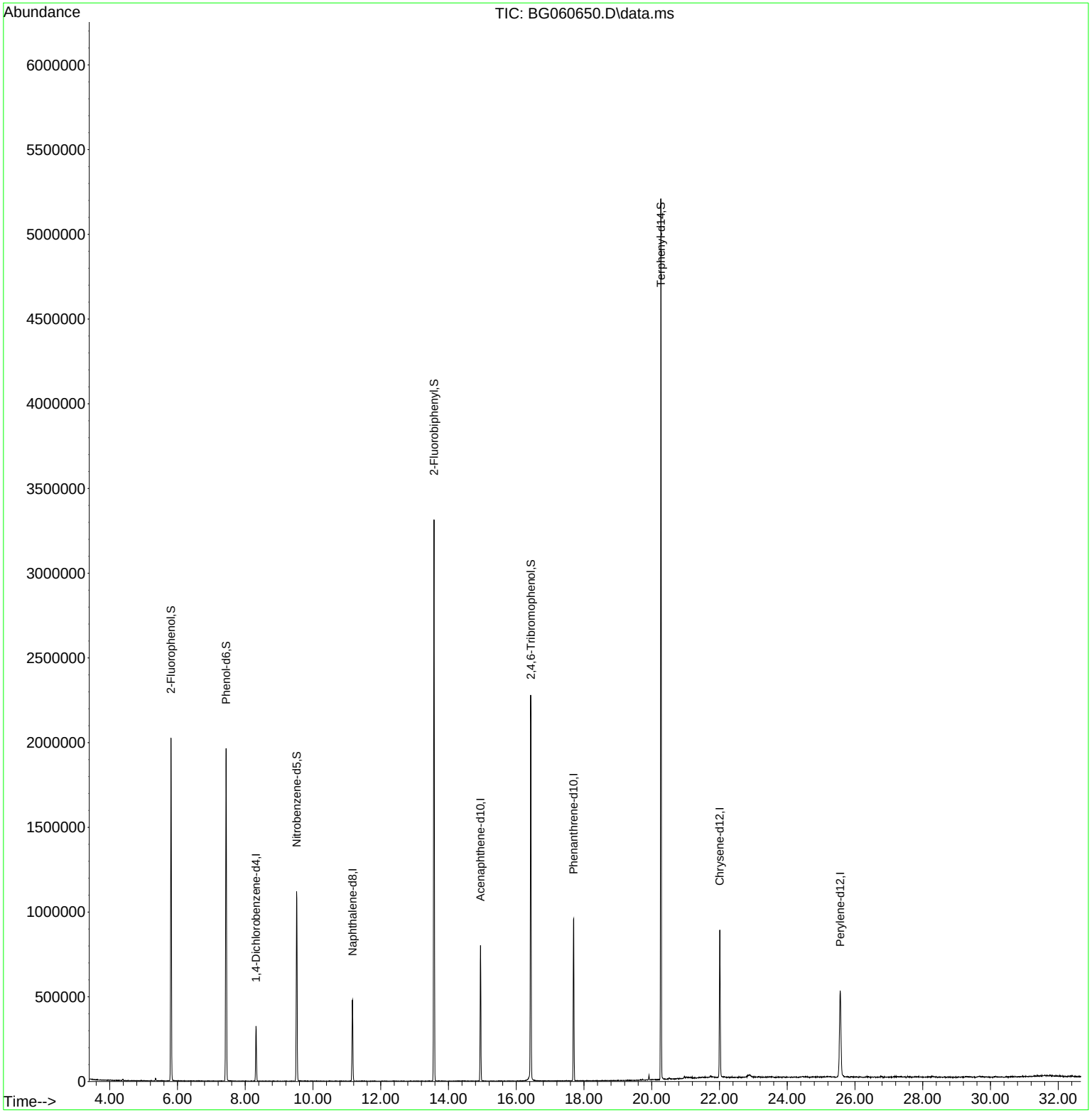
(#) = qualifier out of range (m) = manual integration (+) = signals summed

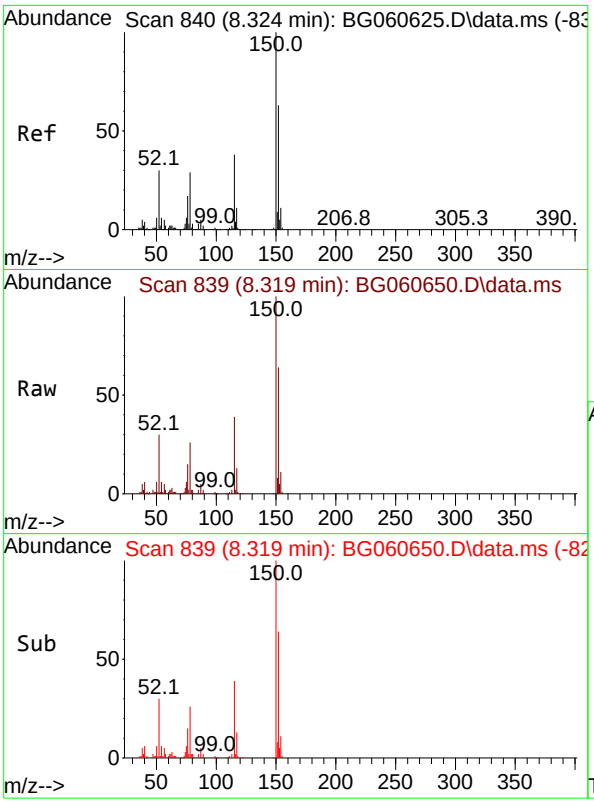
Sample Results: **BG060650.D**

Data Path : Z:\svoasrv\HPCHEM1\BNA_G\Data\BG031424\
Data File : BG060650.D
Acq On : 15 Mar 2024 23:20
Operator : MA/JU
Sample : PB159586BL
Misc :
ALS Vial : 21 Sample Multiplier: 1

Instrument :
BNA_G
ClientSampleId :
PB159586BL

Quant Time: Mar 15 03:29:49 2024
Quant Method : Z:\svoasrv\HPCHEM1\BNA_G\Methods\8270-BG031324.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION
QLast Update : Thu Mar 14 00:45:22 2024
Response via : Initial Calibration



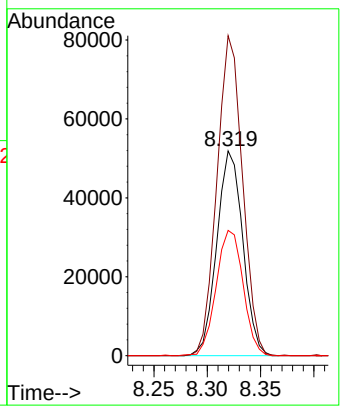


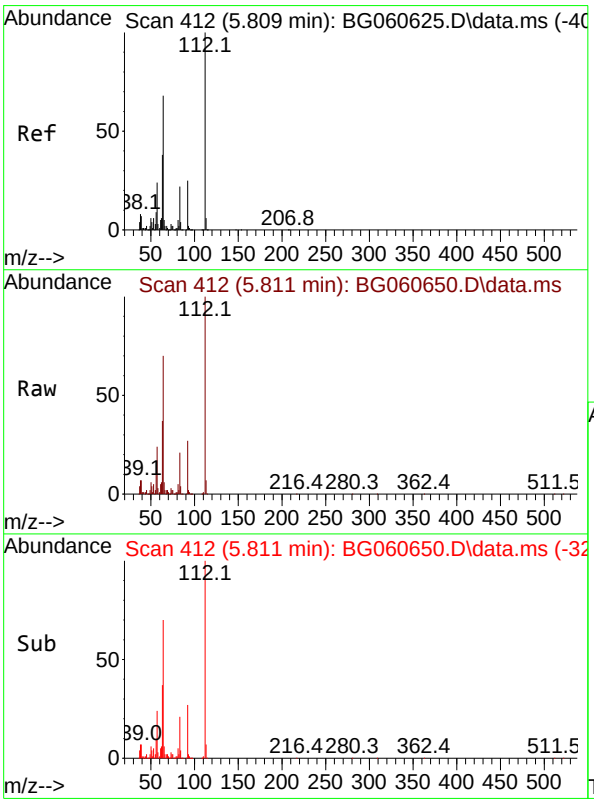
#1
1,4-Dichlorobenzene-d4
Concen: 20.000 ng
RT: 8.319 min Scan# 8
Delta R.T. -0.005 min
Lab File: BG060650.D
Acq: 15 Mar 2024 23:20

Instrument :
BNA_G
ClientSampleId :
PB159586BL

Tgt Ion:152 Resp: 87880

Ion	Ratio	Lower	Upper
152	100		
150	156.3	126.6	190.0
115	61.2	47.8	71.8

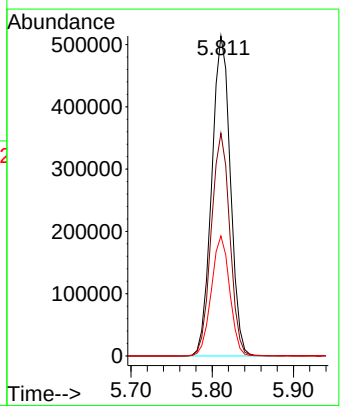


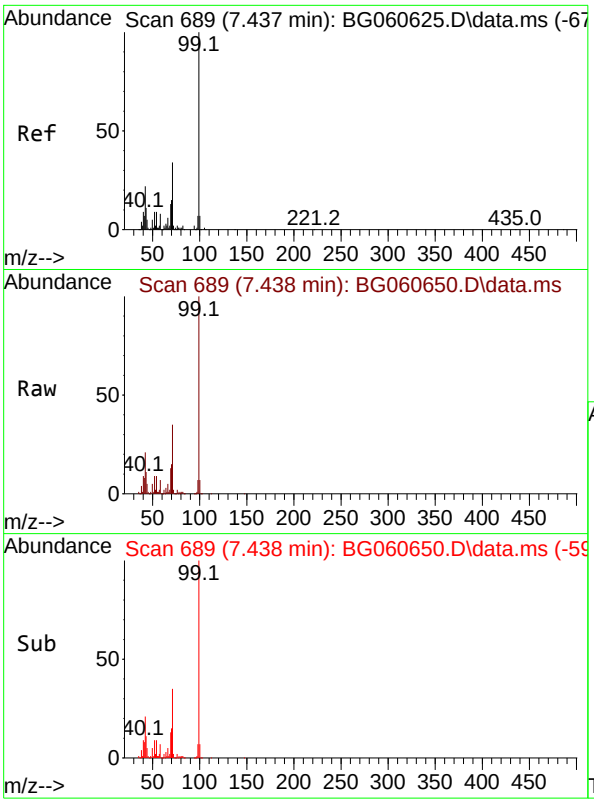


#5
2-Fluorophenol
Concen: 146.510 ng
RT: 5.811 min Scan# 412
Delta R.T. 0.001 min
Lab File: BG060650.D
Acq: 15 Mar 2024 23:20

Tgt Ion:112 Resp: 819045

Ion	Ratio	Lower	Upper
112	100		
64	69.6	54.1	81.1
63	37.5	30.3	45.5



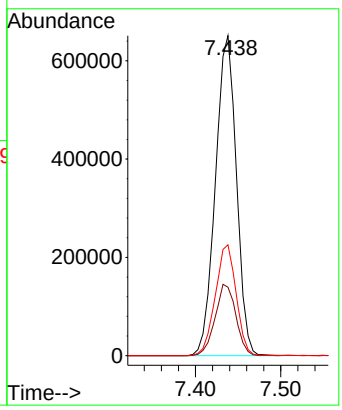


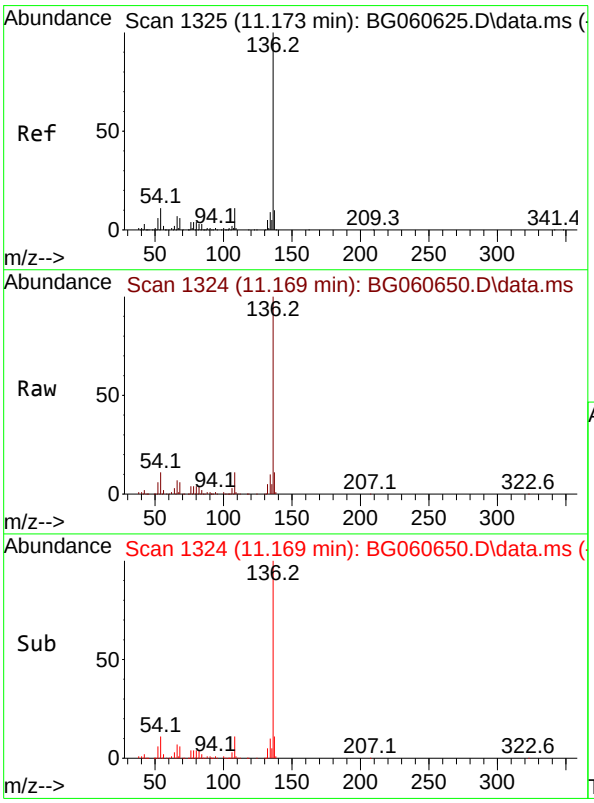
#7
Phenol-d6
Concen: 137.519 ng
RT: 7.438 min Scan# 6
Delta R.T. 0.001 min
Lab File: BG060650.D
Acq: 15 Mar 2024 23:20

Instrument :
BNA_G
ClientSampleId :
PB159586BL

Tgt Ion: 99 Resp: 1115204

Ion	Ratio	Lower	Upper
99	100		
42	21.4	17.5	26.3
71	34.7	27.4	41.0

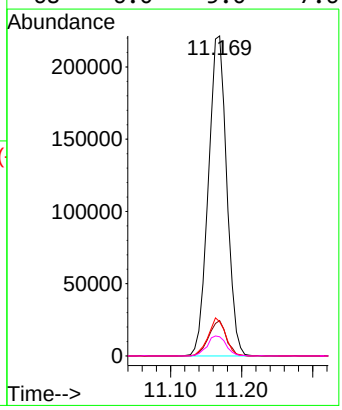


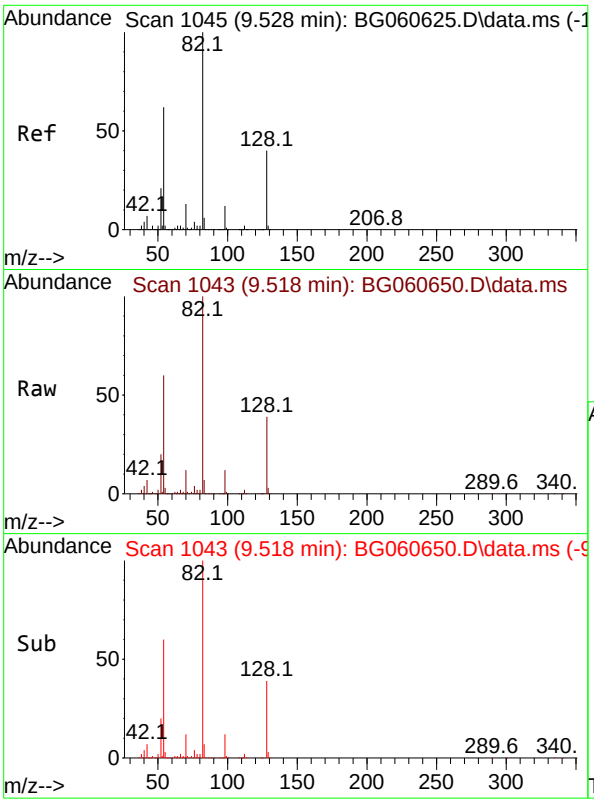


#21
Naphthalene-d8
Concen: 20.000 ng
RT: 11.169 min Scan# 1324
Delta R.T. -0.004 min
Lab File: BG060650.D
Acq: 15 Mar 2024 23:20

Tgt Ion:136 Resp: 398324

Ion	Ratio	Lower	Upper
136	100		
137	11.0	8.4	12.6
54	10.7	8.5	12.7
68	6.0	5.0	7.6



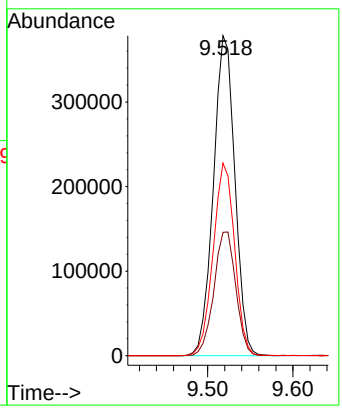


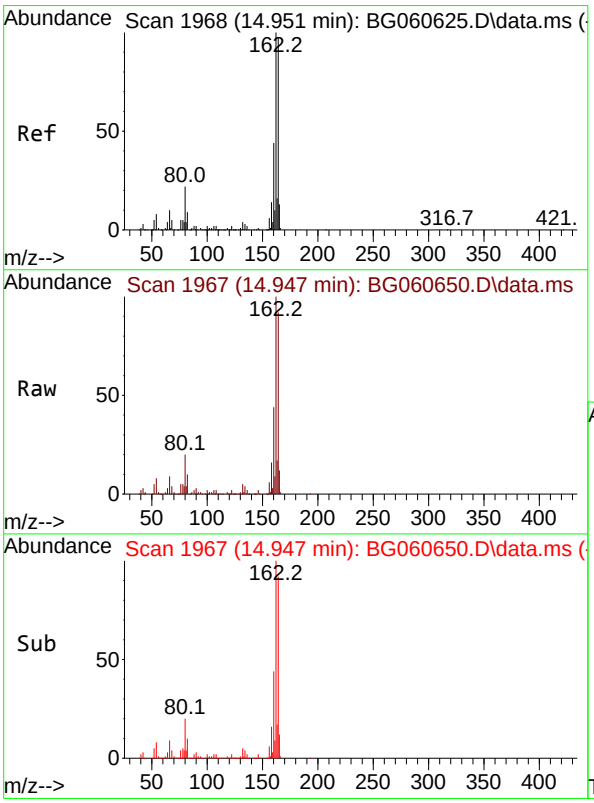
#23
Nitrobenzene-d5
Concen: 86.796 ng
RT: 9.518 min Scan# 1
Delta R.T. -0.010 min
Lab File: BG060650.D
Acq: 15 Mar 2024 23:20

Instrument :
BNA_G
ClientSampleId :
PB159586BL

Tgt Ion: 82 Resp: 664309

Ion	Ratio	Lower	Upper
82	100		
128	38.5	31.6	47.4
54	60.2	49.3	73.9

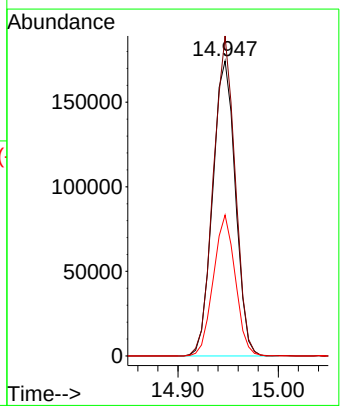


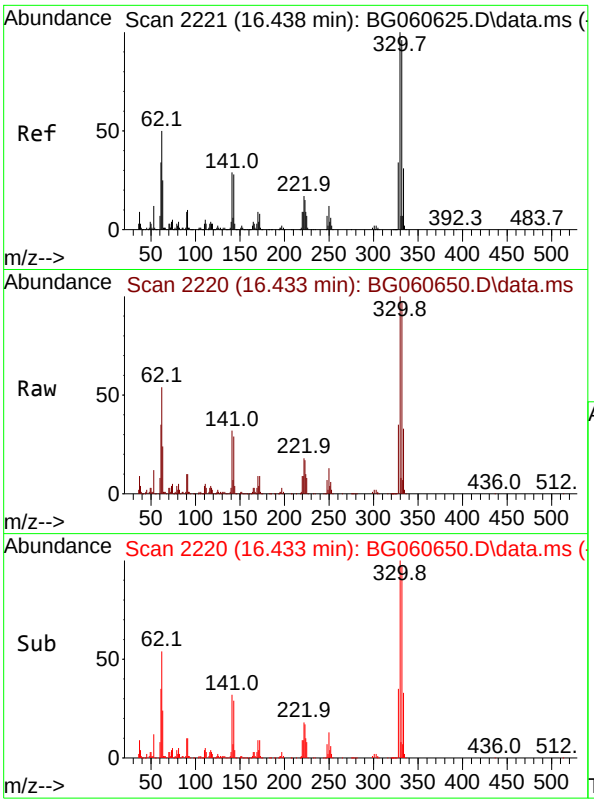


#39
Acenaphthene-d10
Concen: 20.000 ng
RT: 14.947 min Scan# 1967
Delta R.T. -0.004 min
Lab File: BG060650.D
Acq: 15 Mar 2024 23:20

Tgt Ion:164 Resp: 273634

Ion	Ratio	Lower	Upper
164	100		
162	108.5	82.5	123.7
160	47.8	36.4	54.6



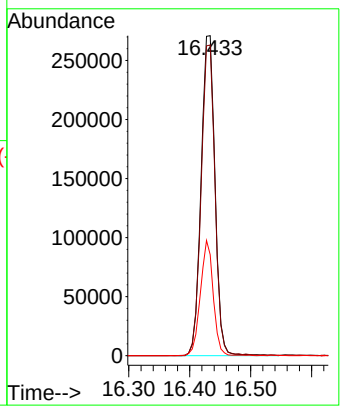


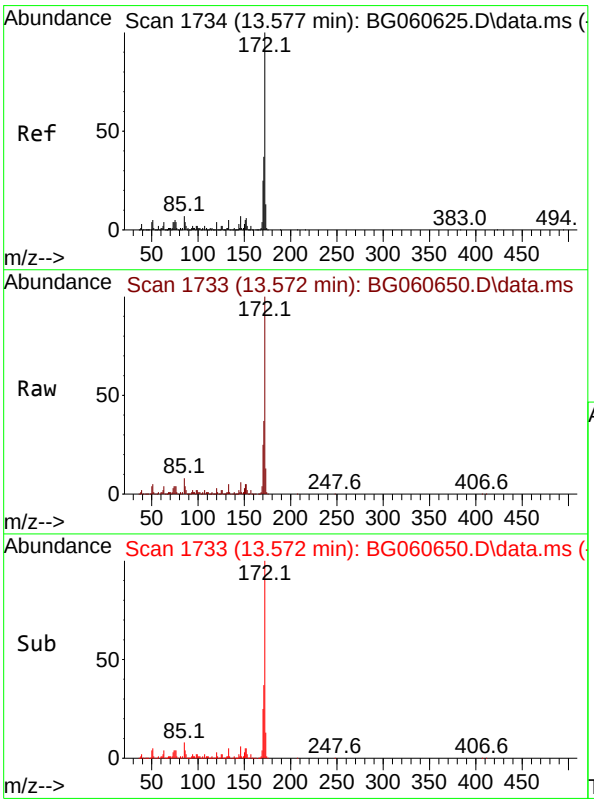
#42
2,4,6-Tribromophenol
Concen: 135.204 ng
RT: 16.433 min Scan# 2
Delta R.T. -0.004 min
Lab File: BG060650.D
Acq: 15 Mar 2024 23:20

Instrument :
BNA_G
ClientSampleId :
PB159586BL

Tgt Ion:330 Resp: 428713

Ion	Ratio	Lower	Upper
330	100		
332	96.5	77.8	116.8
141	33.4	25.4	38.2

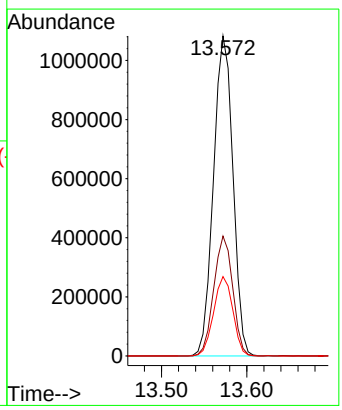


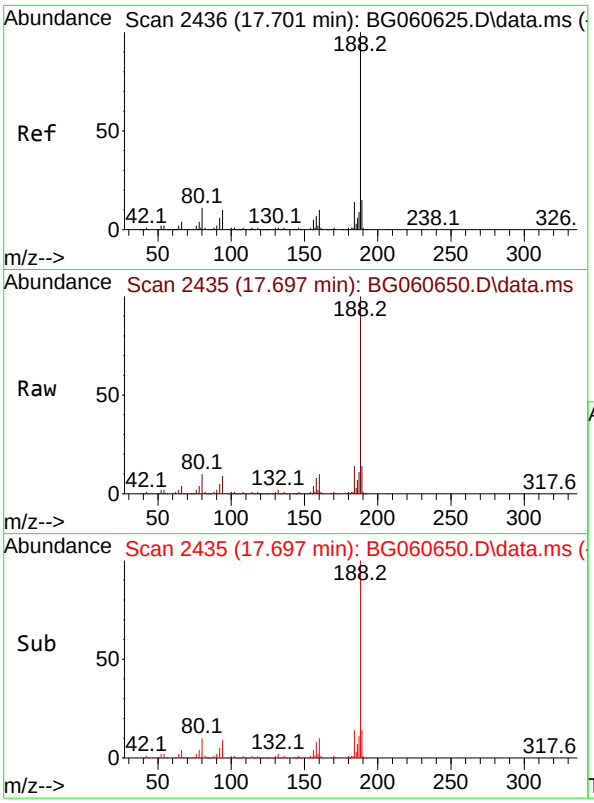


#45
2-Fluorobiphenyl
Concen: 84.881 ng
RT: 13.572 min Scan# 1733
Delta R.T. -0.004 min
Lab File: BG060650.D
Acq: 15 Mar 2024 23:20

Tgt Ion:172 Resp: 1717861

Ion	Ratio	Lower	Upper
172	100		
171	37.5	29.9	44.9
170	24.8	19.8	29.6



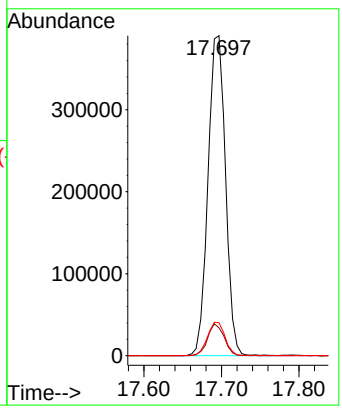


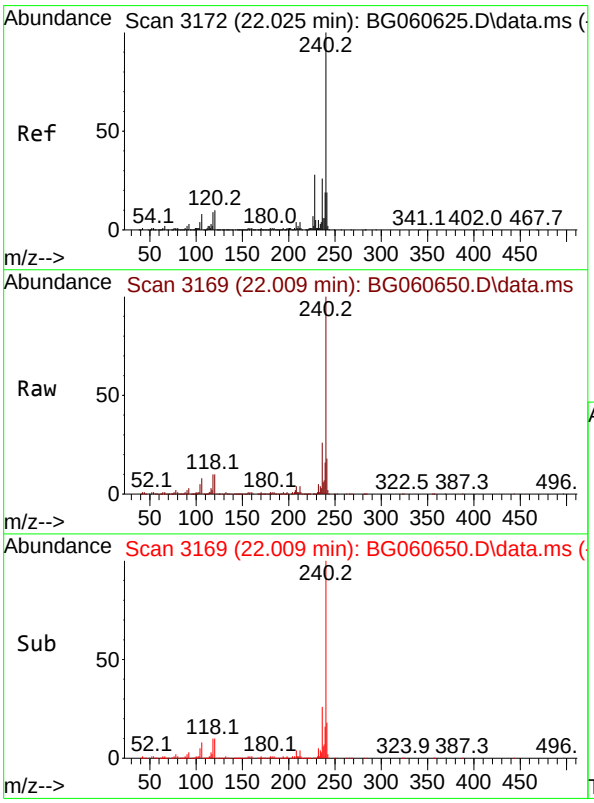
#64
Phenanthrene-d10
Concen: 20.000 ng
RT: 17.697 min Scan# 24
Delta R.T. -0.004 min
Lab File: BG060650.D
Acq: 15 Mar 2024 23:20

Instrument :
BNA_G
ClientSampleId :
PB159586BL

Tgt Ion:188 Resp: 611698

Ion	Ratio	Lower	Upper
188	100		
94	8.7	7.9	11.9
80	10.3	8.6	13.0

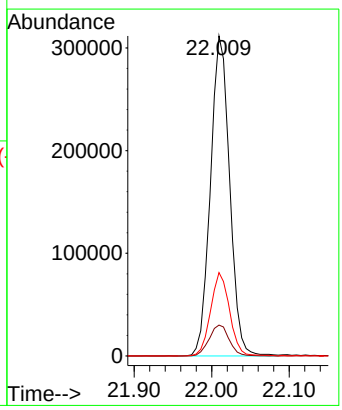


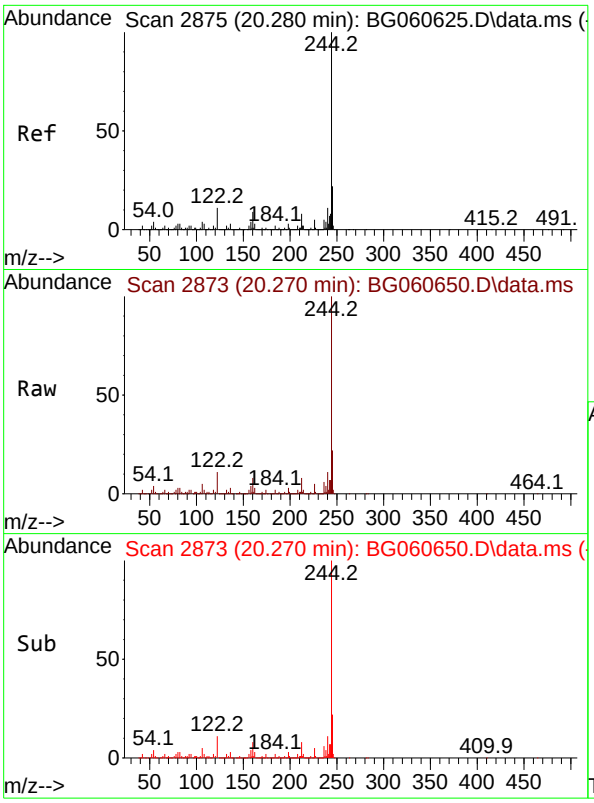


#76
Chrysene-d12
Concen: 20.000 ng
RT: 22.009 min Scan# 3169
Delta R.T. -0.016 min
Lab File: BG060650.D
Acq: 15 Mar 2024 23:20

Tgt Ion:240 Resp: 536075

Ion	Ratio	Lower	Upper
240	100		
120	9.7	7.8	11.8
236	26.1	20.6	31.0



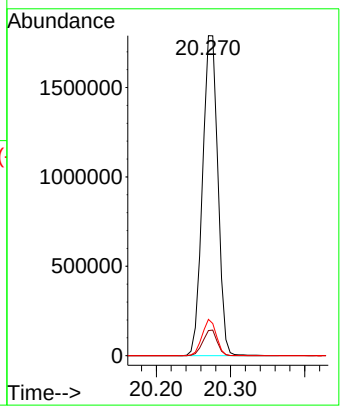


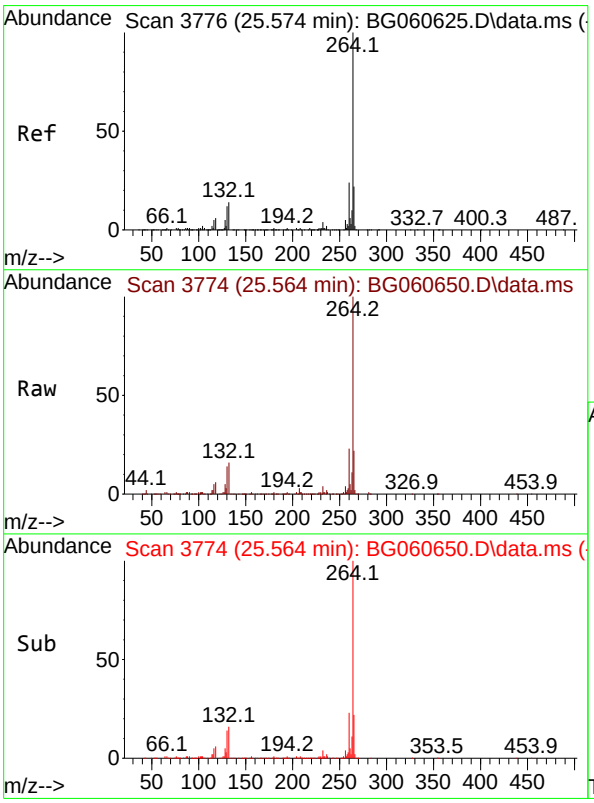
#79
Terphenyl-d14
Concen: 86.722 ng
RT: 20.270 min Scan# 2
Delta R.T. -0.010 min
Lab File: BG060650.D
Acq: 15 Mar 2024 23:20

Instrument :
BNA_G
ClientSampleId :
PB159586BL

Tgt Ion:244 Resp: 2571969

Ion	Ratio	Lower	Upper
244	100		
212	7.8	6.6	9.8
122	11.3	8.5	12.7

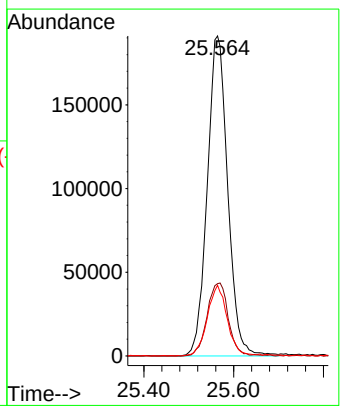




#86
Perylene-d12
Concen: 20.000 ng
RT: 25.564 min Scan# 3774
Delta R.T. -0.010 min
Lab File: BG060650.D
Acq: 15 Mar 2024 23:20

Tgt Ion:264 Resp: 604634

Ion	Ratio	Lower	Upper
264	100		
260	22.6	19.4	29.2
265	22.1	18.1	27.1



LSC Area Percent Report

Sample Results: **BG060650.D**

Data Path : Z:\svoasrv\HPCHEM1\BNA_G\Data\BG031424\
Data File : BG060650.D
Acq On : 15 Mar 2024 23:20
Operator : MA/JU
Sample : PB159586BL
Misc :
ALS Vial : 21 Sample Multiplier: 1

Instrument :
BNA_G
ClientSampleId :
PB159586BL

Integration Parameters: rteint.p
Integrator: RTE
Smoothing : ON Filtering: 5
Sampling : 1 Min Area: 3 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : Z:\svoasrv\HPCHEM1\BNA_G\Methods\8270-BG031324.M
Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

Signal : TIC: BG060650.D\data.ms

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	5.811	404	412	422	rBV	2023020	3188610	44.55%	10.044%
2	7.438	678	689	700	rBV	1963817	3415495	47.72%	10.759%
3	8.319	831	839	848	rVB	324613	556346	7.77%	1.752%
4	9.518	1034	1043	1053	rBV	1121466	2014852	28.15%	6.347%
5	11.169	1316	1324	1333	rVB	479376	862857	12.06%	2.718%
6	13.572	1725	1733	1741	rBV	3314574	5199017	72.64%	16.377%
7	14.947	1960	1967	1977	rBV	802135	1236944	17.28%	3.896%
8	16.428	2203	2219	2233	rVB	2273953	3563955	49.79%	11.226%
9	17.697	2427	2435	2441	rBV	957021	1505292	21.03%	4.742%
10	20.270	2867	2873	2880	rBV	5200323	7157321	100.00%	22.545%
11	22.009	3162	3169	3182	rBV	868847	1501969	20.99%	4.731%
12	25.564	3762	3774	3789	rBV2	502640	1543824	21.57%	4.863%

Sum of corrected areas: 31746482

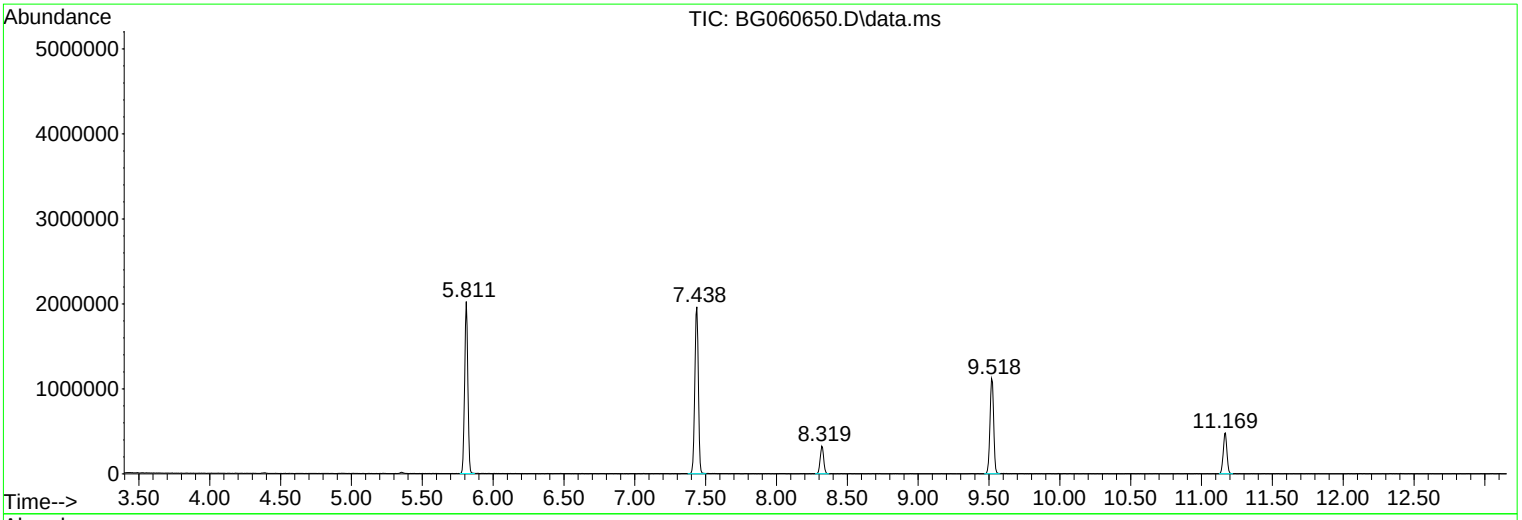
Sample Results: **BG060650.D**

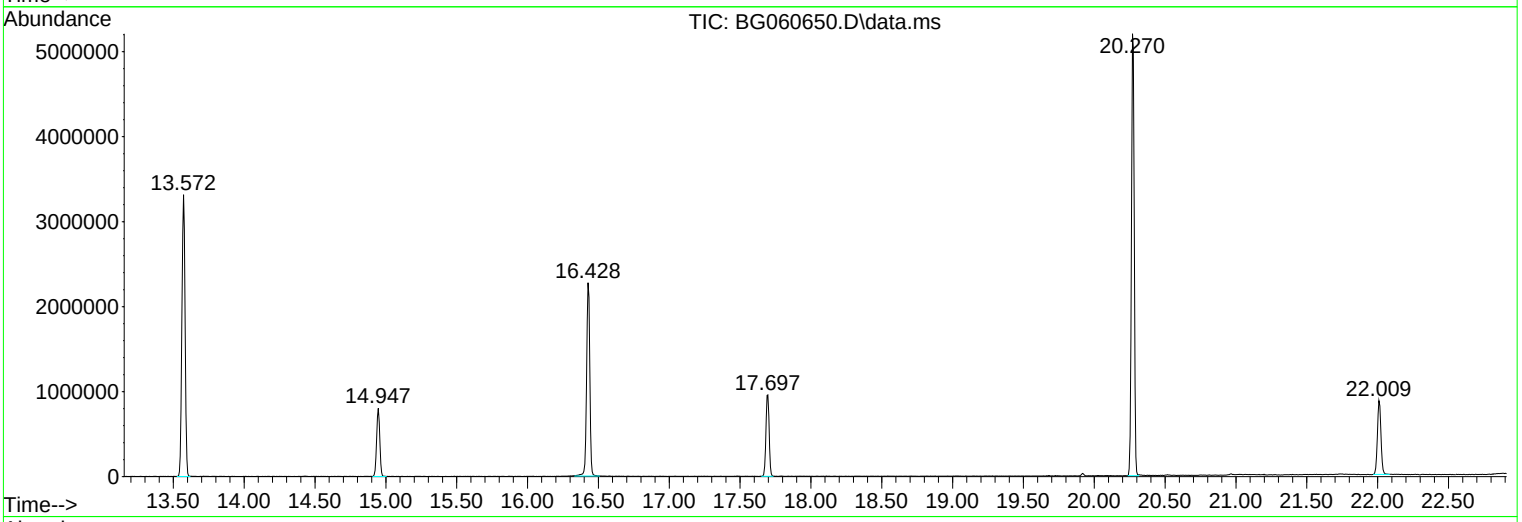
Data Path : Z:\svoasrv\HPCHEM1\BNA_G\Data\BG031424\
Data File : BG060650.D
Acq On : 15 Mar 2024 23:20
Operator : MA/JU
Sample : PB159586BL
Misc :
ALS Vial : 21 Sample Multiplier: 1

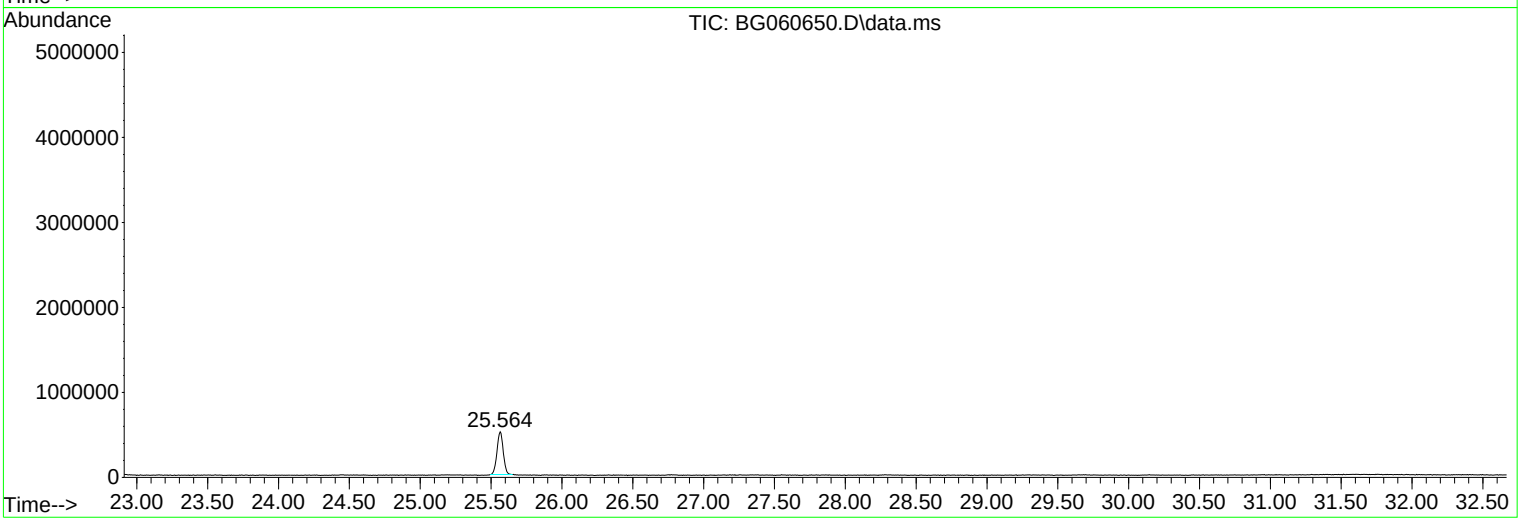
Instrument :
BNA_G
ClientSampleId :
PB159586BL

Quant Method : Z:\svoasrv\HPCHEM1\BNA_G\Methods\8270-BG031324.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

TIC Library : C:\Database\NIST20.L
TIC Integration Parameters: LSCINT.P







Library Search Compound Report

Sample Results: **BG060650.D**

Data Path : Z:\svoasrv\HPCHEM1\BNA_G\Data\BG031424\
Data File : BG060650.D
Acq On : 15 Mar 2024 23:20
Operator : MA/JU
Sample : PB159586BL
Misc :
ALS Vial : 21 Sample Multiplier: 1

Instrument :
BNA_G
ClientSampleId :
PB159586BL

Quant Method : Z:\svoasrv\HPCHEM1\BNA_G\Methods\8270-BG031324.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

TIC Library : C:\Database\NIST20.L
TIC Integration Parameters: LSCINT.P

No Library Search Compounds Detected
****

Data Path : Z:\svoasrv\HPCHEM1\BNA_G\Data\BG031424\
Data File : BG060650.D
Acq On : 15 Mar 2024 23:20
Operator : MA/JU
Sample : PB159586BL
Misc :
ALS Vial : 21 Sample Multiplier: 1

Instrument :
BNA_G
ClientSampleId :
PB159586BL

Quant Method : Z:\svoasrv\HPCHEM1\BNA_G\Methods\8270-BG031324.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

TIC Library : C:\Database\NIST20.L
TIC Integration Parameters: LSCINT.P

					Internal Standard			
TIC Top Hit name	RT	EstConc	Units	Response	#	RT	Resp	Conc

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

Report of Analysis

Client:	LiRo Engineers, Inc.	Date Collected:	
Project:	Walter Gladwin Recreation Center, Bronx, NY	Date Received:	
Client Sample ID:	PB159586BS	SDG No.:	P1747
Lab Sample ID:	PB159586BS	Matrix:	Water
Analytical Method:	SW8270	% Solid:	0
Sample Wt/Vol:	1000 Units: mL	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOC-TCL BNA -20
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :
Prep Method :	SW3510C		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BG060651.D	1	03/14/24 10:06	03/15/24 00:00	PB159586

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units
TARGETS						
100-52-7	Benzaldehyde	47.7		4.00	10.0	ug/L
108-95-2	Phenol	50.3		0.93	5.00	ug/L
111-44-4	bis(2-Chloroethyl)ether	45.0		1.20	5.00	ug/L
95-57-8	2-Chlorophenol	51.2		0.71	5.00	ug/L
95-48-7	2-Methylphenol	45.2		1.10	5.00	ug/L
108-60-1	2,2-oxybis(1-Chloropropane)	44.0		1.40	5.00	ug/L
98-86-2	Acetophenone	43.9		1.10	5.00	ug/L
65794-96-9	3+4-Methylphenols	45.6		1.20	10.0	ug/L
621-64-7	n-Nitroso-di-n-propylamine	44.6		1.50	2.50	ug/L
67-72-1	Hexachloroethane	46.0		1.00	5.00	ug/L
98-95-3	Nitrobenzene	44.6		1.30	5.00	ug/L
78-59-1	Isophorone	44.7		1.10	5.00	ug/L
88-75-5	2-Nitrophenol	46.1		2.00	5.00	ug/L
105-67-9	2,4-Dimethylphenol	39.7		1.50	5.00	ug/L
111-91-1	bis(2-Chloroethoxy)methane	44.8		1.00	5.00	ug/L
120-83-2	2,4-Dichlorophenol	49.4		0.88	5.00	ug/L
91-20-3	Naphthalene	43.6		1.00	5.00	ug/L
106-47-8	4-Chloroaniline	14.9		1.30	5.00	ug/L
87-68-3	Hexachlorobutadiene	43.3		1.30	5.00	ug/L
105-60-2	Caprolactam	46.6		1.70	10.0	ug/L
59-50-7	4-Chloro-3-methylphenol	47.0		0.84	5.00	ug/L
91-57-6	2-Methylnaphthalene	42.7		1.10	5.00	ug/L
77-47-4	Hexachlorocyclopentadiene	100	E	5.00	10.0	ug/L
88-06-2	2,4,6-Trichlorophenol	49.7		0.89	5.00	ug/L
95-95-4	2,4,5-Trichlorophenol	44.4		1.00	5.00	ug/L
92-52-4	1,1-Biphenyl	46.2		0.91	5.00	ug/L
91-58-7	2-Chloronaphthalene	47.6		0.97	5.00	ug/L
88-74-4	2-Nitroaniline	49.3		1.40	5.00	ug/L
131-11-3	Dimethylphthalate	45.9		0.93	5.00	ug/L
208-96-8	Acenaphthylene	48.4		1.00	5.00	ug/L
606-20-2	2,6-Dinitrotoluene	50.2		1.20	5.00	ug/L

Raw Data: **BG060651.D**

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Report of Analysis

Client:	LiRo Engineers, Inc.	Date Collected:	
Project:	Walter Gladwin Recreation Center, Bronx, NY	Date Received:	
Client Sample ID:	PB159586BS	SDG No.:	P1747
Lab Sample ID:	PB159586BS	Matrix:	Water
Analytical Method:	SW8270	% Solid:	0
Sample Wt/Vol:	1000 Units: mL	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOC-TCL BNA -20
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :
Prep Method :	SW3510C		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BG060651.D	1	03/14/24 10:06	03/15/24 00:00	PB159586

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units
99-09-2	3-Nitroaniline	30.7		1.40	5.00	ug/L
83-32-9	Acenaphthene	44.6		0.81	5.00	ug/L
51-28-5	2,4-Dinitrophenol	98.9	E	6.40	10.0	ug/L
100-02-7	4-Nitrophenol	100	E	2.00	10.0	ug/L
132-64-9	Dibenzofuran	44.8		0.93	5.00	ug/L
121-14-2	2,4-Dinitrotoluene	53.1		1.50	5.00	ug/L
84-66-2	Diethylphthalate	45.5		1.00	5.00	ug/L
7005-72-3	4-Chlorophenyl-phenylether	44.3		0.98	5.00	ug/L
86-73-7	Fluorene	45.5		0.96	5.00	ug/L
100-01-6	4-Nitroaniline	46.7		2.00	5.00	ug/L
534-52-1	4,6-Dinitro-2-methylphenol	47.2		3.10	10.0	ug/L
86-30-6	n-Nitrosodiphenylamine	43.9		0.89	5.00	ug/L
101-55-3	4-Bromophenyl-phenylether	44.6		0.95	5.00	ug/L
118-74-1	Hexachlorobenzene	46.8		1.10	5.00	ug/L
1912-24-9	Atrazine	40.6		1.30	5.00	ug/L
87-86-5	Pentachlorophenol	91.1	E	1.90	10.0	ug/L
85-01-8	Phenanthrene	43.6		0.89	5.00	ug/L
120-12-7	Anthracene	43.9		1.10	5.00	ug/L
86-74-8	Carbazole	45.1		1.20	5.00	ug/L
84-74-2	Di-n-butylphthalate	45.4		1.50	5.00	ug/L
206-44-0	Fluoranthene	43.8		1.30	5.00	ug/L
129-00-0	Pyrene	44.3		1.10	5.00	ug/L
85-68-7	Butylbenzylphthalate	48.1		2.10	5.00	ug/L
91-94-1	3,3-Dichlorobenzidine	33.8		1.30	10.0	ug/L
56-55-3	Benzo(a)anthracene	45.4		0.94	5.00	ug/L
218-01-9	Chrysene	43.9		0.86	5.00	ug/L
117-81-7	Bis(2-ethylhexyl)phthalate	47.7		1.90	5.00	ug/L
117-84-0	Di-n-octyl phthalate	49.2		2.50	10.0	ug/L
205-99-2	Benzo(b)fluoranthene	51.2		1.10	5.00	ug/L
207-08-9	Benzo(k)fluoranthene	48.5		1.20	5.00	ug/L
50-32-8	Benzo(a)pyrene	47.2		1.70	5.00	ug/L
193-39-5	Indeno(1,2,3-cd)pyrene	50.7		1.00	5.00	ug/L
53-70-3	Dibenzo(a,h)anthracene	49.4		1.20	5.00	ug/L

Raw Data: **BG060651.D**

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

Report of Analysis

Client:	LiRo Engineers, Inc.	Date Collected:	
Project:	Walter Gladwin Recreation Center, Bronx, NY	Date Received:	
Client Sample ID:	PB159586BS	SDG No.:	P1747
Lab Sample ID:	PB159586BS	Matrix:	Water
Analytical Method:	SW8270	% Solid:	0
Sample Wt/Vol:	1000 Units: mL	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOC-TCL BNA -20
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :
Prep Method :	SW3510C		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BG060651.D	1	03/14/24 10:06	03/15/24 00:00	PB159586

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units
191-24-2	Benzo(g,h,i)perylene	48.0		1.20	5.00	ug/L
95-94-3	1,2,4,5-Tetrachlorobenzene	46.3		1.10	5.00	ug/L
123-91-1	1,4-Dioxane	33.6		1.30	5.00	ug/L
58-90-2	2,3,4,6-Tetrachlorophenol	48.5		0.79	5.00	ug/L
SURROGATES						
367-12-4	2-Fluorophenol	148		10 - 139	99%	SPK: 150
13127-88-3	Phenol-d6	139		10 - 134	93%	SPK: 150
4165-60-0	Nitrobenzene-d5	85.3		49 - 133	85%	SPK: 100
321-60-8	2-Fluorobiphenyl	86.9		52 - 132	87%	SPK: 100
118-79-6	2,4,6-Tribromophenol	141		32 - 145	94%	SPK: 150
1718-51-0	Terphenyl-d14	82.6		36 - 145	83%	SPK: 100
INTERNAL STANDARDS						
3855-82-1	1,4-Dichlorobenzene-d4	109000	8.327			
1146-65-2	Naphthalene-d8	513000	11.171			
15067-26-2	Acenaphthene-d10	325000	14.948			
1517-22-2	Phenanthrene-d10	700000	17.698			
1719-03-5	Chrysene-d12	611000	22.017			
1520-96-3	Perylene-d12	651000	25.571			

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
Q = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution
() = Laboratory InHouse Limit
A = Aldol-Condensation Reaction Products

Data Path : Z:\svoasrv\HPCHEM1\BNA_G\Data\BG031424\
Data File : BG060651.D
Acq On : 15 Mar 2024 00:00
Operator : MA/JU
Sample : PB159586BS
Misc :
ALS Vial : 22 Sample Multiplier: 1

Quant Time: Mar 15 01:40:27 2024
Quant Method : Z:\svoasrv\HPCHEM1\BNA_G\Methods\8270-BG031324.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION
QLast Update : Thu Mar 14 00:45:22 2024
Response via : Initial Calibration

Instrument :
BNA_G
ClientSampleId :
PB159586BS

Manual Integrations APPROVED

Reviewed By :Jagrut Upadhyay 03/15/2024
Supervised By :mohammad ahmed 03/16/2024

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) 1,4-Dichlorobenzene-d4	8.327	152	109222	20.000	ng		0.00
21) Naphthalene-d8	11.171	136	513453	20.000	ng		0.00
39) Acenaphthene-d10	14.948	164	325000	20.000	ng		0.00
64) Phenanthrene-d10	17.698	188	699724	20.000	ng		0.00
76) Chrysene-d12	22.017	240	611265	20.000	ng		0.00
86) Perylene-d12	25.571	264	651311	20.000	ng		0.00
System Monitoring Compounds							
5) 2-Fluorophenol	5.812	112	1028396	148.013	ng		0.00
7) Phenol-d6	7.440	99	1401401	139.044	ng		0.00
23) Nitrobenzene-d5	9.525	82	842038	85.349	ng		0.00
42) 2,4,6-Tribromophenol	16.435	330	531610	141.157	ng		0.00
45) 2-Fluorobiphenyl	13.574	172	2089472	86.925	ng		0.00
79) Terphenyl-d14	20.277	244	2791806	82.555	ng		0.00
Target Compounds							Qvalue
2) 1,4-Dioxane	3.644	88	97751	33.611	ng		98
3) Pyridine	4.061	79	255776	29.757	ng		97
4) n-Nitrosodimethylamine	3.991	42	177111	42.005	ng		100
6) Aniline	7.645	93	304852	24.753	ng		97
8) 2-Chlorophenol	7.874	128	388629	51.168	ng		99
9) Benzaldehyde	7.463	77	269196	47.713	ng		99
10) Phenol	7.469	94	508521	50.284	ng		96
11) bis(2-Chloroethyl)ether	7.739	93	362769	44.999	ng		96
12) 1,3-Dichlorobenzene	8.203	146	370216	45.201	ng		99
13) 1,4-Dichlorobenzene	8.362	146	386968	46.608	ng		98
14) 1,2-Dichlorobenzene	8.679	146	371763	45.085	ng		97
15) Benzyl Alcohol	8.562	79	367777	46.155	ng		96
16) 2,2'-oxybis(1-Chloropr...	8.826	45	688583	43.997	ng		98
17) 2-Methylphenol	8.744	107	350765	45.170	ng		97
18) Hexachloroethane	9.408	117	130414	45.983	ng		98
19) n-Nitroso-di-n-propyla...	9.132	70	311934	44.649	ng		98
20) 3+4-Methylphenols	9.079	107	477837	45.624	ng		99
22) Acetophenone	9.167	105	604657	43.924	ng	#	97
24) Nitrobenzene	9.566	77	440173	44.627	ng		98
25) Isophorone	10.072	82	881803	44.657	ng		98
26) 2-Nitrophenol	10.272	139	183695	46.070	ng		96
27) 2,4-Dimethylphenol	10.295	122	346771	39.678	ng		98
28) bis(2-Chloroethoxy)met...	10.559	93	530055	44.777	ng		97
29) 2,4-Dichlorophenol	10.794	162	387178	49.361	ng		97
30) 1,2,4-Trichlorobenzene	11.012	180	374131	44.922	ng		98
31) Naphthalene	11.223	128	1251363	43.634	ng		99
32) Benzoic acid	10.418	122	264247	46.259	ng		94
33) 4-Chloroaniline	11.329	127	180299	14.909	ng		98
34) Hexachlorobutadiene	11.453	225	246162	43.333	ng		95
35) Caprolactam	12.134	113	123043m	46.599	ng		
36) 4-Chloro-3-methylphenol	12.404	107	451534	46.973	ng		97
37) 2-Methylnaphthalene	12.798	142	845221	42.671	ng		98
38) 1-Methylnaphthalene	13.015	142	802297	43.153	ng		97
40) 1,2,4,5-Tetrachloroben...	13.139	216	461835	46.273	ng		99
41) Hexachlorocyclopentadiene	13.098	237	504081	102.703	ng		98
43) 2,4,6-Trichlorophenol	13.380	196	318543	49.704	ng		99

Data Path : Z:\svoasrv\HPCHEM1\BNA_G\Data\BG031424\
Data File : BG060651.D
Acq On : 15 Mar 2024 00:00
Operator : MA/JU
Sample : PB159586BS
Misc :
ALS Vial : 22 Sample Multiplier: 1

Instrument :
BNA_G
ClientSampleId :
PB159586BS

Manual Integrations APPROVED

Reviewed By :Jagrut Upadhyay 03/15/2024
Supervised By :mohammad ahmed 03/16/2024

Quant Time: Mar 15 01:40:27 2024
Quant Method : Z:\svoasrv\HPCHEM1\BNA_G\Methods\8270-BG031324.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION
QLast Update : Thu Mar 14 00:45:22 2024
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
44) 2,4,5-Trichlorophenol	13.450	196	336456	44.379	ng	#	91
46) 1,1'-Biphenyl	13.791	154	1141059	46.190	ng		100
47) 2-Chloronaphthalene	13.844	162	888122	47.636	ng		98
48) 2-Nitroaniline	14.055	65	303081	49.255	ng		96
49) Acenaphthylene	14.684	152	1469672	48.389	ng		99
50) Dimethylphthalate	14.396	163	1118755	45.899	ng		99
51) 2,6-Dinitrotoluene	14.537	165	225579	50.226	ng		95
52) Acenaphthene	15.013	154	810192	44.640	ng		98
53) 3-Nitroaniline	14.872	138	158812	30.710	ng		98
54) 2,4-Dinitrophenol	15.066	184	231563	98.939	ng		95
55) Dibenzofuran	15.348	168	1316805	44.810	ng		99
56) 4-Nitrophenol	15.136	139	392470	101.708	ng		98
57) 2,4-Dinitrotoluene	15.313	165	299972	53.092	ng		95
58) Fluorene	15.994	166	1070347	45.525	ng		98
59) 2,3,4,6-Tetrachlorophenol	15.548	232	306908m	48.543	ng		
60) Diethylphthalate	15.742	149	1139847	45.450	ng		100
61) 4-Chlorophenyl-phenyle...	15.977	204	527013	44.253	ng		99
62) 4-Nitroaniline	16.035	138	247332	46.706	ng		98
63) Azobenzene	16.270	77	1168433	45.018	ng		98
65) 4,6-Dinitro-2-methylph...	16.059	198	148873	47.175	ng		90
66) n-Nitrosodiphenylamine	16.194	169	962202	43.939	ng		99
67) 4-Bromophenyl-phenylether	16.870	248	336531	44.600	ng		96
68) Hexachlorobenzene	16.964	284	405734	46.768	ng		98
69) Atrazine	17.128	200	297703	40.645	ng		98
70) Pentachlorophenol	17.316	266	512301	91.109	ng		98
71) Phenanthrene	17.739	178	1641588	43.552	ng		99
72) Anthracene	17.833	178	1673817	43.920	ng		99
73) Carbazole	18.104	167	1494824	45.110	ng		98
74) Di-n-butylphthalate	18.615	149	1834425	45.426	ng		99
75) Fluoranthene	19.731	202	1826625	43.811	ng		100
77) Benzidine	19.919	184	429305	28.713	ng		99
78) Pyrene	20.095	202	1891700	44.346	ng		100
80) Butylbenzylphthalate	20.953	149	774943	48.053	ng		99
81) Benzo(a)anthracene	21.993	228	1909310	45.365	ng		99
82) 3,3'-Dichlorobenzidine	21.905	252	480014	33.837	ng		97
83) Chrysene	22.070	228	1793527	43.888	ng		98
84) Bis(2-ethylhexyl)phtha...	21.834	149	1135469	47.667	ng		99
85) Di-n-octyl phthalate	23.162	149	1929905	49.199	ng		99
87) Indeno(1,2,3-cd)pyrene	29.696	276	2252976	50.712	ng	#	96
88) Benzo(b)fluoranthene	24.420	252	1834733	51.205	ng		99
89) Benzo(k)fluoranthene	24.502	252	1825301	48.489	ng		99
90) Benzo(a)pyrene	25.395	252	1659043	47.227	ng		99
91) Dibenzo(a,h)anthracene	29.784	278	1863007	49.398	ng		99
92) Benzo(g,h,i)perylene	31.006	276	1752874	48.004	ng		98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Sample Results: **BG060651.D**

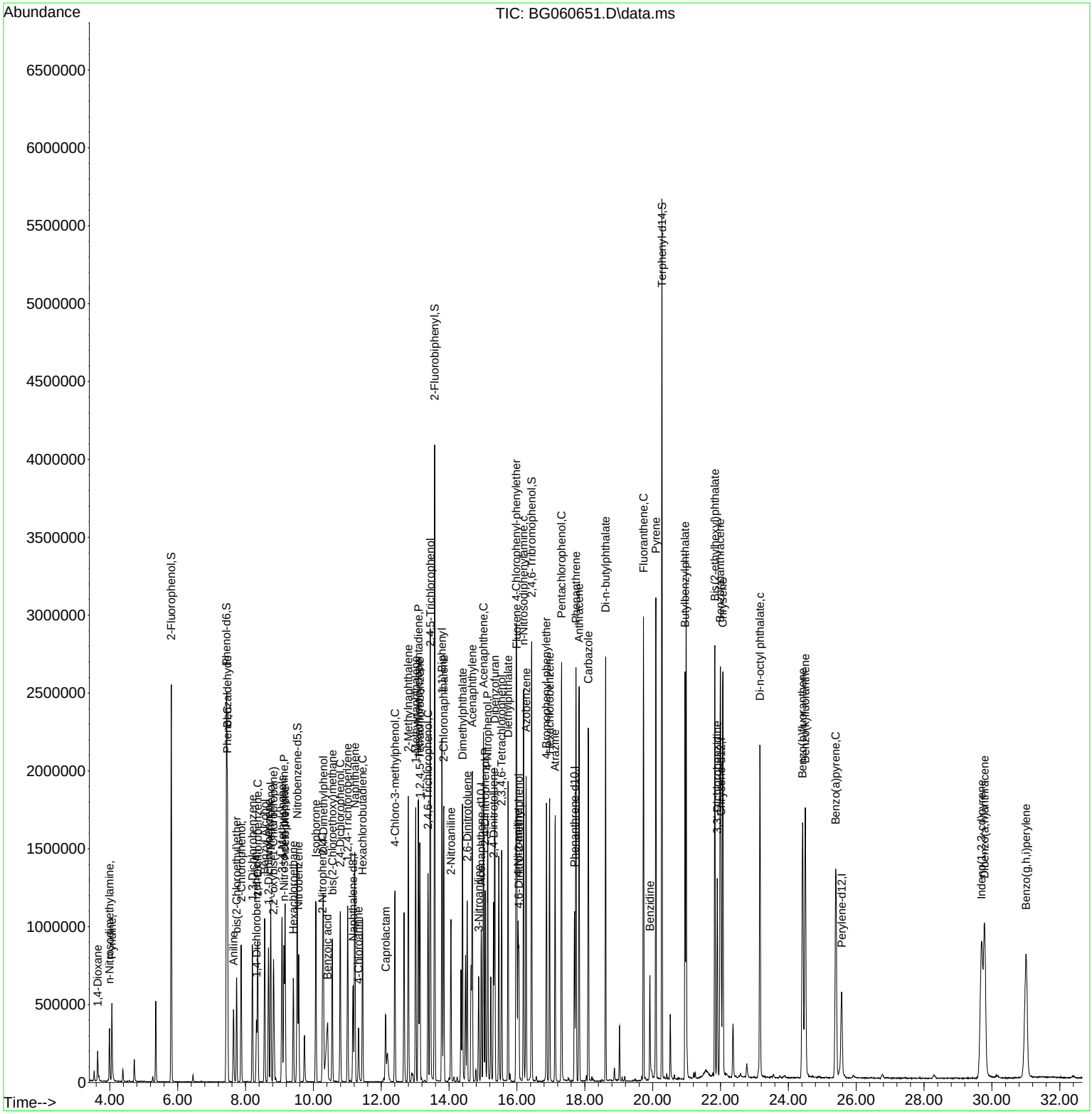
Data Path : Z:\svoasrv\HPCHEM1\BNA_G\Data\BG031424\
Data File : BG060651.D
Acq On : 15 Mar 2024 00:00
Operator : MA/JU
Sample : PB159586BS
Misc :
ALS Vial : 22 Sample Multiplier: 1

Quant Time: Mar 15 01:40:27 2024
Quant Method : Z:\svoasrv\HPCHEM1\BNA_G\Methods\8270-BG031324.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION
QLast Update : Thu Mar 14 00:45:22 2024
Response via : Initial Calibration

Instrument :
BNA_G
ClientSampleId :
PB159586BS

Manual Integrations APPROVED

Reviewed By :Jagrut Upadhyay 03/15/2024
Supervised By :mohammad ahmed 03/16/2024



CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

Report of Analysis

Client:	LiRo Engineers, Inc.	Date Collected:	
Project:	Walter Gladwin Recreation Center, Bronx, NY	Date Received:	
Client Sample ID:	PB159586BSD	SDG No.:	P1747
Lab Sample ID:	PB159586BSD	Matrix:	Water
Analytical Method:	SW8270	% Solid:	0
Sample Wt/Vol:	1000 Units: mL	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOC-TCL BNA -20
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :
Prep Method :	SW3510C		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BG060652.D	1	03/14/24 10:06	03/15/24 00:41	PB159586

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units
TARGETS						
100-52-7	Benzaldehyde	47.5		4.00	10.0	ug/L
108-95-2	Phenol	49.9		0.93	5.00	ug/L
111-44-4	bis(2-Chloroethyl)ether	43.0		1.20	5.00	ug/L
95-57-8	2-Chlorophenol	50.6		0.71	5.00	ug/L
95-48-7	2-Methylphenol	45.1		1.10	5.00	ug/L
108-60-1	2,2-oxybis(1-Chloropropane)	42.8		1.40	5.00	ug/L
98-86-2	Acetophenone	42.9		1.10	5.00	ug/L
65794-96-9	3+4-Methylphenols	45.3		1.20	10.0	ug/L
621-64-7	n-Nitroso-di-n-propylamine	43.2		1.50	2.50	ug/L
67-72-1	Hexachloroethane	45.3		1.00	5.00	ug/L
98-95-3	Nitrobenzene	43.5		1.30	5.00	ug/L
78-59-1	Isophorone	43.4		1.10	5.00	ug/L
88-75-5	2-Nitrophenol	46.8		2.00	5.00	ug/L
105-67-9	2,4-Dimethylphenol	39.0		1.50	5.00	ug/L
111-91-1	bis(2-Chloroethoxy)methane	43.4		1.00	5.00	ug/L
120-83-2	2,4-Dichlorophenol	48.1		0.88	5.00	ug/L
91-20-3	Naphthalene	42.4		1.00	5.00	ug/L
106-47-8	4-Chloroaniline	14.6		1.30	5.00	ug/L
87-68-3	Hexachlorobutadiene	42.7		1.30	5.00	ug/L
105-60-2	Caprolactam	46.1		1.70	10.0	ug/L
59-50-7	4-Chloro-3-methylphenol	46.1		0.84	5.00	ug/L
91-57-6	2-Methylnaphthalene	41.1		1.10	5.00	ug/L
77-47-4	Hexachlorocyclopentadiene	100	E	5.00	10.0	ug/L
88-06-2	2,4,6-Trichlorophenol	48.9		0.89	5.00	ug/L
95-95-4	2,4,5-Trichlorophenol	43.8		1.00	5.00	ug/L
92-52-4	1,1-Biphenyl	45.0		0.91	5.00	ug/L
91-58-7	2-Chloronaphthalene	46.0		0.97	5.00	ug/L
88-74-4	2-Nitroaniline	48.9		1.40	5.00	ug/L
131-11-3	Dimethylphthalate	44.6		0.93	5.00	ug/L
208-96-8	Acenaphthylene	47.2		1.00	5.00	ug/L
606-20-2	2,6-Dinitrotoluene	49.8		1.20	5.00	ug/L

Raw Data: **BG060652.D**

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

Report of Analysis

Client:	LiRo Engineers, Inc.	Date Collected:	
Project:	Walter Gladwin Recreation Center, Bronx, NY	Date Received:	
Client Sample ID:	PB159586BSD	SDG No.:	P1747
Lab Sample ID:	PB159586BSD	Matrix:	Water
Analytical Method:	SW8270	% Solid:	0
Sample Wt/Vol:	1000 Units: mL	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOC-TCL BNA -20
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :
Prep Method :	SW3510C		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BG060652.D	1	03/14/24 10:06	03/15/24 00:41	PB159586

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units
99-09-2	3-Nitroaniline	28.9		1.40	5.00	ug/L
83-32-9	Acenaphthene	44.2		0.81	5.00	ug/L
51-28-5	2,4-Dinitrophenol	99.5	E	6.40	10.0	ug/L
100-02-7	4-Nitrophenol	100	E	2.00	10.0	ug/L
132-64-9	Dibenzofuran	44.3		0.93	5.00	ug/L
121-14-2	2,4-Dinitrotoluene	51.9		1.50	5.00	ug/L
84-66-2	Diethylphthalate	44.6		1.00	5.00	ug/L
7005-72-3	4-Chlorophenyl-phenylether	44.0		0.98	5.00	ug/L
86-73-7	Fluorene	44.9		0.96	5.00	ug/L
100-01-6	4-Nitroaniline	46.1		2.00	5.00	ug/L
534-52-1	4,6-Dinitro-2-methylphenol	47.1		3.10	10.0	ug/L
86-30-6	n-Nitrosodiphenylamine	43.1		0.89	5.00	ug/L
101-55-3	4-Bromophenyl-phenylether	42.7		0.95	5.00	ug/L
118-74-1	Hexachlorobenzene	45.1		1.10	5.00	ug/L
1912-24-9	Atrazine	40.4		1.30	5.00	ug/L
87-86-5	Pentachlorophenol	88.7	E	1.90	10.0	ug/L
85-01-8	Phenanthrene	43.0		0.89	5.00	ug/L
120-12-7	Anthracene	42.7		1.10	5.00	ug/L
86-74-8	Carbazole	43.8		1.20	5.00	ug/L
84-74-2	Di-n-butylphthalate	44.6		1.50	5.00	ug/L
206-44-0	Fluoranthene	43.1		1.30	5.00	ug/L
129-00-0	Pyrene	44.2		1.10	5.00	ug/L
85-68-7	Butylbenzylphthalate	47.8		2.10	5.00	ug/L
91-94-1	3,3-Dichlorobenzidine	32.7		1.30	10.0	ug/L
56-55-3	Benzo(a)anthracene	44.6		0.94	5.00	ug/L
218-01-9	Chrysene	43.4		0.86	5.00	ug/L
117-81-7	Bis(2-ethylhexyl)phthalate	47.4		1.90	5.00	ug/L
117-84-0	Di-n-octyl phthalate	48.8		2.50	10.0	ug/L
205-99-2	Benzo(b)fluoranthene	49.5		1.10	5.00	ug/L
207-08-9	Benzo(k)fluoranthene	47.5		1.20	5.00	ug/L
50-32-8	Benzo(a)pyrene	46.0		1.70	5.00	ug/L
193-39-5	Indeno(1,2,3-cd)pyrene	49.7		1.00	5.00	ug/L
53-70-3	Dibenzo(a,h)anthracene	48.4		1.20	5.00	ug/L

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Report of Analysis

Client:	LiRo Engineers, Inc.	Date Collected:	
Project:	Walter Gladwin Recreation Center, Bronx, NY	Date Received:	
Client Sample ID:	PB159586BSD	SDG No.:	P1747
Lab Sample ID:	PB159586BSD	Matrix:	Water
Analytical Method:	SW8270	% Solid:	0
Sample Wt/Vol:	1000 Units: mL	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOC-TCL BNA -20
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :
Prep Method :	SW3510C		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BG060652.D	1	03/14/24 10:06	03/15/24 00:41	PB159586

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units
191-24-2	Benzo(g,h,i)perylene	47.4		1.20	5.00	ug/L
95-94-3	1,2,4,5-Tetrachlorobenzene	45.8		1.10	5.00	ug/L
123-91-1	1,4-Dioxane	33.1		1.30	5.00	ug/L
58-90-2	2,3,4,6-Tetrachlorophenol	47.5		0.79	5.00	ug/L
SURROGATES						
367-12-4	2-Fluorophenol	144		10 - 139	96%	SPK: 150
13127-88-3	Phenol-d6	136		10 - 134	91%	SPK: 150
4165-60-0	Nitrobenzene-d5	84.3		49 - 133	84%	SPK: 100
321-60-8	2-Fluorobiphenyl	84.1		52 - 132	84%	SPK: 100
118-79-6	2,4,6-Tribromophenol	139		32 - 145	92%	SPK: 150
1718-51-0	Terphenyl-d14	82.2		36 - 145	82%	SPK: 100
INTERNAL STANDARDS						
3855-82-1	1,4-Dichlorobenzene-d4	105000	8.324			
1146-65-2	Naphthalene-d8	498000	11.168			
15067-26-2	Acenaphthene-d10	317000	14.951			
1517-22-2	Phenanthrene-d10	690000	17.695			
1719-03-5	Chrysene-d12	597000	22.014			
1520-96-3	Perylene-d12	646000	25.568			

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
Q = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution
() = Laboratory InHouse Limit
A = Aldol-Condensation Reaction Products

Sample Results: **BG060652.D**

Data Path : Z:\svoasrv\HPCHEM1\BNA_G\Data\BG031424\
Data File : BG060652.D
Acq On : 15 Mar 2024 00:41
Operator : MA/JU
Sample : PB159586BSD
Misc :
ALS Vial : 23 Sample Multiplier: 1

Quant Time: Mar 15 02:20:21 2024
Quant Method : Z:\svoasrv\HPCHEM1\BNA_G\Methods\8270-BG031324.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION
QLast Update : Thu Mar 14 00:45:22 2024
Response via : Initial Calibration

Instrument :
BNA_G
ClientSampleId :
PB159586BSD

Manual Integrations APPROVED

Reviewed By :Jagrut Upadhyay 03/15/2024
Supervised By :mohammad ahmed 03/16/2024

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	8.324	152	104909	20.000	ng	0.00
21) Naphthalene-d8	11.168	136	497758	20.000	ng	0.00
39) Acenaphthene-d10	14.951	164	316713	20.000	ng	0.00
64) Phenanthrene-d10	17.695	188	689764	20.000	ng	0.00
76) Chrysene-d12	22.014	240	597115	20.000	ng	-0.01
86) Perylene-d12	25.568	264	646404	20.000	ng	0.00
System Monitoring Compounds						
5) 2-Fluorophenol	5.815	112	963301	144.344	ng	0.00
7) Phenol-d6	7.443	99	1317535	136.097	ng	0.00
23) Nitrobenzene-d5	9.522	82	806028	84.275	ng	0.00
42) 2,4,6-Tribromophenol	16.432	330	508307	138.501	ng	0.00
45) 2-Fluorobiphenyl	13.577	172	1970288	84.111	ng	0.00
79) Terphenyl-d14	20.275	244	2716278	82.225	ng	0.00
Target Compounds						Qvalue
2) 1,4-Dioxane	3.641	88	92469	33.102	ng	99
3) Pyridine	4.064	79	241662	29.271	ng	94
4) n-Nitrosodimethylamine	3.988	42	169984	41.972	ng	98
6) Aniline	7.648	93	282725	23.900	ng	96
8) 2-Chlorophenol	7.871	128	368831	50.558	ng	96
9) Benzaldehyde	7.466	77	257593	47.533	ng	97
10) Phenol	7.466	94	484516	49.880	ng	97
11) bis(2-Chloroethyl)ether	7.736	93	333063	43.013	ng	99
12) 1,3-Dichlorobenzene	8.206	146	346599	44.057	ng	97
13) 1,4-Dichlorobenzene	8.359	146	358710	44.981	ng	99
14) 1,2-Dichlorobenzene	8.676	146	352187	44.467	ng	99
15) Benzyl Alcohol	8.565	79	348349	45.514	ng	98
16) 2,2'-oxybis(1-Chloropr...	8.829	45	644136	42.849	ng	99
17) 2-Methylphenol	8.741	107	336438	45.106	ng	96
18) Hexachloroethane	9.411	117	123464	45.322	ng	96
19) n-Nitroso-di-n-propyla...	9.135	70	289716	43.174	ng	99
20) 3+4-Methylphenols	9.076	107	455407	45.270	ng	97
22) Acetophenone	9.164	105	573059	42.941	ng	99
24) Nitrobenzene	9.564	77	416151	43.522	ng	97
25) Isophorone	10.075	82	830991	43.410	ng	98
26) 2-Nitrophenol	10.275	139	181066	46.805	ng	93
27) 2,4-Dimethylphenol	10.292	122	330090	38.960	ng	99
28) bis(2-Chloroethoxy)met...	10.557	93	498536	43.442	ng	98
29) 2,4-Dichlorophenol	10.792	162	365527	48.070	ng	98
30) 1,2,4-Trichlorobenzene	11.015	180	353802	43.820	ng	97
31) Naphthalene	11.220	128	1177601	42.356	ng	98
32) Benzoic acid	10.421	122	273525m	48.985	ng	
33) 4-Chloroaniline	11.332	127	170840	14.572	ng	94
34) Hexachlorobutadiene	11.450	225	235269	42.721	ng	95
35) Caprolactam	12.131	113	117974m	46.088	ng	
36) 4-Chloro-3-methylphenol	12.401	107	429857	46.128	ng	98
37) 2-Methylnaphthalene	12.795	142	788779	41.077	ng	99
38) 1-Methylnaphthalene	13.018	142	760076	42.171	ng	98
40) 1,2,4,5-Tetrachloroben...	13.142	216	445824	45.837	ng	99
41) Hexachlorocyclopentadiene	13.095	237	483511	101.090	ng	95
43) 2,4,6-Trichlorophenol	13.377	196	305126	48.857	ng	98

Data Path : Z:\svoasrv\HPCHEM1\BNA_G\Data\BG031424\
Data File : BG060652.D
Acq On : 15 Mar 2024 00:41
Operator : MA/JU
Sample : PB159586BSD
Misc :
ALS Vial : 23 Sample Multiplier: 1

Quant Time: Mar 15 02:20:21 2024
Quant Method : Z:\svoasrv\HPCHEM1\BNA_G\Methods\8270-BG031324.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION
QLast Update : Thu Mar 14 00:45:22 2024
Response via : Initial Calibration

Instrument :
BNA_G
ClientSampleId :
PB159586BSD

Manual Integrations APPROVED

Reviewed By :Jagrut Upadhyay 03/15/2024
Supervised By :mohammad ahmed 03/16/2024

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
44) 2,4,5-Trichlorophenol	13.447	196	323366	43.769	ng	#	90
46) 1,1'-Biphenyl	13.788	154	1084098	45.032	ng		99
47) 2-Chloronaphthalene	13.841	162	835457	45.984	ng		97
48) 2-Nitroaniline	14.052	65	293492	48.945	ng		99
49) Acenaphthylene	14.681	152	1398173	47.240	ng		99
50) Dimethylphthalate	14.393	163	1059172	44.591	ng		98
51) 2,6-Dinitrotoluene	14.534	165	218122	49.836	ng		99
52) Acenaphthene	15.016	154	781629	44.193	ng		98
53) 3-Nitroaniline	14.869	138	145857	28.943	ng		99
54) 2,4-Dinitrophenol	15.069	184	226969	99.474	ng		94
55) Dibenzofuran	15.345	168	1268118	44.283	ng		99
56) 4-Nitrophenol	15.139	139	375904	99.964	ng		98
57) 2,4-Dinitrotoluene	15.310	165	285846	51.916	ng		99
58) Fluorene	15.991	166	1029808	44.947	ng		99
59) 2,3,4,6-Tetrachlorophenol	15.551	232	292458m	47.468	ng		
60) Diethylphthalate	15.739	149	1089285	44.570	ng		99
61) 4-Chlorophenyl-phenyle...	15.974	204	510104	43.954	ng		100
62) 4-Nitroaniline	16.038	138	237698	46.062	ng		99
63) Azobenzene	16.268	77	1123661	44.426	ng		98
65) 4,6-Dinitro-2-methylph...	16.056	198	146431	47.082	ng		91
66) n-Nitrosodiphenylamine	16.197	169	930451	43.102	ng		98
67) 4-Bromophenyl-phenylether	16.873	248	317418	42.674	ng		98
68) Hexachlorobenzene	16.961	284	386054	45.142	ng		98
69) Atrazine	17.125	200	291710	40.402	ng		99
70) Pentachlorophenol	17.319	266	491710	88.710	ng		98
71) Phenanthrene	17.742	178	1599137	43.038	ng		99
72) Anthracene	17.830	178	1606007	42.749	ng		100
73) Carbazole	18.107	167	1430577	43.794	ng		100
74) Di-n-butylphthalate	18.612	149	1774856	44.585	ng		99
75) Fluoranthene	19.728	202	1769899	43.063	ng		99
77) Benzidine	19.916	184	403331	27.615	ng		97
78) Pyrene	20.092	202	1842327	44.212	ng		99
80) Butylbenzylphthalate	20.956	149	752482	47.766	ng		98
81) Benzo(a)anthracene	21.996	228	1834068	44.610	ng		99
82) 3,3'-Dichlorobenzidine	21.908	252	452988	32.689	ng	#	94
83) Chrysene	22.067	228	1732052	43.388	ng		99
84) Bis(2-ethylhexyl)phtha...	21.832	149	1102995	47.401	ng		98
85) Di-n-octyl phthalate	23.159	149	1871626	48.844	ng		99
87) Indeno(1,2,3-cd)pyrene	29.693	276	2189502	49.658	ng	#	94
88) Benzo(b)fluoranthene	24.423	252	1759785	49.486	ng		99
89) Benzo(k)fluoranthene	24.499	252	1773646	47.475	ng		99
90) Benzo(a)pyrene	25.398	252	1603750	46.000	ng		98
91) Dibenzo(a,h)anthracene	29.781	278	1811587	48.399	ng		99
92) Benzo(g,h,i)perylene	31.015	276	1717483	47.392	ng		98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Sample Results: **BG060652.D**

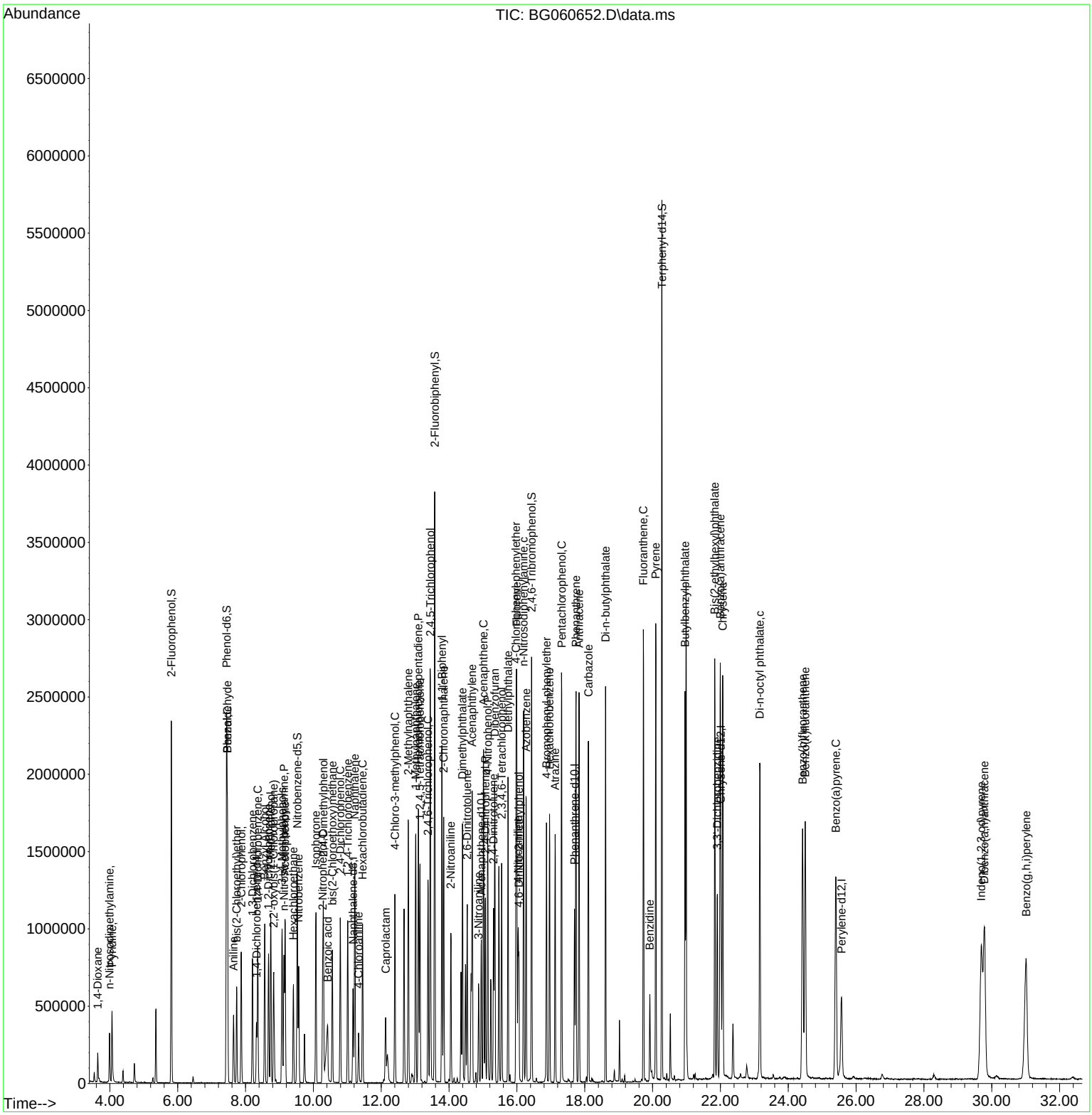
Data Path : Z:\svoasrv\HPCHEM1\BNA_G\Data\BG031424\
Data File : BG060652.D
Acq On : 15 Mar 2024 00:41
Operator : MA/JU
Sample : PB159586BSD
Misc :
ALS Vial : 23 Sample Multiplier: 1

Quant Time: Mar 15 02:20:21 2024
Quant Method : Z:\svoasrv\HPCHEM1\BNA_G\Methods\8270-BG031324.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION
QLast Update : Thu Mar 14 00:45:22 2024
Response via : Initial Calibration

Instrument :
BNA_G
ClientSampleId :
PB159586BSD

Manual Integrations APPROVED

Reviewed By :Jagrut Upadhyay 03/15/2024
Supervised By :mohammad ahmed 03/16/2024



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Manual Integration Report

Sequence:	BG031324	Instrument	BNA_g

Sample ID	File ID	Parameter	Review By	Review On	Supervised By	Supervised On	Reason
SSTDICC005	BG060622.D	2,3,4,6-Tetrachlorophenol	yogesh	3/15/2024 3:07:23 AM	mohammad	3/15/2024 3:29:40 AM	Peak Integrated by Software
SSTDICC005	BG060622.D	Dibenzo(a,h)anthracene	yogesh	3/15/2024 3:07:23 AM	mohammad	3/15/2024 3:29:40 AM	Peak Integrated by Software
SSTDICC005	BG060622.D	Indeno(1,2,3-cd)pyrene	yogesh	3/15/2024 3:07:23 AM	mohammad	3/15/2024 3:29:40 AM	Peak Integrated by Software
SSTDICC005	BG060622.D	n-Nitrosodimethylamine	yogesh	3/15/2024 3:07:23 AM	mohammad	3/15/2024 3:29:40 AM	Peak Integrated by Software
SSTDICC010	BG060623.D	2,2"-oxybis(1-Chloropropane)	yogesh	3/15/2024 3:07:26 AM	mohammad	3/15/2024 3:29:40 AM	Peak Integrated by Software
SSTDICC010	BG060623.D	2,3,4,6-Tetrachlorophenol	yogesh	3/15/2024 3:07:26 AM	mohammad	3/15/2024 3:29:40 AM	Peak Integrated by Software
SSTDICC010	BG060623.D	Benzoic acid	yogesh	3/15/2024 3:07:26 AM	mohammad	3/15/2024 3:29:40 AM	Peak Integrated by Software
SSTDICC010	BG060623.D	Indeno(1,2,3-cd)pyrene	yogesh	3/15/2024 3:07:26 AM	mohammad	3/15/2024 3:29:40 AM	Peak Integrated by Software
SSTDICC010	BG060623.D	n-Nitrosodimethylamine	yogesh	3/15/2024 3:07:26 AM	mohammad	3/15/2024 3:29:40 AM	Peak Integrated by Software
SSTDICC020	BG060624.D	2,2"-oxybis(1-Chloropropane)	yogesh	3/15/2024 3:07:39 AM	mohammad	3/15/2024 3:29:40 AM	Peak Integrated by Software
SSTDICC020	BG060624.D	Benzoic acid	yogesh	3/15/2024 3:07:39 AM	mohammad	3/15/2024 3:29:40 AM	Peak Integrated by Software
SSTDICCC040	BG060625.D	2,3,4,6-Tetrachlorophenol	yogesh	3/15/2024 3:07:41 AM	mohammad	3/15/2024 3:29:40 AM	Peak Integrated by Software
SSTDICC050	BG060626.D	2,2"-oxybis(1-Chloropropane)	yogesh	3/15/2024 3:07:44 AM	mohammad	3/15/2024 3:29:40 AM	Peak Integrated by Software

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

Manual Integration Report

Sequence:	BG031324	Instrument	BNA_g

Sample ID	File ID	Parameter	Review By	Review On	Supervised By	Supervised On	Reason
SSTDICC050	BG060626.D	2,3,4,6-Tetrachlorophenol	yogesh	3/15/2024 3:07:44 AM	mohammad	3/15/2024 3:29:40 AM	Peak Integrated by Software
SSTDICC050	BG060626.D	4-Nitroaniline	yogesh	3/15/2024 3:07:44 AM	mohammad	3/15/2024 3:29:40 AM	Peak Integrated by Software
SSTDICC050	BG060626.D	Benzoic acid	yogesh	3/15/2024 3:07:44 AM	mohammad	3/15/2024 3:29:40 AM	Peak Integrated by Software
SSTDICC060	BG060627.D	2,3,4,6-Tetrachlorophenol	yogesh	3/15/2024 3:07:48 AM	mohammad	3/15/2024 3:29:40 AM	Peak Integrated by Software
SSTDICC060	BG060627.D	4-Nitroaniline	yogesh	3/15/2024 3:07:48 AM	mohammad	3/15/2024 3:29:40 AM	Peak Integrated by Software
SSTDICC060	BG060627.D	Benzoic acid	yogesh	3/15/2024 3:07:48 AM	mohammad	3/15/2024 3:29:40 AM	Peak Integrated by Software
SSTDICC060	BG060627.D	Pyridine	yogesh	3/15/2024 3:07:48 AM	mohammad	3/15/2024 3:29:40 AM	Peak Integrated by Software
SSTDICC080	BG060628.D	2,2"-oxybis(1-Chloropropane)	yogesh	3/15/2024 3:07:51 AM	mohammad	3/15/2024 3:29:40 AM	Peak Integrated by Software
SSTDICC080	BG060628.D	2,3,4,6-Tetrachlorophenol	yogesh	3/15/2024 3:07:51 AM	mohammad	3/15/2024 3:29:40 AM	Peak Integrated by Software
SSTDICC080	BG060628.D	4-Nitroaniline	yogesh	3/15/2024 3:07:51 AM	mohammad	3/15/2024 3:29:40 AM	Peak Integrated by Software
SSTDICV040	BG060629.D	2,3,4,6-Tetrachlorophenol	yogesh	3/15/2024 3:07:53 AM	mohammad	3/15/2024 3:29:40 AM	Peak Integrated by Software

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Manual Integration Report

Sequence:	BG031424	Instrument	BNA_g

Sample ID	File ID	Parameter	Review By	Review On	Supervised By	Supervised On	Reason
SSTDCCC040	BG060632.D	2,2"-oxybis(1-Chloropropane)	Jagrut	3/15/2024 3:08:37 PM			Peak Integrated by Software
SSTDCCC040	BG060632.D	2,3,4,6-Tetrachlorophenol	Jagrut	3/15/2024 3:08:37 PM			Peak Integrated by Software
SSTDCCC040	BG060649.D	1,4-Dioxane	Jagrut	3/15/2024 3:08:58 PM			Peak Integrated by Software
SSTDCCC040	BG060649.D	2,2"-oxybis(1-Chloropropane)	Jagrut	3/15/2024 3:08:58 PM			Peak Integrated by Software
PB159586BS	BG060651.D	2,3,4,6-Tetrachlorophenol	Jagrut	3/15/2024 3:09:01 PM			Peak Integrated by Software
PB159586BS	BG060651.D	Caprolactam	Jagrut	3/15/2024 3:09:01 PM			Peak Integrated by Software
PB159586BSD	BG060652.D	2,3,4,6-Tetrachlorophenol	Jagrut	3/15/2024 3:09:05 PM			Peak Integrated by Software
PB159586BSD	BG060652.D	Benzoic acid	Jagrut	3/15/2024 3:09:05 PM			Peak Integrated by Software
PB159586BSD	BG060652.D	Caprolactam	Jagrut	3/15/2024 3:09:05 PM			Peak Integrated by Software

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

Instrument ID: BNA_G

Daily Analysis Runlog For Sequence/QCBatch ID # BG031324

Review By	yogesh	Review On	3/15/2024 3:08:55 AM		
Supervise By	mohammad	Supervise On	3/15/2024 3:29:40 AM		
SubDirectory	BG031324	HP Acquire Method	BNA_G	HP Processing Method	bg031324

STD. NAME	STD REF.#
Tune/Reschk	SP6397
Initial Calibration Stds	SP6420,SP6421,SP6422,SP6423,SP6424,SP6425,SP6426,SP6427
CCC	SP6423
Internal Standard/PEM	S12016 10ul/1000ul sample
ICV/I.BLK	SP6406
Surrogate Standard	
MS/MSD Standard	
LCS Standard	

Sr#	SampleId	Data File Name	Date-Time	Operator	Status
1	DFTPP	BG060620.D	13 Mar 2024 10:02	MA/JU	Ok
2	SSTDICC2.5	BG060621.D	13 Mar 2024 10:44	MA/JU	Ok
3	SSTDICC005	BG060622.D	13 Mar 2024 11:24	MA/JU	Ok,M
4	SSTDICC010	BG060623.D	13 Mar 2024 12:04	MA/JU	Ok,M
5	SSTDICC020	BG060624.D	13 Mar 2024 12:45	MA/JU	Ok,M
6	SSTDICCC040	BG060625.D	13 Mar 2024 13:26	MA/JU	Ok,M
7	SSTDICC050	BG060626.D	13 Mar 2024 14:06	MA/JU	Ok,M
8	SSTDICC060	BG060627.D	13 Mar 2024 14:47	MA/JU	Ok,M
9	SSTDICC080	BG060628.D	13 Mar 2024 15:27	MA/JU	Ok,M
10	SSTDICV040	BG060629.D	13 Mar 2024 16:08	MA/JU	Ok,M
11	PB159549BL	BG060630.D	13 Mar 2024 17:38	MA/JU	Ok

M : Manual Integration

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

Instrument ID: BNA_G

Daily Analysis Runlog For Sequence/QCBatch ID # BG031424

Review By	Jagrut	Review On	3/15/2024 3:09:51 PM		
Supervise By		Supervise On			
SubDirectory	BG031424	HP Acquire Method	BNA_G	HP Processing Method	bg031324

STD. NAME	STD REF.#
Tune/Reschk	SP6397
Initial Calibration Stds	SP6420,SP6421,SP6422,SP6423,SP6424,SP6425,SP6426,SP6427
CCC	SP6423
Internal Standard/PEM	S12016 10ul/1000ul sample
ICV/I.BLK	SP6406
Surrogate Standard	
MS/MSD Standard	
LCS Standard	

Sr#	SampleId	Data File Name	Date-Time	Operator	Status
1	DFTPP	BG060631.D	14 Mar 2024 9:44	MA/JU	Ok
2	SSTDCCC040	BG060632.D	14 Mar 2024 10:25	MA/JU	Ok,NS
3	PB159572BL	BG060633.D	14 Mar 2024 11:06	MA/JU	Ok
4	PB159572BS	BG060634.D	14 Mar 2024 11:47	MA/JU	Ok,NS
5	PB159530TB	BG060635.D	14 Mar 2024 12:28	MA/JU	Ok
6	PB159549BL	BG060636.D	14 Mar 2024 13:09	MA/JU	Ok
7	IDOC-01	BG060637.D	14 Mar 2024 13:50	MA/JU	Ok,NS
8	IDOC-02	BG060638.D	14 Mar 2024 14:31	MA/JU	Ok,NS
9	IDOC-03	BG060639.D	14 Mar 2024 15:12	MA/JU	Ok,NS
10	IDOC-04	BG060640.D	14 Mar 2024 15:53	MA/JU	Ok,NS
11	P1733-12	BG060641.D	14 Mar 2024 16:33	MA/JU	Ok
12	P1733-08	BG060642.D	14 Mar 2024 17:14	MA/JU	Ok
13	P1747-01	BG060643.D	14 Mar 2024 17:55	MA/JU	Ok
14	P1747-02	BG060644.D	14 Mar 2024 18:36	MA/JU	Ok
15	P1747-04	BG060645.D	14 Mar 2024 19:17	MA/JU	Ok
16	P1747-05	BG060646.D	14 Mar 2024 19:57	MA/JU	Ok
17	P1749-01	BG060647.D	14 Mar 2024 20:38	MA/JU	Ok
18	DFTPP	BG060648.D	14 Mar 2024 21:59	MA/JU	Ok
19	SSTDCCC040	BG060649.D	14 Mar 2024 22:39	MA/JU	Ok,NS
20	PB159586BL	BG060650.D	14 Mar 2024 23:20	MA/JU	Ok
21	PB159586BS	BG060651.D	15 Mar 2024 00:00	MA/JU	Ok,NS
22	PB159586BSD	BG060652.D	15 Mar 2024 00:41	MA/JU	Ok,NS
23	P1749-02	BG060653.D	15 Mar 2024 1:21	MA/JU	Ok

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Instrument ID: BNA_G

Daily Analysis Runlog For Sequence/QCBatch ID # BG031424

Review By	Jagrut	Review On	3/15/2024 3:09:51 PM		
Supervise By		Supervise On			
SubDirectory	BG031424	HP Acquire Method	BNA_G	HP Processing Method	bg031324

STD. NAME	STD REF.#
Tune/Reschk	SP6397
Initial Calibration Stds	SP6420,SP6421,SP6422,SP6423,SP6424,SP6425,SP6426,SP6427
CCC	SP6423
Internal Standard/PEM	S12016 10ul/1000ul sample
ICV/I.BLK	SP6406
Surrogate Standard	
MS/MSD Standard	
LCS Standard	

24	P1749-03	BG060654.D	15 Mar 2024 2:01	MA/JU	Ok
25	P1491-01	BG060655.D	15 Mar 2024 2:42	MA/JU	Ok
26	P1746-03	BG060656.D	15 Mar 2024 3:22	MA/JU	Not Ok
27	P1746-03MS	BG060657.D	15 Mar 2024 4:02	MA/JU	Not Ok
28	P1746-03MSD	BG060658.D	15 Mar 2024 4:43	MA/JU	Not Ok

M : Manual Integration

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Instrument ID: BNA_G

Daily Analysis Runlog For Sequence/QCBatch ID # BG031324

Review By	yogesh	Review On	3/15/2024 3:08:55 AM		
Supervise By	mohammad	Supervise On	3/15/2024 3:29:40 AM		
SubDirectory	BG031324	HP Acquire Method	BNA_G	HP Processing Method	bg031324

STD. NAME	STD REF.#
Tune/Reschk	SP6397
Initial Calibration Stds	SP6420,SP6421,SP6422,SP6423,SP6424,SP6425,SP6426,SP6427
CCC	SP6423
Internal Standard/PEM	S12016 10ul/1000ul sample
ICV/I.BLK	SP6406
Surrogate Standard	
MS/MSD Standard	
LCS Standard	

Sr#	SampleId	ClientID	Data File Name	Date-Time	Comment	Operator	Status
1	DFTPP	DFTPP	BG060620.D	13 Mar 2024 10:02		MA/JU	Ok
2	SSTDICC2.5	SSTDICC2.5	BG060621.D	13 Mar 2024 10:44		MA/JU	Ok
3	SSTDICC005	SSTDICC005	BG060622.D	13 Mar 2024 11:24	Compound#32,54,56,65,70 removed from 5 ppm	MA/JU	Ok,M
4	SSTDICC010	SSTDICC010	BG060623.D	13 Mar 2024 12:04		MA/JU	Ok,M
5	SSTDICC020	SSTDICC020	BG060624.D	13 Mar 2024 12:45	Compound #26,32,54,65 Kept on LR	MA/JU	Ok,M
6	SSTDICCC040	SSTDICCC040	BG060625.D	13 Mar 2024 13:26	Method is Good For DOD and Not good for 625.1 Method	MA/JU	Ok,M
7	SSTDICC050	SSTDICC050	BG060626.D	13 Mar 2024 14:06		MA/JU	Ok,M
8	SSTDICC060	SSTDICC060	BG060627.D	13 Mar 2024 14:47		MA/JU	Ok,M
9	SSTDICC080	SSTDICC080	BG060628.D	13 Mar 2024 15:27		MA/JU	Ok,M
10	SSTDICV040	ICVBG031324	BG060629.D	13 Mar 2024 16:08		MA/JU	Ok,M
11	PB159549BL	PB159549BL	BG060630.D	13 Mar 2024 17:38		MA/JU	Ok

M : Manual Integration

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Instrument ID: BNA_G

Daily Analysis Runlog For Sequence/QCBatch ID # BG031424

Review By	Jagrut	Review On	3/15/2024 3:09:51 PM		
Supervise By		Supervise On			
SubDirectory	BG031424	HP Acquire Method	BNA_G	HP Processing Method	bg031324

STD. NAME	STD REF.#
Tune/Reschk	SP6397
Initial Calibration Stds	SP6420,SP6421,SP6422,SP6423,SP6424,SP6425,SP6426,SP6427
CCC	SP6423
Internal Standard/PEM	S12016 10ul/1000ul sample
ICV/I.BLK	SP6406
Surrogate Standard	
MS/MSD Standard	
LCS Standard	

Sr#	SampleId	ClientID	Data File Name	Date-Time	Comment	Operator	Status
1	DFTPP	DFTPP	BG060631.D	14 Mar 2024 9:44		MA/JU	Ok
2	SSTDCCC040	SSTDCCC040	BG060632.D	14 Mar 2024 10:25		MA/JU	Ok,NS
3	PB159572BL	PB159572BL	BG060633.D	14 Mar 2024 11:06		MA/JU	Ok
4	PB159572BS	PB159572BS	BG060634.D	14 Mar 2024 11:47		MA/JU	Ok,NS
5	PB159530TB	PB159530TB	BG060635.D	14 Mar 2024 12:28		MA/JU	Ok
6	PB159549BL	PB159549BL	BG060636.D	14 Mar 2024 13:09		MA/JU	Ok
7	IDOC-01	IDOC-01	BG060637.D	14 Mar 2024 13:50	IDOC for Evelyn Huango	MA/JU	Ok,NS
8	IDOC-02	IDOC-02	BG060638.D	14 Mar 2024 14:31	IDOC for Evelyn Huango	MA/JU	Ok,NS
9	IDOC-03	IDOC-03	BG060639.D	14 Mar 2024 15:12	IDOC for Evelyn Huango	MA/JU	Ok,NS
10	IDOC-04	IDOC-04	BG060640.D	14 Mar 2024 15:53	IDOC for Evelyn Huango	MA/JU	Ok,NS
11	P1733-12	WC-3	BG060641.D	14 Mar 2024 16:33		MA/JU	Ok
12	P1733-08	WC-2	BG060642.D	14 Mar 2024 17:14		MA/JU	Ok
13	P1747-01	MW-01	BG060643.D	14 Mar 2024 17:55		MA/JU	Ok
14	P1747-02	MW-01-DUP	BG060644.D	14 Mar 2024 18:36		MA/JU	Ok
15	P1747-04	MW-02	BG060645.D	14 Mar 2024 19:17		MA/JU	Ok
16	P1747-05	MW-04	BG060646.D	14 Mar 2024 19:57		MA/JU	Ok
17	P1749-01	MW-1	BG060647.D	14 Mar 2024 20:38		MA/JU	Ok
18	DFTPP	DFTPP	BG060648.D	14 Mar 2024 21:59		MA/JU	Ok
19	SSTDCCC040	SSTDCCC040	BG060649.D	14 Mar 2024 22:39		MA/JU	Ok,NS

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Instrument ID: BNA_G

Daily Analysis Runlog For Sequence/QCBatch ID # BG031424

Review By	Jagrut	Review On	3/15/2024 3:09:51 PM		
Supervise By		Supervise On			
SubDirectory	BG031424	HP Acquire Method	BNA_G	HP Processing Method	bg031324

STD. NAME	STD REF.#
Tune/Reschk	SP6397
Initial Calibration Stds	SP6420,SP6421,SP6422,SP6423,SP6424,SP6425,SP6426,SP6427
CCC	SP6423
Internal Standard/PEM	S12016 10ul/1000ul sample
ICV/I.BLK	SP6406
Surrogate Standard	
MS/MSD Standard	
LCS Standard	

20	PB159586BL	PB159586BL	BG060650.D	14 Mar 2024 23:20		MA/JU	Ok
21	PB159586BS	PB159586BS	BG060651.D	15 Mar 2024 00:00		MA/JU	Ok,NS
22	PB159586BSD	PB159586BSD	BG060652.D	15 Mar 2024 00:41		MA/JU	Ok,NS
23	P1749-02	MW-2A	BG060653.D	15 Mar 2024 1:21		MA/JU	Ok
24	P1749-03	MW-2	BG060654.D	15 Mar 2024 2:01		MA/JU	Ok
25	P1491-01	20241095-35N-N-FIEL	BG060655.D	15 Mar 2024 2:42		MA/JU	Ok
26	P1746-03	SB-01-4.0-6.0-DUP	BG060656.D	15 Mar 2024 3:22	Test not Present on Login Page	MA/JU	Not Ok
27	P1746-03MS	SB-01-4.0-6.0-DUPMS	BG060657.D	15 Mar 2024 4:02	Test not Present on Login Page	MA/JU	Not Ok
28	P1746-03MSD	SB-01-4.0-6.0-DUPMS	BG060658.D	15 Mar 2024 4:43	Test not Present on Login Page	MA/JU	Not Ok

M : Manual Integration

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EXTRACTION LOGPAGE

PB159586

SOP ID: M3510C,3580A-Extraction SVOC-20

Clean Up SOP #: N/A

Matrix : Water

Weigh By: N/A

Balance check: N/A

Balance ID: N/A

pH Strip Lot#: E3574

Extraction By: RP

Filter By: RS

pH Meter ID: N/A

Hood ID: 4,5,6,7

Extraction Start Date : 03/14/2024

Extraction Start Time : 10:06

Extraction End Date : 03/14/2024

Extraction End Time : 15:10

Concentration By: RS

Supervisor By : rajesh

Extraction Method: [√] Seperatory Funnel [_] Continious Liquid/Liquid [_] Sonication [_] Waste Dilution [_] Soxhlet

Standared Name	MLS USED	Concentration ug/mL	STD REF. # FROM LOG
Spike Sol 1	1.0ML	50/100 PPM	SP6439
Surrogate	1.0ML	100/150 PPM	SP6396
N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A

Chemical Used	ML/SAMPLE USED	Lot Number
Methylene Chloride	N/A	E3707
Baked Na2SO4	N/A	EP2458
10N NaoH	N/A	EP2439
H2SO4 1:1	N/A	EP2416
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A

Extraction Conformance/Non-Conformance Comments:

1.5 ML Vial lot# 2210678. pH Adjusted<2 with 1:1 H2SO4 & >11 with 10 N NaOH.

KD Bath ID: WATER BATH-1,2

KD Bath Temperature: 60 °C

Envap ID: NE VAP-02

Envap Temperature: 40 °C

Date / Time	Prepped Sample Relinquished By/Location	Received By/Location
03/14/24	RP (Extn. Lab)	RC/SVOC
15:15	Preparation Group	Analysis Group

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EXTRACTION LOGPAGE

PrepBatch ID : PB159586

Analytical Method: M3510C,3580A-Extraction SVOC-20 **Concentration Date:** 03/14/2024

Sample ID	Client Sample ID	Test	g / mL	PH	Surr/Spike By:		Final Vol. (mL)	JarID	Comments	Prep Pos
					AddedBy	VerifiedBy				
PB159586BL	SBLK586	SVOC-TCL BNA -20	1000	6	RUPESH	rajesh	1			SEP-01
PB159586BS	SLCS586	SVOC-TCL BNA -20	1000	6	RUPESH	rajesh	1			2
PB159586BSD	SLCSD586	SVOC-TCL BNA -20	1000	6	RUPESH	rajesh	1			3
P1747-01	MW-01	SVOC-TCL BNA -20	980	6	RUPESH	rajesh	1	E		4
P1747-02	MW-01-DUP	SVOC-TCL BNA -20	980	6	RUPESH	rajesh	1	E		5
P1747-04	MW-02	SVOC-TCL BNA -20	990	6	RUPESH	rajesh	1	E		6
P1747-05	MW-04	SVOC-TCL BNA -20	980	6	RUPESH	rajesh	1	E		7
P1749-01	MW-1	SVOC-TCL BNA -20	1000	6	RUPESH	rajesh	1	E		8
P1749-02	MW-2A	SVOC-TCL BNA -20	970	6	RUPESH	rajesh	1	E		9
P1749-03	MW-2	SVOC-TCL BNA -20	970	6	RUPESH	rajesh	1	E		10
P1749-04	MW-4	SVOC-TCL BNA -20	1000	6	RUPESH	rajesh	1	E		11

* **Extracts relinguished on the same date as received.**

3/14/24

159586
10:00

WORKLIST(Hardcopy Internal Chain)

WorkList Name : P1749 **WorkList ID :** 178574 **Department :** Extraction **Date :** 03-14-2024 10:00:12

Sample	Customer Sample	Matrix	Test	Preservative	Customer	Raw Sample Storage Location	Collect Date	Method
P1747-01	MW-01	Water	SVOC-TCL BNA -20	Cool 4 deg C	LIRO01	I21	03/12/2024	8270E
P1747-02	MW-01-DUP	Water	SVOC-TCL BNA -20	Cool 4 deg C	LIRO01	I21	03/12/2024	8270E
P1747-04	MW-02	Water	SVOC-TCL BNA -20	Cool 4 deg C	LIRO01	I21	03/12/2024	8270E
P1747-05	MW-04	Water	SVOC-TCL BNA -20	Cool 4 deg C	LIRO01	I21	03/12/2024	8270E
P1749-01	MW-1	Water	SVOC-TCL BNA -20	Cool 4 deg C	H2MA01	I21	03/12/2024	8270E
P1749-02	MW-2A	Water	SVOC-TCL BNA -20	Cool 4 deg C	H2MA01	I21	03/12/2024	8270E
P1749-03	MW-2	Water	SVOC-TCL BNA -20	Cool 4 deg C	H2MA01	I21	03/12/2024	8270E
P1749-04	MW-4	Water	SVOC-TCL BNA -20	Cool 4 deg C	H2MA01	I21	03/12/2024	8270E

Date/Time 03/14/24 10:01
Raw Sample Received by: RS (Esek Lang)
Raw Sample Relinquished by: RM SM

Date/Time 03/14/24 10:30
Raw Sample Received by: RM SM
Raw Sample Relinquished by: RS (Esek Lang)

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Prep Standard - Chemical Standard Summary

Order ID : P1747

Test : SVOC-TCL BNA -20

Prepbatch ID : PB159586,

Sequence ID/Qc Batch ID: BG031424,

Standard ID :
EP2416,EP2439,EP2458,SP6396,SP6397,SP6405,SP6406,SP6419,SP6420,SP6421,SP6422,SP6423,SP6424,SP6425,
SP6426,SP6427,SP6439,

Chemical ID :
E3551,E3657,E3673,E3674,E3678,E3699,E3706,E3707,M5673,S10101,S10243,S10396,S10591,S10798,S10966,S109
67,S10968,S10969,S10970,S10971,S10988,S10989,S10990,S10991,S10992,S10993,S10994,S10995,S 11014,S11089,
S11094,S11100,S11136,S11137,S11142,S11144,S11292,S11293,S11294,S11295,S11296,S11297,S11298,S11299,S1141
1,S11523,S11556,S11584,S11585,S11587,S11588,S11589,S11590,S11596,S11597,S11751,S11752,S11753,S11754,S11
755,S11881,S11883,S11884,S11885,S11886,S11887,S11888,S11889,S12013,S12016 10ul/1000ul
sample,S9923,W2606,

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Extractions STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
314	1.1 H2SO4 SOLN	EP2416	11/29/2023	05/29/2024	Rajesh Parikh	None	None	RUPESHKUMAR SHAH 11/29/2023

FROM 1000.00000ml of M5673 + 1000.00000ml of W2606 = Final Quantity: 2000.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
1874	10 N SODIUM HYDROXIDE SOLN	EP2439	01/19/2024	06/03/2024	Rajesh Parikh	Extraction_SCALE_2 (EX-SC-2)	None	RUPESHKUMAR SHAH 01/19/2024

FROM 1000.00000ml of W2606 + 400.00000gram of E3657 = Final Quantity: 1000.000 ml

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Extractions STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
3923	Baked Sodium Sulfate	EP2458	03/08/2024	07/03/2024	Rajesh Parikh	Extraction_SCALE_2 (EX-SC-2)	None	RUPESHKUMAR SHAH 03/08/2024

FROM 4000.00000gram of E3551 = Final Quantity: 4000.000 gram

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
19	8270/CLP Surrogate Solution, 100 PPM BN/150 PPM ACID	SP6396	01/11/2024	07/03/2024	Jagrut Upadhyay	None	None	mohammad ahmed 01/15/2024

FROM 1930.00000ml of E3674 + 5.00000ml of S10966 + 5.00000ml of S10967 + 5.00000ml of S10968 + 5.00000ml of S10969 + 5.00000ml of S10970 + 5.00000ml of S10971 + 5.00000ml of S10988 + 5.00000ml of S10989 + 5.00000ml of S10990 + 5.00000ml of S10991 + 5.00000ml of S10992 + 5.00000ml of S10993 + 5.00000ml of S10994 + 5.00000ml of S10995 = Final Quantity: 2000.000 ml

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SVOC STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
3895	50 ug/ml DFTPP 8270E	SP6397	01/15/2024	06/29/2024	Jagrut Upadhyay	None	None	mohammad ahmed 01/15/2024

FROM 1.00000ml of S10243 + 19.00000ml of E3673 = Final Quantity: 20.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
18	Second Source Calibration Stock Standard, 100 PPM, (8270/625/CLP)	SP6405	01/19/2024	05/15/2024	Jagrut Upadhyay	None	None	mohammad ahmed 01/22/2024

FROM 0.04000ml of S10971 + 0.08000ml of S10995 + 0.10000ml of S11751 + 0.20000ml of S11556 + 0.20000ml of S11584 + 0.20000ml of S11881 + 1.18000ml of E3678 = Final Quantity: 2.000 ml

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SVOC STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
416	40 ng BNA ICV, 40 PPM	SP6406	01/19/2024	05/15/2024	Jagrut Upadhyay	None	None	mohammad ahmed 01/22/2024

FROM 0.01000ml of S11523 + 0.60000ml of E3678 + 0.40000ml of SP6405 = Final Quantity: 1.010 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
3764	8270/625 Stock solution 100 ng	SP6419	02/22/2024	05/02/2024	Jagrut Upadhyay	None	None	mohammad ahmed 02/23/2024

FROM 0.26700ml of S10101 + 0.40000ml of S11411 + 0.50000ml of S9923 + 1.00000ml of S10798 + 1.00000ml of S11089 + 1.00000ml of S11094 + 1.00000ml of S11100 + 1.00000ml of S11144 + 3.83300ml of E3706 = Final Quantity: 10.000 ml

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SVOC STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
413	80 ng BNA ICC, 80 PPM	SP6420	02/22/2024	05/02/2024	Jagrut Upadhyay	None	None	mohammad ahmed 02/23/2024

FROM 0.01000ml of S12013 + 0.20000ml of E3706 + 0.80000ml of SP6419 = Final Quantity: 1.010 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
412	60 ng BNA ICC, 60 PPM	SP6421	02/22/2024	05/02/2024	Jagrut Upadhyay	None	None	mohammad ahmed 02/23/2024

FROM 0.01000ml of S12013 + 0.40000ml of E3706 + 0.60000ml of SP6419 = Final Quantity: 1.010 ml

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SVOC STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
411	50 ng BNA ICC, 50 PPM	SP6422	02/22/2024	05/02/2024	Jagrut Upadhyay	None	None	mohammad ahmed 02/23/2024

FROM 0.01000ml of S12013 + 0.50000ml of E3706 + 0.50000ml of SP6419 = Final Quantity: 1.010 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
410	40 ng BNA ICC, 40 PPM	SP6423	02/22/2024	05/02/2024	Jagrut Upadhyay	None	None	mohammad ahmed 02/23/2024

FROM 0.01000ml of S12013 + 0.60000ml of E3706 + 0.40000ml of SP6419 = Final Quantity: 1.010 ml

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SVOC STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
3678	20 ng BNA ICC, 20 PPM	SP6424	02/22/2024	05/02/2024	Jagrut Upadhyay	None	None	mohammad ahmed 02/23/2024

FROM 0.01000ml of S12013 + 0.80000ml of E3706 + 0.20000ml of SP6419 = Final Quantity: 1.010 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
408	10 ng BNA ICC, 10 PPM	SP6425	02/22/2024	05/02/2024	Jagrut Upadhyay	None	None	mohammad ahmed 02/23/2024

FROM 0.01000ml of S12013 + 0.90000ml of E3706 + 0.10000ml of SP6419 = Final Quantity: 1.010 ml

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SVOC STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
407	5 ng BNA ICC, 5 PPM	SP6426	02/22/2024	05/02/2024	Jagrut Upadhyay	None	None	mohammad ahmed 02/23/2024

FROM 0.01000ml of S12013 + 0.95000ml of E3706 + 0.05000ml of SP6419 = Final Quantity: 1.010 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
175	2.5 ng BNA ICC, 2.5 PPM	SP6427	02/22/2024	05/02/2024	Jagrut Upadhyay	None	None	mohammad ahmed 02/23/2024

FROM 0.01000ml of S12013 + 0.50000ml of E3706 + 0.50000ml of SP6426 = Final Quantity: 1.010 ml

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SVOC STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
171	8270/625 Spike Solution, 50/100 PPM	SP6439	02/29/2024	05/14/2024	Jagrut Upadhyay	None	None	Yogesh Patel 03/12/2024

FROM

0.10000ml of S11137 + 0.30000ml of S11136 + 0.40000ml of S10396 + 0.40000ml of S10591 + 0.40000ml of S11014 + 0.40000ml of S11142 + 0.90000ml of S11299 + 0.90000ml of S11597 + 0.90000ml of S11881 + 1.10000ml of S11754 + 1.30000ml of S11292 + 1.30000ml of S11293 + 1.30000ml of S11294 + 1.30000ml of S11295 + 1.30000ml of S11296 + 1.30000ml of S11297 + 1.30000ml of S11298 + 1.30000ml of S11584 + 1.30000ml of S11585 + 1.30000ml of S11587 + 1.30000ml of S11588 + 1.30000ml of S11589 + 1.30000ml of S11590 + 1.30000ml of S11596 + 1.30000ml of S11752 + 1.30000ml of S11753 + 1.30000ml of S11755 + 1.30000ml of S11883 + 1.30000ml of S11884 + 1.30000ml of S11885 + 1.30000ml of S11886 + 1.30000ml of S11887 + 1.30000ml of S11888 + 1.30000ml of S11889 + 163.00000ml of E3699 = Final Quantity: 200.000 ml

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CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	PC19631-100 / SODIUM SULFATE, ANHYDROUS, PEST GRADE, 1	313201	07/03/2024	01/03/2024 / Rajesh	07/20/2023 / Rajesh	E3551

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	PC19510-5 / Sodium Hydroxide Pellets 2.5 Kg, Pk of 4	23B1556310	06/03/2024	12/04/2023 / Rajesh	12/01/2023 / Rajesh	E3657

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	BA-9644-A4 / Methylene Chloride,U-Resi, Cycle-Tainer (215L)	23K0962009	06/29/2024	12/29/2023 / Rajesh	12/15/2023 / Rajesh	E3673

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	BA-9254-03 / Acetone, Ultra Resi (cs/4x4L)	23H1462005	07/03/2024	01/03/2024 / Rajesh	01/03/2024 / Rajesh	E3674

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	BA-9644-A4 / Methylene Chloride,U-Resi, Cycle-Tainer (215L)	23K0962009	07/16/2024	01/16/2024 / Rajesh	01/11/2024 / Rajesh	E3678

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	BA-9254-03 / Acetone, Ultra Resi (cs/4x4L)	23H14626005	08/21/2024	02/21/2024 / RUPESH	02/14/2024 / RUPESH	E3699

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Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	BA-9644-A4 / Methylene Chloride,U-Resi, Cycle-Tainer (215L)	24A1562007	08/19/2024	02/19/2024 / RUPESH	01/31/2024 / RUPESH	E3706

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	BA-9644-A4 / Methylene Chloride,U-Resi, Cycle-Tainer (215L)	24A1562007	08/28/2024	02/28/2024 / Rajesh	02/19/2024 / Rajesh	E3707

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	BA-9673-33 / Sulfuric Acid, Instra-Analyzed (cs/6c2.5L)	23D2462010	03/20/2028	09/21/2023 / mohan	09/05/2023 / mohan	M5673

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
CPI International	Z-112090-04 / CLP Acid Surrogate Solution, 7500 mg/L, 1ml	440246	05/02/2024	11/02/2023 / Jagrut	12/09/2021 / Christian	S10101

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	31615 / SV Mixture, GC/MS Tuning Mixture, CH2Cl2, 1mL,	A0182667	07/15/2024	01/15/2024 / Jagrut	03/18/2022 / Christian	S10243

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	555871 / Custom Standard, 4-nitrophenol Std [CS 5238-4]	A0185300	05/15/2024	11/15/2023 / yogesh	05/18/2022 / Christian	S10396

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CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	555868 / Custom Standard, Benzidine Std [CS 5328-1]	A0186373	08/29/2024	02/29/2024 / Jagrut	07/05/2022 / Christian	S10591

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
CPI International	Z-110816-01 / Custom 8270 Mix, 4-79, 1000 mg/L, 1 mL, (Maximum Expiration: 180 Days)	414127	08/22/2024	02/22/2024 / Jagrut	09/20/2022 / Christian	S10798

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	31087 / Acid Surrogate 10,000ug/ml,methanol,5ml/ampul	A0188108	07/11/2024	01/11/2024 / Jagrut	12/28/2022 / Christian	S10966

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	31087 / Acid Surrogate 10,000ug/ml,methanol,5ml/ampul	A0188108	07/11/2024	01/11/2024 / Jagrut	12/28/2022 / Christian	S10967

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	31087 / Acid Surrogate 10,000ug/ml,methanol,5ml/ampul	A0188108	07/11/2024	01/11/2024 / Jagrut	12/28/2022 / Christian	S10968

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	31087 / Acid Surrogate 10,000ug/ml,methanol,5ml/ampul	A0188108	07/11/2024	01/11/2024 / Jagrut	12/28/2022 / Christian	S10969

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Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	31087 / Acid Surrogate 10,000ug/ml,methanol,5ml/ampul	A0188108	07/11/2024	01/11/2024 / Jagrut	12/28/2022 / Christian	S10970

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	31087 / Acid Surrogate 10,000ug/ml,methanol,5ml/ampul	A0188108	07/11/2024	01/11/2024 / Jagrut	12/28/2022 / Christian	S10971

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	31086 / Base Neutral Surrogate 5000ug/ml,CH2Cl2,5ml	A0189418	07/11/2024	01/11/2024 / Jagrut	12/28/2022 / Christian	S10988

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	31086 / Base Neutral Surrogate 5000ug/ml,CH2Cl2,5ml	A0189418	07/11/2024	01/11/2024 / Jagrut	12/28/2022 / Christian	S10989

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	31086 / Base Neutral Surrogate 5000ug/ml,CH2Cl2,5ml	A0189418	07/11/2024	01/11/2024 / Jagrut	12/28/2022 / Christian	S10990

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	31086 / Base Neutral Surrogate 5000ug/ml,CH2Cl2,5ml	A0189418	07/11/2024	01/11/2024 / Jagrut	12/28/2022 / Christian	S10991

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Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	31086 / Base Neutral Surrogate 5000ug/ml,CH2Cl2,5ml	A0189418	07/11/2024	01/11/2024 / Jagrut	12/28/2022 / Christian	S10992

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	31086 / Base Neutral Surrogate 5000ug/ml,CH2Cl2,5ml	A0189418	07/11/2024	01/11/2024 / Jagrut	12/28/2022 / Christian	S10993

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	31086 / Base Neutral Surrogate 5000ug/ml,CH2Cl2,5ml	A0189418	07/11/2024	01/11/2024 / Jagrut	12/28/2022 / Christian	S10994

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	31086 / Base Neutral Surrogate 5000ug/ml,CH2Cl2,5ml	A0189418	07/11/2024	01/11/2024 / Jagrut	12/28/2022 / Christian	S10995

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	555872 / Custom Standard, pentachlorophenol Std [CS 5328-5]	A0193449	05/14/2024	11/14/2023 / yogesh	01/13/2023 / Christian	S11014

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
CPI International	Z-110817-01 / Custom 8270 Mix, 4-55, 1000 mg/L, 1 ml, (Maximum Expiration: 90 Days)	414125	08/22/2024	02/22/2024 / Jagrut	02/07/2023 / Christian	S11089

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Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
CPI International	Z-010442-07 / Benzaldehyde Solution, 1000 mg/L, 1.3 ml, (Maximum Expiration: 90 Days)	441819	06/01/2024	02/22/2024 / Jagrut	02/07/2023 / Christian	S11094

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
CPI International	z-110381-01 / 8270 Calibration Solution, 76-1, 500 & 1,000 mg/L, 1ml	478725	08/22/2024	02/22/2024 / Jagrut	02/07/2023 / Christian	S11100

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	555870 / Custom Standard, 2,4-dinitrophenol Std [CS 5328-3]	A0194698	08/29/2024	02/29/2024 / Jagrut	02/20/2023 / Christian	S11136

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	555870 / Custom Standard, 2,4-dinitrophenol Std [CS 5328-3]	A0194698	05/15/2024	11/15/2023 / yogesh	02/20/2023 / Christian	S11137

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	555869 / Custom Standard, hexachlorocyclopentadiene Std [CS 5328-2]	A0194702	07/18/2024	01/18/2024 / Rahul	02/20/2023 / Christian	S11142

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
CPI International	Z-010074-07 / 3,3'-Dichlorobenzidine Solution, 1,000 mg/L, 1 ml, (Maximum Expiration: 180 days)	406703	08/22/2024	02/22/2024 / Jagrut	03/06/2023 / Christian	S11144

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Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	555223 / Custom 8270 Plus Std #1 [2nd lot at $100 per ampul if requested - contact ARM with Request] [CS 4978-1]	A0197354	08/29/2024	02/29/2024 / Jagrut	04/24/2023 / Christian	S11292

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	555223 / Custom 8270 Plus Std #1 [2nd lot at $100 per ampul if requested - contact ARM with Request] [CS 4978-1]	A0197354	08/29/2024	02/29/2024 / Jagrut	04/24/2023 / Christian	S11293

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	555223 / Custom 8270 Plus Std #1 [2nd lot at $100 per ampul if requested - contact ARM with Request] [CS 4978-1]	A0197354	08/29/2024	02/29/2024 / Jagrut	04/24/2023 / Christian	S11294

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	555223 / Custom 8270 Plus Std #1 [2nd lot at $100 per ampul if requested - contact ARM with Request] [CS 4978-1]	A0197354	08/29/2024	02/29/2024 / Jagrut	04/24/2023 / Christian	S11295

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	555223 / Custom 8270 Plus Std #1 [2nd lot at $100 per ampul if requested - contact ARM with Request] [CS 4978-1]	A0197354	08/29/2024	02/29/2024 / Jagrut	04/24/2023 / Christian	S11296

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	555223 / Custom 8270 Plus Std #1 [2nd lot at $100 per ampul if requested - contact ARM with Request] [CS 4978-1]	A0197354	08/29/2024	02/29/2024 / Jagrut	04/24/2023 / Christian	S11297

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CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	555223 / Custom 8270 Plus Std #1 [2nd lot at $100 per ampul if requested - contact ARM with Request] [CS 4978-1]	A0197354	08/29/2024	02/29/2024 / Jagrut	04/24/2023 / Christian	S11298

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	555223 / Custom 8270 Plus Std #1 [2nd lot at $100 per ampul if requested - contact ARM with Request] [CS 4978-1]	A0197354	08/29/2024	02/29/2024 / Jagrut	04/24/2023 / Christian	S11299

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
CPI International	Z-110094-02 / CLP Base/Neutral Surrogate Solution, 5000 mg/L, 1ml	503442	06/27/2024	12/27/2023 / Rahul	07/17/2023 / yogesh	S11411

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	31206 / SV Mix, CLP method, Internal Std, 2000ug/mL, CH2Cl2, 1mL	A0196843	07/17/2024	01/17/2024 / Rahul	08/28/2023 / Yogesh	S11523

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	555223 / Custom 8270 Plus Std #1 [2nd lot at $100 per ampul if requested - contact ARM with Request] [CS 4978-1]	A0201940	05/15/2024	11/15/2023 / yogesh	09/18/2023 / Kiran	S11556

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	555224 / Custom 8270 Plus Std #2 [2nd lot at $85 per ampul if requested - contact ARM with Request] [CS 4978-2]	A0201998	07/18/2024	01/18/2024 / Rahul	09/18/2023 / Kiran	S11584

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CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	555224 / Custom 8270 Plus Std #2 [2nd lot at $85 per ampul if requested - contact ARM with Request] [CS 4978-2]	A0201998	07/23/2024	01/23/2024 / Rahul	09/18/2023 / Kiran	S11585

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	555224 / Custom 8270 Plus Std #2 [2nd lot at $85 per ampul if requested - contact ARM with Request] [CS 4978-2]	A0201998	08/29/2024	02/29/2024 / Jagrut	09/18/2023 / Kiran	S11587

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	555224 / Custom 8270 Plus Std #2 [2nd lot at $85 per ampul if requested - contact ARM with Request] [CS 4978-2]	A0201998	08/29/2024	02/29/2024 / Jagrut	09/18/2023 / Kiran	S11588

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	555224 / Custom 8270 Plus Std #2 [2nd lot at $85 per ampul if requested - contact ARM with Request] [CS 4978-2]	A0201998	08/29/2024	02/29/2024 / Jagrut	09/18/2023 / Kiran	S11589

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	555224 / Custom 8270 Plus Std #2 [2nd lot at $85 per ampul if requested - contact ARM with Request] [CS 4978-2]	A0201998	08/29/2024	02/29/2024 / Jagrut	09/18/2023 / Kiran	S11590

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	555224 / Custom 8270 Plus Std #2 [2nd lot at $85 per ampul if requested - contact ARM with Request] [CS 4978-2]	A0201998	05/15/2024	11/15/2023 / yogesh	09/18/2023 / Kiran	S11596

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CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	555224 / Custom 8270 Plus Std #2 [2nd lot at $85 per ampul if requested - contact ARM with Request] [CS 4978-2]	A0201998	08/29/2024	02/29/2024 / Jagrut	09/18/2023 / Kiran	S11597

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	31853 / 1,4-Dioxane, 2000 ug/ml , Solvent: Methylene Chloride	A0196453	07/18/2024	01/18/2024 / Rahul	11/21/2023 / Rahul	S11751

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	31853 / 1,4-Dioxane, 2000 ug/ml , Solvent: Methylene Chloride	A0196453	08/29/2024	02/29/2024 / Jagrut	11/21/2023 / Rahul	S11752

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	31853 / 1,4-Dioxane, 2000 ug/ml , Solvent: Methylene Chloride	A0196453	08/29/2024	02/29/2024 / Jagrut	11/21/2023 / Rahul	S11753

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	31853 / 1,4-Dioxane, 2000 ug/ml , Solvent: Methylene Chloride	A0196453	07/23/2024	01/23/2024 / Rahul	11/21/2023 / Rahul	S11754

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	31853 / 1,4-Dioxane, 2000 ug/ml , Solvent: Methylene Chloride	A0196453	08/29/2024	02/29/2024 / Jagrut	11/21/2023 / Rahul	S11755

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CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	31850 / 8270 SV Mix, 8270 Mega Mix 1mL, 1000ug/mL, CH2Cl2 [New Solvent 100% CH2Cl2]	A0197982	07/19/2024	01/19/2024 / Jagrut	11/21/2023 / rahul	S11881

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	31850 / 8270 SV Mix, 8270 Mega Mix 1mL, 1000ug/mL, CH2Cl2 [New Solvent 100% CH2Cl2]	A0197982	08/29/2024	02/29/2024 / Jagrut	11/21/2023 / rahul	S11883

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	31850 / 8270 SV Mix, 8270 Mega Mix 1mL, 1000ug/mL, CH2Cl2 [New Solvent 100% CH2Cl2]	A0197982	08/29/2024	02/29/2024 / Jagrut	11/21/2023 / rahul	S11884

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	31850 / 8270 SV Mix, 8270 Mega Mix 1mL, 1000ug/mL, CH2Cl2 [New Solvent 100% CH2Cl2]	A0197982	08/29/2024	02/29/2024 / Jagrut	11/21/2023 / rahul	S11885

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	31850 / 8270 SV Mix, 8270 Mega Mix 1mL, 1000ug/mL, CH2Cl2 [New Solvent 100% CH2Cl2]	A0197982	08/29/2024	02/29/2024 / Jagrut	11/21/2023 / rahul	S11886

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	31850 / 8270 SV Mix, 8270 Mega Mix 1mL, 1000ug/mL, CH2Cl2 [New Solvent 100% CH2Cl2]	A0197982	08/29/2024	02/29/2024 / Jagrut	11/21/2023 / rahul	S11887

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CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	31850 / 8270 SV Mix, 8270 Mega Mix 1mL, 1000ug/mL, CH2Cl2 [New Solvent 100% CH2Cl2]	A0197982	08/29/2024	02/29/2024 / Jagrut	11/21/2023 / rahul	S11888

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	31850 / 8270 SV Mix, 8270 Mega Mix 1mL, 1000ug/mL, CH2Cl2 [New Solvent 100% CH2Cl2]	A0197982	08/29/2024	02/29/2024 / Jagrut	11/21/2023 / rahul	S11889

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	31206 / SV Mix, CLP method, Internal Std, 2000ug/mL, CH2Cl2, 1mL	A0201320	08/20/2024	02/20/2024 / Rahul	12/21/2023 / Rahul	S12013

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
CPI International	z-010223-01 / 1,4-Dioxane Solution, 2,000mg/L, 1ml	459696	06/27/2024	12/27/2023 / Rahul	09/03/2021 / Christian	S9923

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	DIW / DI Water	Daily Lab-Certified	10/24/2024	10/24/2019 / apatel	10/24/2019 / apatel	W2606

CPI INTERNATIONAL

5580 Skylane Blvd
Santa Rosa, CA 95403

(707)525-5788
(800)878-7654 Toll Free
(707)545-7901 Fax

Manufacturer's Quality System
Audited & Registered
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Date Received:_____

Certificate of Analysis

Rev 0

Catalog No.:	Lot No.:	Storage:	Solvent:	Exp. Date:	Description:
Z-010074-07	406703	≤ -10 °C	Methylene Chloride	3/30/2025	3,3'-Dichlorobenzidine Solution, 1,000 mg/L, 1 mL

Compound	CAS No.	Purity (%)	Compound Lot No.	Concentration, mg/L
3,3'-dichlorobenzidine	91-94-1	99.5	74.3.26P	989 ± 7.53

Received on
02/07/23
by
CG

S11084
to
S11088

*Not a certified value

Certified By: _____
Jacob Mulloy
Chemist

All weights are traceable through N. I. S. T. Test No. 822/264157-00. Concentration (correct for purity) and uncertainty (95% confidence) values listed are determined gravimetricllly.

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Certificate of Analysis

Rev 0

Catalog No.:	Lot No.:	Storage:	Solvent:	Exp. Date:	Description:
Z-110817-01	414125	≤ -10 °C	Methylene Chloride	6/21/2025	Custom 8270 Mix, 4-55, 1000 mg/L, 1 mL

Compound	CAS No.	Purity (%)	Compound Lot No.	Concentration, mg/L
acetophenone	98-86-2	99.2	85.8.1P	998 ± 11.5
benzoic acid	65-85-0	100	123.7.1P	1010 ± 5.88
biphenyl	92-52-4	99.9	366.29.1P	999 ± 5.82
1,2,4,5-tetrachlorobenzene	95-94-3	99.7	53.7.2P	993 ± 5.79

Received on
02/07/23
by
CG
S11089
to
S11093

*Not a certified value

Manufactured by o2si smart solutions, Accredited to ISO 9001:2008 by NSF and ISO/IEC 17025:2005 (Certification No. 3031.01) and ISO Guide 34:2009 (Certification No. 3031.02) by A2LA

Certified By: _____
Shane Overcash
Chemist

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Certificate of Analysis

Rev 0

Catalog No.:	Lot No.:	Storage:	Solvent:	Exp. Date:	Description:
Z-110816-01	414127	≤ -10 °C	Methylene Chloride	6/21/2025	Custom 8270 Mix, 4-79, 1000 mg/L, 1 mL

Compound	CAS No.	Purity (%)	Compound Lot No.	Concentration, mg/L
atrazine	1912-24-9	99.5	337.7.3P	997 ± 5.81
benzidine	92-87-5	99.9	124.18.6.2P	991.8 ± 5.77
caprolactam	105-60-2	99.9	271.1.6P	999 ± 5.82

Received on
09/20/22
by CG

S10795
to
S10799

*Not a certified value

Manufactured by o2si smart solutions, Accredited to ISO 9001:2008 by NSF and ISO/IEC 17025:2005 (Certification No. 3031.01) and ISO Guide 34:2009 (Certification No. 3031.02) by A2LA

Certified By: _____
Shane Overcash
Chemist

All weights are traceable through N. I. S. T. Test No. 822/264157-00. Concentration (correct for purity) and uncertainty (95% confidence) values listed are determined gravimetricly.

CPI INTERNATIONAL

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Certificate of Analysis

Rev 0

Catalog No.:	Lot No.:	Storage:	Solvent:	Exp. Date:	Description:
Z-112090-04	440246	≤ -10 °C	Methylene Chloride	2/16/2026	CLP Acid Surrogate Solution, 7,500 mg/L, 1 mL

Compound	CAS No.	Purity (%)	Compound Lot No.	Concentration, mg/L
2-chlorophenol-d_4	93951-73-6	99.3	248.12.7P	7487 ± 17.2
2-fluorophenol	367-12-4	99.8	10.7.3.3P	7513 ± 17.26
phenol-d6	13127-88-3	99.9	949.120.8P	7481 ± 17.19
2,4,6-tribromophenol	118-79-6	99.8	12.1.6P	7469 ± 17.17

Received on
02/25/21
by
CG

S9236
to
S9240

*Not a certified value

Manufactured by o2si smart solutions, Accredited to ISO 9001:2008 by NSF and ISO/IEC 17025:2005 (Certification No. 3031.01) and ISO Guide 34:2009 (Certification No. 3031.02) by A2LA

Certified By: Erica Castiglione

Erica Castiglione
Chemist

All weights are traceable through N. I. S. T. Test No. 822/264157-00. Concentration (correct for purity) and uncertainty (95% confidence) values listed are determined gravimetricly.

CPI INTERNATIONAL

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Date Received:_____

Certificate of Analysis

Rev 0

Catalog No.:	Lot No.:	Storage:	Solvent:	Exp. Date:	Description:
Z-010442-07	441819	≤ -10 °C	Methylene Chloride	6/1/2024	Benzaldehyde Solution, 1000 mg/L, 1.3 mL

Compound	CAS No.	Purity (%)	Compound Lot No.	Concentration, mg/L
benzaldehyde	100-52-7	99.5	442.3.2.1P	1001 ± 12.89

Received on
02/07/23
by CG
S 11094
to
S 11095

*Not a certified value

Certified By: Katherine Wood

Katherine Wood
Chemist

All weights are traceable through N. I. S. T. Test No. 822/264157-00. Concentration (correct for purity) and uncertainty (95% confidence) values listed are determined gravimetricllly.

CPI INTERNATIONAL

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Date Received:_____

Certificate of Analysis

Rev 0

Catalog No.:	Lot No.:	Storage:	Solvent:	Exp. Date:	Description:
Z-010223 -01	459696	≤ -10 °C	Methylene Chloride	7/13/2024	1,4-Dioxane Solution, 2,000 mg/L, 1 mL

Compound	CAS No.	Purity (%)	Compound Lot No.	Concentration, mg/L
1,4-dioxane	123-91-1	100	223.1.3P	1993 ± 21.11

Received
on
04/22/22
by
CG
S10318
to
S10322

*Not a certified value

Manufactured by o2si smart solutions, Accredited to ISO 9001:2008 by NSF and ISO/IEC 17025:2005 (Certification No. 3031.01) and ISO Guide 34:2009 (Certification No. 3031.02) by A2LA

Certified By: Joanna Radu

Joanna Radu
Chemist

All weights are traceable through N. I. S. T. Test No. 822/264157-00. Concentration (correct for purity) and uncertainty (95% confidence) values listed are determined gravimetricly.

Received on 02/01/23 by CG S11100

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Audited & Registered
by TUV USA to ISO 9001:2015

Date Received:_____

Certificate of Analysis

Rev 0

Catalog No.:	Lot No.:	Storage:	Solvent:	Exp. Date:	Description:
Z-110381-01	478725	≤ -10 °C	Methylene Chloride	3/29/2027	Method 8270 Calibration Solution, 76-1, 500 & 1,000 mg/L, 1 mL

Compound	CAS No.	Purity (%)	Compound Lot No.	Concentration, mg/L
acenaphthene	83-32-9	99.9	13.1.5P	997.8 ± 9.78
acenaphthylene	208-96-8	97.6	14.290.1P	1001 ± 9.81
aniline	62-53-3	99.9	64.7.1P	999.6 ± 9.79
anthracene	120-12-7	99.5	15.7.1P	999.4 ± 9.8
azobenzene	103-33-3	98.1	252.7.2P	1001 ± 9.82
benzo[a]anthracene	56-55-3	98.7	16.7.2.5P	1002 ± 5.75
benzo[b]fluoranthene	205-99-2	98.7	17.1.16P	1000 ± 9.8
benzo[k]fluoranthene	207-08-9	98.9	18.421.4P	1005 ± 11.01
benzo[ghi]perylene	191-24-2	95	19.286.3.1P	999.4 ± 13.96
benzo[a]pyrene	50-32-8	98.3	20.286.1P	999.9 ± 5.74
benzyl alcohol	100-51-6	99.9	65.18.1P	1002 ± 9.83
bis(2-chloroethoxy)methane	111-91-1	98.5	31.3.11P	1000 ± 17.05
bis(2-chloroethyl)ether	111-44-4	99.8	32.7.1P	1000 ± 13.85
bis(2-chloro-1-methylethyl) ether	108-60-1	99.5	34.3.14P	999.7 ± 14.69
bis(2-ethylhexyl)adipate	103-23-1	99.5	874.7.1P	1006 ± 9.86
bis(2-ethylhexyl)phthalate	117-81-7	99.4	33.29.1P	1004 ± 17.12
4-bromophenyl phenyl ether	101-55-3	99.4	35.7.1.1P	1000 ± 13.85
butyl benzyl phthalate	85-68-7	98	36.1.5P	990.8 ± 16.9
carbazole	86-74-8	99	239.7.1P	996.9 ± 9.81

*Not a certified value

Manufactured by o2si smart solutions, Accredited to ISO 9001:2008 by NSF and ISO/IEC 17025:2005 (Certification No. 3031.01) and ISO Guide 34:2009 (Certification No. 3031.02) by A2LA

Certified By: _____

Clint Tipton
Chemist

All weights are traceable through N. I. S. T. Test No. 822/264157-00. Concentration (correct for purity) and uncertainty (95% confidence) values listed are determined gravimetricly.

Certificate of Analysis

Catalog No.: Z-110381-01 **Lot No.:** 478725 **Expiration Date:** 3/29/2027

Compound	CAS No.	Purity (%)	Compound Lot No.	Concentration, mg/L
4-chloroaniline	106-47-8	100	66.7.1P	1004 ± 9.83
4-chlorophenylphenyl ether	7005-72-3	98	37.158.2P	1000 ± 17.05
4-chloro-3-methylphenol	59-50-7	99.9	102.7.1.1P	999.7 ± 5.74
2-chloronaphthalene	91-58-7	99.8	42.7.5.2P	1010 ± 9.89
2-chlorophenol	95-57-8	99.9	103.1.3.1P	999.7 ± 5.74
chrysene	218-01-9	96	21.286.2P	1001 ± 13.98
dibenz[a,h]anthracene	53-70-3	99.44	22.286.3P	1010 ± 9.85
dibenzofuran	132-64-9	100	67.7.2.1P	1001 ± 9.76
di-n-butyl phthalate	84-74-2	99.8	40.9.2P	999.8 ± 17.05
1,2-dichlorobenzene	95-50-1	99.5	43.1.2P	992.4 ± 9.72
1,3-dichlorobenzene	541-73-1	99.8	44.1.2P	993.8 ± 9.73
1,4-dichlorobenzene	106-46-7	99.9	45.29.2P	991.8 ± 9.71
2,4-dichlorophenol	120-83-2	99.2	104.9.1.1P	1011 ± 5.8
diethyl phthalate	84-66-2	99.8	38.7.1P	999.1 ± 13.84
2,4-dimethylphenol	105-67-9	99.6	105.7.1.1P	999.3 ± 13.84
dimethyl phthalate	131-11-3	99.9	39.9.2P	1001 ± 13.87
1,2-dinitrobenzene	528-29-0	99.86	86.7.3.1P	1001 ± 9.76
1,3-dinitrobenzene	99-65-0	100	313.7.2P	1002 ± 9.83
1,4-dinitrobenzene	100-25-4	99.5	907.1.2P	998.5 ± 13.95
2,4-dinitrophenol	51-28-5	99.9	106.1.6DP	1000 ± 13.85
2,4-dinitrotoluene	121-14-2	100	87.7.3P	1002 ± 13.88
2,6-dinitrotoluene	606-20-2	99.4	88.7.2.1P	1001 ± 13.87
di-n-octyl phthalate	117-84-0	99.1	41.7.5P	989.4 ± 13.7
diphenylamine	122-39-4	99.9	78.29.1P	999.8 ± 17.05
2,3,5,6-tetrachlorophenol	935-95-5	99	1112.18.1P	1012 ± 14.14
fluoranthene	206-44-0	98.6	23.7.3P	1005 ± 5.77
fluorene	86-73-7	98.5	24.29.1P	1002 ± 9.82

*Not a certified value

Manufactured by o2si smart solutions, Accredited to ISO 9001:2008 by NSF and ISO/IEC 17025:2005 (Certification No. 3031.01) and ISO Guide 34:2009 (Certification No. 3031.02) by A2LA

Certified By: Clint Tipton
Chemist

All weights are traceable through N. I. S. T. Test No. 822/264157-00. Concentration (correct for purity) and uncertainty (95% confidence) values listed are determined gravimetricly.

Certificate of Analysis

Catalog No.: Z-110381-01 **Lot No.:** 478725 **Expiration Date:** 3/29/2027

Compound	CAS No.	Purity (%)	Compound Lot No.	Concentration, mg/L
hexachlorobenzene	118-74-1	99	46.158.4P	994.2 ± 13.88
hexachlorobutadiene	87-68-3	98	47.158.3.1P	988.2 ± 13.8
hexachlorocyclopentadiene	77-47-4	96.5	48.2.1P	994.5 ± 13.88
hexachloroethane	67-72-1	99.9	49.1.4P	993.4 ± 9.73
indeno[1,2,3-cd]pyrene	193-39-5	98	25.286.3P	1002 ± 5.75
isophorone	78-59-1	98.8	90.1.2P	999.9 ± 5.74
2-methyl-4,6-dinitrophenol	534-52-1	100	107.1.4.3DP	1003 ± 5.76
1-methylnaphthalene	90-12-0	98.4	249.7.4P	1001 ± 9.81
2-methylnaphthalene	91-57-6	97.4	68.7.2P	1008 ± 5.79
2-methylphenol	95-48-7	99.6	114.7.3P	1002 ± 13.88
3-methylphenol	108-39-4	99.1	115.7.4P	499.7 ± 6.92
4-methylphenol	106-44-5	99.5	116.7.1P	500.5 ± 6.93
naphthalene	91-20-3	99.8	26.9.2P	998.8 ± 5.73
2-nitroaniline	88-74-4	99.7	69.29.1P	1003 ± 9.82
3-nitroaniline	99-09-2	100	70.7.2P	1000 ± 9.79
4-nitroaniline	100-01-6	99.7	71.29.1P	999.8 ± 9.79
nitrobenzene	98-95-3	100	94.7.1P	1001 ± 13.87
2-nitrophenol	88-75-5	99.1	108.29.1P	1000 ± 13.85
4-nitrophenol	100-02-7	99.9	109.8.1P	1000 ± 5.74
N-nitrosodimethylamine	62-75-9	99.5	57.3.19P	999.4 ± 14.68
N-nitrosodi-n-propylamine	621-64-7	99.8	59.286.1P	1001 ± 17.07
pentachlorophenol	87-86-5	99	110.1.7P	1000 ± 13.85
phenanthrene	85-01-8	98.9	27.1.3P	1002 ± 13.99
phenol	108-95-2	100	112.7.1P	1011 ± 13.97
pyrene	129-00-0	98.5	28.9.1.1P	1011 ± 5.8
pyridine	110-86-1	100	101.24.1P	999.6 ± 9.74
2,3,4,6-Tetrachlorophenol	58-90-2	91.8	120.421.1P	999.7 ± 13.96

*Not a certified value

Manufactured by o2si smart solutions, Accredited to ISO 9001:2008 by NSF and ISO/IEC 17025:2005 (Certification No. 3031.01) and ISO Guide 34:2009 (Certification No. 3031.02) by A2LA

Certified By: Clint Tipton
Chemist

All weights are traceable through N. I. S. T. Test No. 822/264157-00. Concentration (correct for purity) and uncertainty (95% confidence) values listed are determined gravimetricly.

Certificate of Analysis

Catalog No.: Z-110381-01 **Lot No.:** 478725 **Expiration Date:** 3/29/2027

Compound	CAS No.	Purity (%)	Compound Lot No.	Concentration, mg/L
1,2,4-trichlorobenzene	120-82-1	99.6	54.29.1P	999.2 ± 9.79
2,4,5-trichlorophenol	95-95-4	96.5	121.7.1.1P	1010 ± 13.99
2,4,6-trichlorophenol	88-06-2	99.6	113.7.1P	1001 ± 13.87

*Not a certified value

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Certified By: Thomas C Tipton

Clint Tipton
Chemist

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CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Received on 03/08/22 by CG S10242 to S10247

Catalog No. : 31615 **Lot No.:** A0182667

Description : GC/MS Tuning Mixture

GC/MS Tuning Mixture 1,000µg/mL, Methylene Chloride, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : March 31, 2025 **Storage:** 10°C or colder

Handling: Contains carcinogen/reproductive toxin. **Ship:** Ambient

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	Pentachlorophenol **CAS #** 87-86-5 (Lot 211229RSR) **Purity** 99%	1,003.6 µg/mL	+/- 5.8897 µg/mL +/- 45.7132 µg/mL +/- 66.0037 µg/mL	Gravimetric Unstressed Stressed
2	DFTPP (Decafluorotriphenylphosphine) **CAS #** 5074-71-5 (Lot Q117-147) **Purity** 95%	1,006.6 µg/mL	+/- 5.9074 µg/mL +/- 45.8508 µg/mL +/- 66.2023 µg/mL	Gravimetric Unstressed Stressed
3	Benzidine **CAS #** 92-87-5 (Lot 211228JLM) **Purity** 99%	1,008.4 µg/mL	+/- 5.9179 µg/mL +/- 45.9318 µg/mL +/- 66.3193 µg/mL	Gravimetric Unstressed Stressed
4	4,4'-DDT **CAS #** 50-29-3 (Lot 210916JLM) **Purity** 99%	1,007.6 µg/mL	+/- 5.9132 µg/mL +/- 45.8954 µg/mL +/- 66.2667 µg/mL	Gravimetric Unstressed Stressed

Solvent: Methylene chloride
CAS # 75-09-2
Purity 99%

Column:
30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

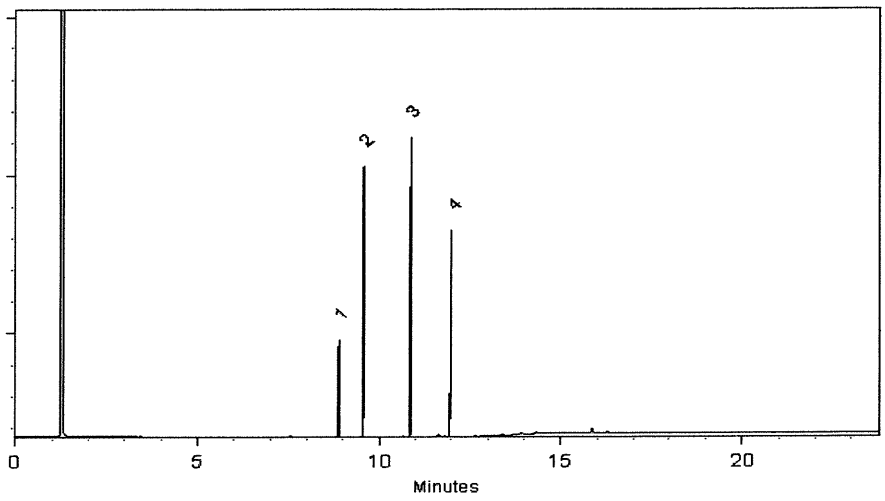
Carrier Gas:
hydrogen-constant pressure 10 psi.

Temp. Program:
75°C (hold 1 min.) to 330°C
@ 20°C/min. (hold 10 min.)

Inj. Temp:
250°C

Det. Temp:
330°C

Det. Type:
FID



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Morgan Craighead - Mix Technician

Date Mixed: 08-Mar-2022 **Balance:** B345965662

Merlina Cowan - Operations Tech I

Date Passed: 10-Mar-2022

Manufactured under Restek's ISO 9001:2015 Registered Quality System Certificate #FM 80397

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CERTIFIED REFERENCE MATERIAL

Gravimetric Certificate

ACCREDITED
ISO 17034 Accredited
Reference Material Producer
Certificate #3222.01

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Received by CG on 05/19/22

S10393 to S10402

Catalog No. : 555871 **Lot No.:** A0185300

Description : Custom 4-Nitrophenol Standard

Custom 4-Nitrophenol Standard 25,000µg/mL, Methanol, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : May 31, 2025 **Storage:** 10°C or colder

Ship: Ambient

CERTIFIED VALUES

Component #	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	4-Nitrophenol	25,060.0 µg/mL	+/- 231.9100 µg/mL	Gravimetric
	CAS # 100-02-7 (Lot MKCN1089)		+/- 753.2622 µg/mL	Unstressed
	Purity 99%		+/- 905.6020 µg/mL	Stressed

Solvent: Methanol
CAS # 67-56-1
Purity 99%

Katelyn McGinnis - Operations Tech I

Date Mixed: 16-May-2022 **Balance:** 1128342314

Manufactured under Restek's ISO 9001:2015
Registered Quality System
Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO 17034 and Guide 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

k is a coverage factor of 2, which gives a level of confidence of approximately 95%.

- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer) -20°C or colder (Deep Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Stability of the unopened product, when stored in compliance with the recommended conditions, is guaranteed through the expiration displayed on the product label and certificate. Contact Restek for additional opened product stability information, with the knowledge/understanding that open product stability is subject to the specific handling and environmental conditions to which the product is exposed. For your convenience Restek supplies deactivated vials with most standards packed in 2mL ampules. Larger volume deactivated vials are available through Restek as a custom ordered item. Additionally, Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions.

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CERTIFIED REFERENCE MATERIAL

Gravimetric Certificate

ACCREDITED
ISO 17034 Accredited
Reference Material Producer
Certificate #3222.01

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Received by
CG
on
07/05/22
S 10583
to
S 10592

Catalog No. : 555868 **Lot No.:** A0186373

Description : Custom Benzidine Standard

Custom Benzidine Standard 25,000µg/mL, Methanol, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : June 30, 2025 **Storage:** 10°C or colder

Handling: Contains carcinogen/reproductive toxin. **Ship:** Ambient

CERTIFIED VALUES

Component #	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	Benzidine	25,200.0 µg/mL	+/- 233.2055 µg/mL	Gravimetric
	CAS # 92-87-5 (Lot 220511RSR)		+/- 351.6606 µg/mL	Unstressed
	Purity 99%		+/- 512.6054 µg/mL	Stressed

Solvent: Methanol
CAS # 67-56-1
Purity 99%

Tom Suckar - Mix Technician **Date Mixed:** 16-Jun-2022 **Balance:** 1122030677

Manufactured under Restek's ISO 9001:2015
Registered Quality System
Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO 17034 and Guide 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

k is a coverage factor of 2, which gives a level of confidence of approximately 95%.

- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer) -20°C or colder (Deep Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Stability of the unopened product, when stored in compliance with the recommended conditions, is guaranteed through the expiration displayed on the product label and certificate. Contact Restek for additional opened product stability information, with the knowledge/understanding that open product stability is subject to the specific handling and environmental conditions to which the product is exposed. For your convenience Restek supplies deactivated vials with most standards packed in 2mL ampules. Larger volume deactivated vials are available through Restek as a custom ordered item. Additionally, Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions.

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Certificate #3222.01

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Received by CG on 12/28/22 S10951 to S10980

Catalog No. : 31087 **Lot No.:** A0188108

Description : Acid Surrogate Mix (4/89 SOW)

Acid Surrogate 10,000µg/mL, Methanol, 5mL/ampul

Container Size : 5 mL **Pkg Amt:** > 5 mL

Expiration Date : August 31, 2030 **Storage:** 10°C or colder

Ship: Ambient

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	2-Fluorophenol **CAS #** 367-12-4 **Purity** 99%	(Lot STBF3761V)	10,088.5 µg/mL	+/- 58.6554 µg/mL +/- 294.4162 µg/mL +/- 357.2628 µg/mL		Gravimetric Unstressed Stressed
2	Phenol-d6 **CAS #** 13127-88-3 **Purity** 99%	(Lot PR-31262)	10,043.3 µg/mL	+/- 58.3923 µg/mL +/- 293.0957 µg/mL +/- 355.6603 µg/mL		Gravimetric Unstressed Stressed
3	2,4,6-Tribromophenol **CAS #** 118-79-6 **Purity** 99%	(Lot MKCJ7664)	10,010.0 µg/mL	+/- 58.1990 µg/mL +/- 292.1253 µg/mL +/- 354.4829 µg/mL		Gravimetric Unstressed Stressed

Solvent: Methanol
CAS # 67-56-1
Purity 99%

Column:
30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

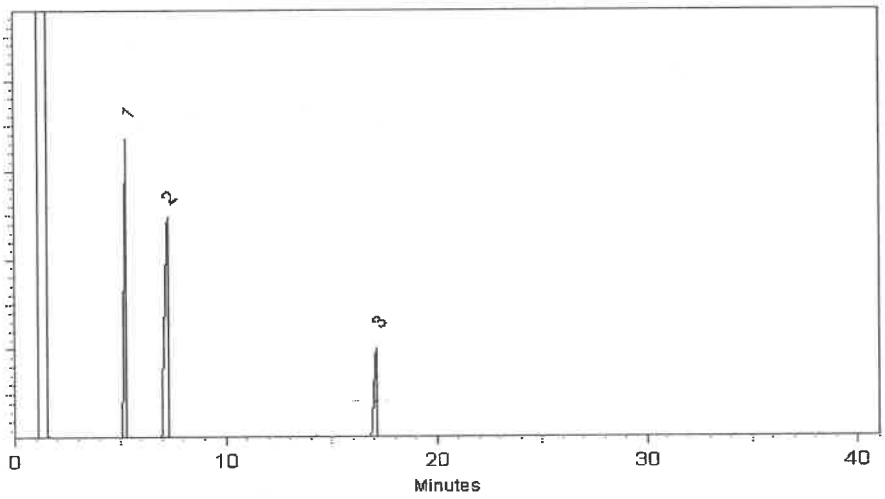
Carrier Gas:
hydrogen-constant pressure 10 psi.

Temp. Program:
40°C (hold 2 min.) to 330°C
@ 10°C/min. (hold 10 min.)

Inj. Temp:
250°C

Det. Temp:
330°C

Det. Type:
FID



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Morgan Craighead - Mix Technician

Date Mixed: 02-Aug-2022 **Balance:** 1127510105

Jennifer Pollino - Operations Tech III - ARM QC

Date Passed: 05-Aug-2022

Manufactured under Restek's ISO 9001:2015 Registered Quality System Certificate #FM 80397

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Testing Laboratory
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Received by CG on 12/28/22 S10951 to S10980

Catalog No. : 31087 **Lot No.:** A0188108

Description : Acid Surrogate Mix (4/89 SOW)

Acid Surrogate 10,000µg/mL, Methanol, 5mL/ampul

Container Size : 5 mL **Pkg Amt:** > 5 mL

Expiration Date : August 31, 2030 **Storage:** 10°C or colder

Ship: Ambient

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	2-Fluorophenol **CAS #** 367-12-4 **Purity** 99%	(Lot STBF3761V)	10,088.5 µg/mL	+/- 58.6554 µg/mL +/- 294.4162 µg/mL +/- 357.2628 µg/mL		Gravimetric Unstressed Stressed
2	Phenol-d6 **CAS #** 13127-88-3 **Purity** 99%	(Lot PR-31262)	10,043.3 µg/mL	+/- 58.3923 µg/mL +/- 293.0957 µg/mL +/- 355.6603 µg/mL		Gravimetric Unstressed Stressed
3	2,4,6-Tribromophenol **CAS #** 118-79-6 **Purity** 99%	(Lot MKCJ7664)	10,010.0 µg/mL	+/- 58.1990 µg/mL +/- 292.1253 µg/mL +/- 354.4829 µg/mL		Gravimetric Unstressed Stressed

Solvent: Methanol
CAS # 67-56-1
Purity 99%

Column:
30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

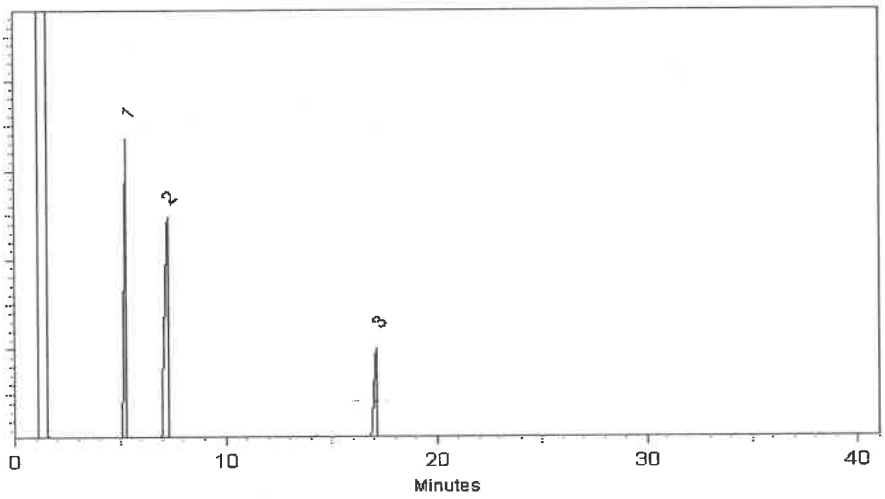
Carrier Gas:
hydrogen-constant pressure 10 psi.

Temp. Program:
40°C (hold 2 min.) to 330°C
@ 10°C/min. (hold 10 min.)

Inj. Temp:
250°C

Det. Temp:
330°C

Det. Type:
FID



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Morgan Craighead - Mix Technician

Date Mixed: 02-Aug-2022 **Balance:** 1127510105

Jennifer Pollino - Operations Tech III - ARM QC

Date Passed: 05-Aug-2022

Manufactured under Restek's ISO 9001:2015 Registered Quality System Certificate #FM 80397

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Received by CG on 12/28/22 S10951 to S10980

Catalog No. : 31087 **Lot No.:** A0188108

Description : Acid Surrogate Mix (4/89 SOW)

Acid Surrogate 10,000µg/mL, Methanol, 5mL/ampul

Container Size : 5 mL **Pkg Amt:** > 5 mL

Expiration Date : August 31, 2030 **Storage:** 10°C or colder

Ship: Ambient

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	2-Fluorophenol **CAS #** 367-12-4 **Purity** 99%	(Lot STBF3761V)	10,088.5 µg/mL	+/- 58.6554 µg/mL +/- 294.4162 µg/mL +/- 357.2628 µg/mL		Gravimetric Unstressed Stressed
2	Phenol-d6 **CAS #** 13127-88-3 **Purity** 99%	(Lot PR-31262)	10,043.3 µg/mL	+/- 58.3923 µg/mL +/- 293.0957 µg/mL +/- 355.6603 µg/mL		Gravimetric Unstressed Stressed
3	2,4,6-Tribromophenol **CAS #** 118-79-6 **Purity** 99%	(Lot MKCJ7664)	10,010.0 µg/mL	+/- 58.1990 µg/mL +/- 292.1253 µg/mL +/- 354.4829 µg/mL		Gravimetric Unstressed Stressed

Solvent: Methanol
CAS # 67-56-1
Purity 99%

Column:
30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

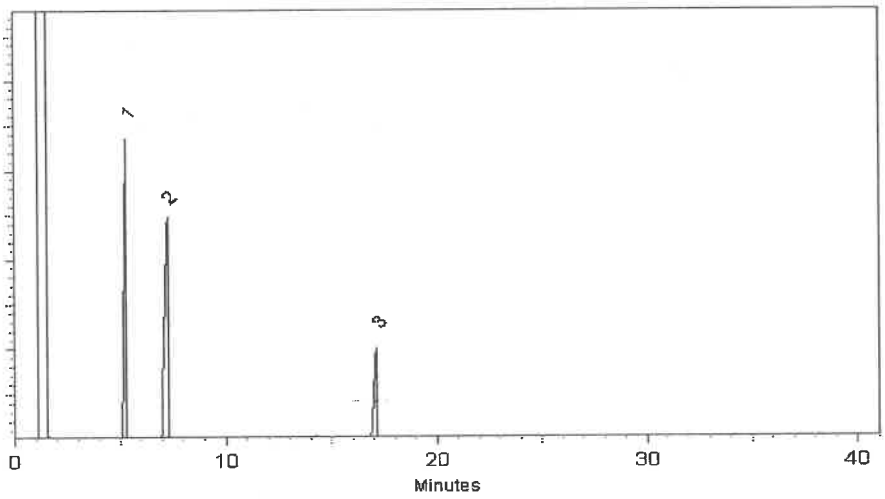
Carrier Gas:
hydrogen-constant pressure 10 psi.

Temp. Program:
40°C (hold 2 min.) to 330°C
@ 10°C/min. (hold 10 min.)

Inj. Temp:
250°C

Det. Temp:
330°C

Det. Type:
FID



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Morgan Craighead - Mix Technician

Date Mixed: 02-Aug-2022 **Balance:** 1127510105

Jennifer Pollino - Operations Tech III - ARM QC

Date Passed: 05-Aug-2022

Manufactured under Restek's ISO 9001:2015 Registered Quality System Certificate #FM 80397

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Testing Laboratory
Certificate #3222.02

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Received by CG on 12/28/22 S10951 to S10980

Catalog No. : 31087 **Lot No.:** A0188108

Description : Acid Surrogate Mix (4/89 SOW)

Acid Surrogate 10,000µg/mL, Methanol, 5mL/ampul

Container Size : 5 mL **Pkg Amt:** > 5 mL

Expiration Date : August 31, 2030 **Storage:** 10°C or colder

Ship: Ambient

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	2-Fluorophenol **CAS #** 367-12-4 **Purity** 99%	(Lot STBF3761V)	10,088.5 µg/mL	+/- 58.6554 µg/mL +/- 294.4162 µg/mL +/- 357.2628 µg/mL		Gravimetric Unstressed Stressed
2	Phenol-d6 **CAS #** 13127-88-3 **Purity** 99%	(Lot PR-31262)	10,043.3 µg/mL	+/- 58.3923 µg/mL +/- 293.0957 µg/mL +/- 355.6603 µg/mL		Gravimetric Unstressed Stressed
3	2,4,6-Tribromophenol **CAS #** 118-79-6 **Purity** 99%	(Lot MKCJ7664)	10,010.0 µg/mL	+/- 58.1990 µg/mL +/- 292.1253 µg/mL +/- 354.4829 µg/mL		Gravimetric Unstressed Stressed

Solvent: Methanol
CAS # 67-56-1
Purity 99%

Column:
30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

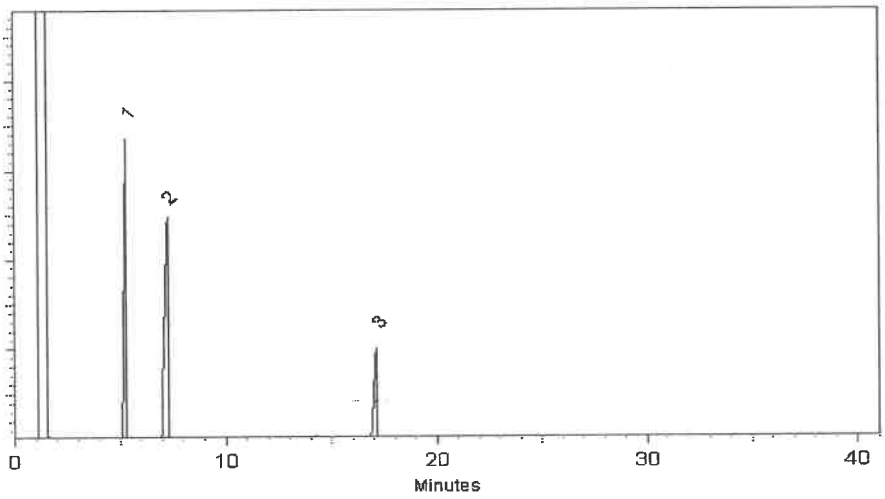
Carrier Gas:
hydrogen-constant pressure 10 psi.

Temp. Program:
40°C (hold 2 min.) to 330°C
@ 10°C/min. (hold 10 min.)

Inj. Temp:
250°C

Det. Temp:
330°C

Det. Type:
FID



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Morgan Craighead - Mix Technician

Date Mixed: 02-Aug-2022 **Balance:** 1127510105

Jennifer Pollino - Operations Tech III - ARM QC

Date Passed: 05-Aug-2022

Manufactured under Restek's ISO 9001:2015 Registered Quality System Certificate #FM 80397

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Received by CG on 12/28/22 S10951 to S10980

Catalog No. : 31087 **Lot No.:** A0188108

Description : Acid Surrogate Mix (4/89 SOW)

Acid Surrogate 10,000µg/mL, Methanol, 5mL/ampul

Container Size : 5 mL **Pkg Amt:** > 5 mL

Expiration Date : August 31, 2030 **Storage:** 10°C or colder

Ship: Ambient

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	2-Fluorophenol **CAS #** 367-12-4 **Purity** 99%	(Lot STBF3761V)	10,088.5 µg/mL	+/- 58.6554 µg/mL +/- 294.4162 µg/mL +/- 357.2628 µg/mL		Gravimetric Unstressed Stressed
2	Phenol-d6 **CAS #** 13127-88-3 **Purity** 99%	(Lot PR-31262)	10,043.3 µg/mL	+/- 58.3923 µg/mL +/- 293.0957 µg/mL +/- 355.6603 µg/mL		Gravimetric Unstressed Stressed
3	2,4,6-Tribromophenol **CAS #** 118-79-6 **Purity** 99%	(Lot MKCJ7664)	10,010.0 µg/mL	+/- 58.1990 µg/mL +/- 292.1253 µg/mL +/- 354.4829 µg/mL		Gravimetric Unstressed Stressed

Solvent: Methanol
CAS # 67-56-1
Purity 99%

Column:
30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

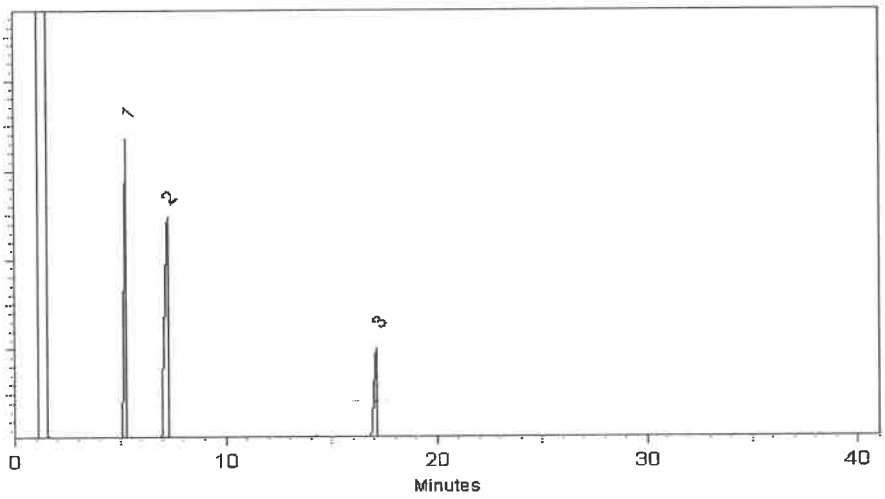
Carrier Gas:
hydrogen-constant pressure 10 psi.

Temp. Program:
40°C (hold 2 min.) to 330°C
@ 10°C/min. (hold 10 min.)

Inj. Temp:
250°C

Det. Temp:
330°C

Det. Type:
FID



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Morgan Craighead - Mix Technician

Date Mixed: 02-Aug-2022 **Balance:** 1127510105

Jennifer Pollino - Operations Tech III - ARM QC

Date Passed: 05-Aug-2022

Manufactured under Restek's ISO 9001:2015 Registered Quality System Certificate #FM 80397

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Received by CG on 12/28/22 S10951 to S10980

Catalog No. : 31087 **Lot No.:** A0188108

Description : Acid Surrogate Mix (4/89 SOW)

Acid Surrogate 10,000µg/mL, Methanol, 5mL/ampul

Container Size : 5 mL **Pkg Amt:** > 5 mL

Expiration Date : August 31, 2030 **Storage:** 10°C or colder

Ship: Ambient

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	2-Fluorophenol **CAS #** 367-12-4 **Purity** 99%	(Lot STBF3761V)	10,088.5 µg/mL	+/- 58.6554 µg/mL +/- 294.4162 µg/mL +/- 357.2628 µg/mL		Gravimetric Unstressed Stressed
2	Phenol-d6 **CAS #** 13127-88-3 **Purity** 99%	(Lot PR-31262)	10,043.3 µg/mL	+/- 58.3923 µg/mL +/- 293.0957 µg/mL +/- 355.6603 µg/mL		Gravimetric Unstressed Stressed
3	2,4,6-Tribromophenol **CAS #** 118-79-6 **Purity** 99%	(Lot MKCJ7664)	10,010.0 µg/mL	+/- 58.1990 µg/mL +/- 292.1253 µg/mL +/- 354.4829 µg/mL		Gravimetric Unstressed Stressed

Solvent: Methanol
CAS # 67-56-1
Purity 99%

Column:
30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

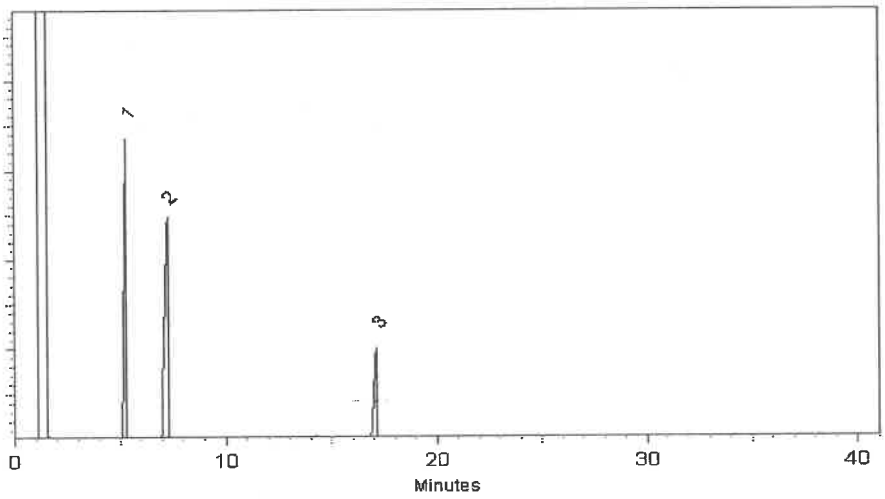
Carrier Gas:
hydrogen-constant pressure 10 psi.

Temp. Program:
40°C (hold 2 min.) to 330°C
@ 10°C/min. (hold 10 min.)

Inj. Temp:
250°C

Det. Temp:
330°C

Det. Type:
FID



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Morgan Craighead - Mix Technician

Date Mixed: 02-Aug-2022 **Balance:** 1127510105

Jennifer Pollino - Operations Tech III - ARM QC

Date Passed: 05-Aug-2022

Manufactured under Restek's ISO 9001:2015 Registered Quality System Certificate #FM 80397

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Certificate of Analysis

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Received by CG on 12/28/22 $10981 to $11010

Catalog No. : 31086 **Lot No.:** A0189418

Description : B/N Surrogate Mix (4/89 SOW)

Base Neutral Surrogate 5000µg/mL, Methylene Chloride, 5mL/ampul

Container Size : 5 mL **Pkg Amt:** > 5 mL

Expiration Date : August 31, 2028 **Storage:** 10°C or colder

Handling: Sonicate prior to use. **Ship:** Ambient

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	Nitrobenzene-d5 **CAS #** 4165-60-0 (Lot PR-29940A) **Purity** 99%	5,009.8 µg/mL	+/- 29.1271 µg/mL +/- 225.6421 µg/mL +/- 250.3778 µg/mL	Gravimetric Unstressed Stressed
2	2-Fluorobiphenyl **CAS #** 321-60-8 (Lot 00021384) **Purity** 99%	5,026.6 µg/mL	+/- 29.2250 µg/mL +/- 226.4003 µg/mL +/- 251.2191 µg/mL	Gravimetric Unstressed Stressed
3	p-Terphenyl-d14 **CAS #** 1718-51-0 (Lot PR-30504) **Purity** 99%	5,027.3 µg/mL	+/- 29.2289 µg/mL +/- 226.4304 µg/mL +/- 251.2524 µg/mL	Gravimetric Unstressed Stressed

Solvent: Methylene chloride
CAS # 75-09-2
Purity 99%

Tech Tips:
Due to the limited solubility of p-terphenyl-d14 in methanol, we do not recommend that this mixture be diluted in methanol.

Column:
30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

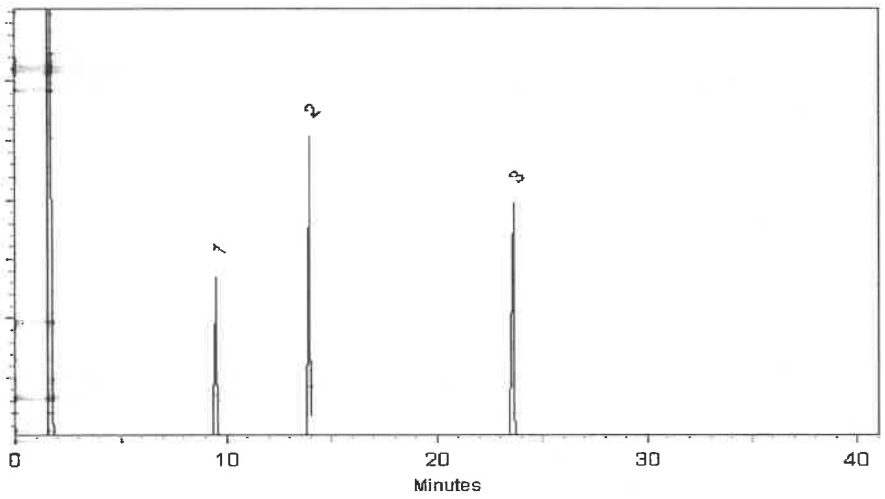
Carrier Gas:
hydrogen-constant pressure 10 psi.

Temp. Program:
40°C (hold 2 min.) to 330°C
@ 10°C/min. (hold 10 min.)

Inj. Temp:
250°C

Det. Temp:
330°C

Det. Type:
FID



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John Friedline - Operations Technician I

Date Mixed: 09-Sep-2022 **Balance:** 1128353505

Jennifer Pollino - Operations Tech III - ARM QC

Date Passed: 13-Sep-2022

Manufactured under Restek's ISO 9001:2015 Registered Quality System Certificate #FM 80397

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Certificate of Analysis

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Received by CG on 12/28/22 $10981 to $11010

Catalog No. : 31086 **Lot No.:** A0189418

Description : B/N Surrogate Mix (4/89 SOW)

Base Neutral Surrogate 5000µg/mL, Methylene Chloride, 5mL/ampul

Container Size : 5 mL **Pkg Amt:** > 5 mL

Expiration Date : August 31, 2028 **Storage:** 10°C or colder

Handling: Sonicate prior to use. **Ship:** Ambient

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	Nitrobenzene-d5 **CAS #** 4165-60-0 (Lot PR-29940A) **Purity** 99%	5,009.8 µg/mL	+/- 29.1271 µg/mL +/- 225.6421 µg/mL +/- 250.3778 µg/mL	Gravimetric Unstressed Stressed
2	2-Fluorobiphenyl **CAS #** 321-60-8 (Lot 00021384) **Purity** 99%	5,026.6 µg/mL	+/- 29.2250 µg/mL +/- 226.4003 µg/mL +/- 251.2191 µg/mL	Gravimetric Unstressed Stressed
3	p-Terphenyl-d14 **CAS #** 1718-51-0 (Lot PR-30504) **Purity** 99%	5,027.3 µg/mL	+/- 29.2289 µg/mL +/- 226.4304 µg/mL +/- 251.2524 µg/mL	Gravimetric Unstressed Stressed

Solvent: Methylene chloride
CAS # 75-09-2
Purity 99%

Tech Tips:
Due to the limited solubility of p-terphenyl-d14 in methanol, we do not recommend that this mixture be diluted in methanol.

Column:
30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

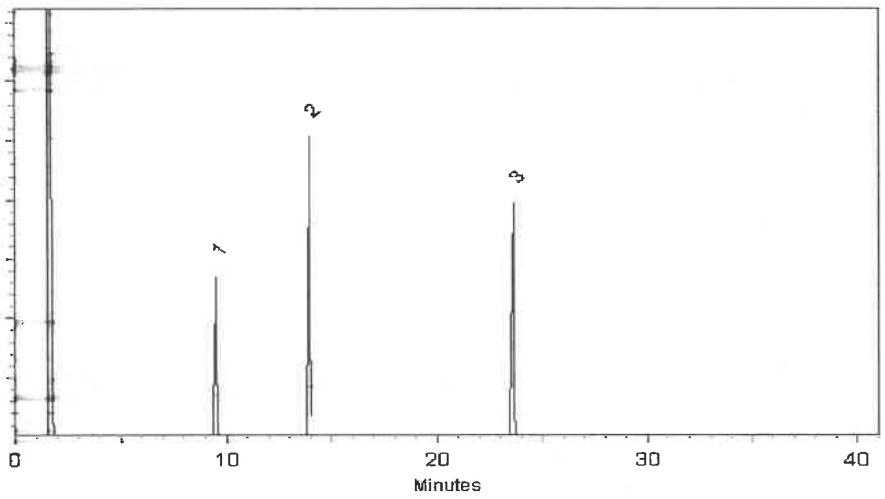
Carrier Gas:
hydrogen-constant pressure 10 psi.

Temp. Program:
40°C (hold 2 min.) to 330°C
@ 10°C/min. (hold 10 min.)

Inj. Temp:
250°C

Det. Temp:
330°C

Det. Type:
FID



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John Friedline - Operations Technician I

Date Mixed: 09-Sep-2022 **Balance:** 1128353505

Jennifer Pollino - Operations Tech III - ARM QC

Date Passed: 13-Sep-2022

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Received by CG on 12/28/22 $10981 to $11010

Catalog No. : 31086 **Lot No.:** A0189418

Description : B/N Surrogate Mix (4/89 SOW)

Base Neutral Surrogate 5000µg/mL, Methylene Chloride, 5mL/ampul

Container Size : 5 mL **Pkg Amt:** > 5 mL

Expiration Date : August 31, 2028 **Storage:** 10°C or colder

Handling: Sonicate prior to use. **Ship:** Ambient

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	Nitrobenzene-d5 **CAS #** 4165-60-0 (Lot PR-29940A) **Purity** 99%	5,009.8 µg/mL	+/- 29.1271 µg/mL +/- 225.6421 µg/mL +/- 250.3778 µg/mL	Gravimetric Unstressed Stressed
2	2-Fluorobiphenyl **CAS #** 321-60-8 (Lot 00021384) **Purity** 99%	5,026.6 µg/mL	+/- 29.2250 µg/mL +/- 226.4003 µg/mL +/- 251.2191 µg/mL	Gravimetric Unstressed Stressed
3	p-Terphenyl-d14 **CAS #** 1718-51-0 (Lot PR-30504) **Purity** 99%	5,027.3 µg/mL	+/- 29.2289 µg/mL +/- 226.4304 µg/mL +/- 251.2524 µg/mL	Gravimetric Unstressed Stressed

Solvent: Methylene chloride
CAS # 75-09-2
Purity 99%

Tech Tips:
Due to the limited solubility of p-terphenyl-d14 in methanol, we do not recommend that this mixture be diluted in methanol.

Column:
30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

Carrier Gas:
hydrogen-constant pressure 10 psi.

Temp. Program:
40°C (hold 2 min.) to 330°C
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Det. Type:
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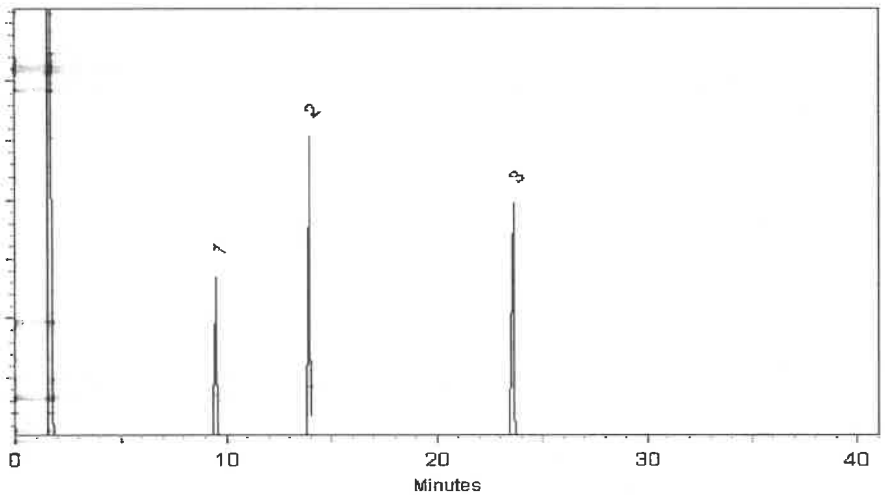

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John Friedline - Operations Technician I

Date Mixed: 09-Sep-2022 **Balance:** 1128353505

Jennifer Pollino - Operations Tech III - ARM QC

Date Passed: 13-Sep-2022

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Received by CG on 12/28/22 $10981 to $11010

Catalog No. : 31086 **Lot No.:** A0189418

Description : B/N Surrogate Mix (4/89 SOW)

Base Neutral Surrogate 5000µg/mL, Methylene Chloride, 5mL/ampul

Container Size : 5 mL **Pkg Amt:** > 5 mL

Expiration Date : August 31, 2028 **Storage:** 10°C or colder

Handling: Sonicate prior to use. **Ship:** Ambient

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	Nitrobenzene-d5 **CAS #** 4165-60-0 (Lot PR-29940A) **Purity** 99%	5,009.8 µg/mL	+/- 29.1271 µg/mL +/- 225.6421 µg/mL +/- 250.3778 µg/mL	Gravimetric Unstressed Stressed
2	2-Fluorobiphenyl **CAS #** 321-60-8 (Lot 00021384) **Purity** 99%	5,026.6 µg/mL	+/- 29.2250 µg/mL +/- 226.4003 µg/mL +/- 251.2191 µg/mL	Gravimetric Unstressed Stressed
3	p-Terphenyl-d14 **CAS #** 1718-51-0 (Lot PR-30504) **Purity** 99%	5,027.3 µg/mL	+/- 29.2289 µg/mL +/- 226.4304 µg/mL +/- 251.2524 µg/mL	Gravimetric Unstressed Stressed

Solvent: Methylene chloride
CAS # 75-09-2
Purity 99%

Tech Tips:
Due to the limited solubility of p-terphenyl-d14 in methanol, we do not recommend that this mixture be diluted in methanol.

Column:
30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

Carrier Gas:
hydrogen-constant pressure 10 psi.

Temp. Program:
40°C (hold 2 min.) to 330°C
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Inj. Temp:
250°C

Det. Temp:
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Det. Type:
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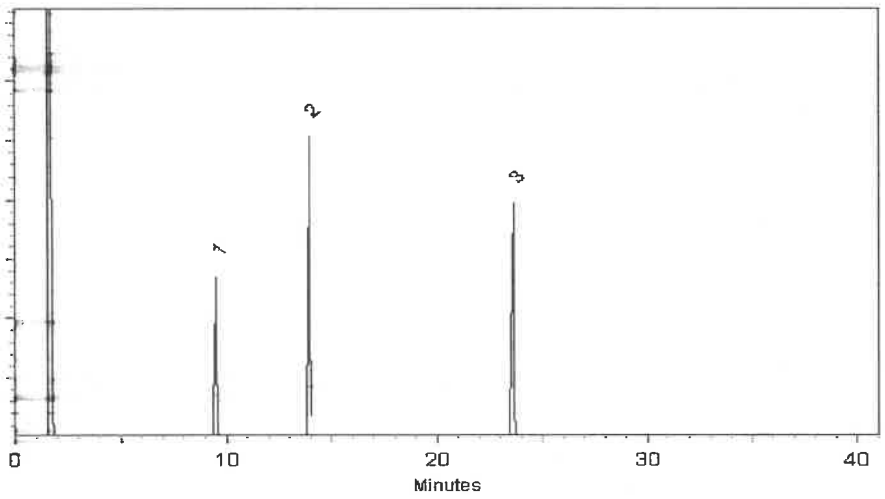

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John Friedline - Operations Technician I

Date Mixed: 09-Sep-2022 **Balance:** 1128353505

Jennifer Pollino - Operations Tech III - ARM QC

Date Passed: 13-Sep-2022

Manufactured under Restek's ISO 9001:2015 Registered Quality System Certificate #FM 80397

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Received by CG on 12/28/22 $10981 to $11010

Catalog No. : 31086 **Lot No.:** A0189418

Description : B/N Surrogate Mix (4/89 SOW)

Base Neutral Surrogate 5000µg/mL, Methylene Chloride, 5mL/ampul

Container Size : 5 mL **Pkg Amt:** > 5 mL

Expiration Date : August 31, 2028 **Storage:** 10°C or colder

Handling: Sonicate prior to use. **Ship:** Ambient

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
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2	2-Fluorobiphenyl **CAS #** 321-60-8 (Lot 00021384) **Purity** 99%	5,026.6 µg/mL	+/- 29.2250 µg/mL +/- 226.4003 µg/mL +/- 251.2191 µg/mL	Gravimetric Unstressed Stressed
3	p-Terphenyl-d14 **CAS #** 1718-51-0 (Lot PR-30504) **Purity** 99%	5,027.3 µg/mL	+/- 29.2289 µg/mL +/- 226.4304 µg/mL +/- 251.2524 µg/mL	Gravimetric Unstressed Stressed

Solvent: Methylene chloride
CAS # 75-09-2
Purity 99%

Tech Tips:
Due to the limited solubility of p-terphenyl-d14 in methanol, we do not recommend that this mixture be diluted in methanol.

Column:
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Rtx-5 (cat.#10223)

Carrier Gas:
hydrogen-constant pressure 10 psi.

Temp. Program:
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Det. Type:
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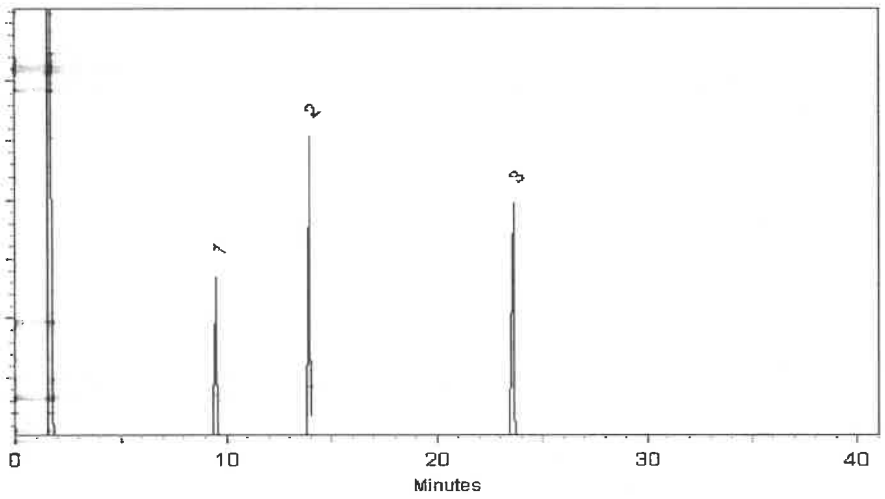

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John Friedline - Operations Technician I

Date Mixed: 09-Sep-2022 **Balance:** 1128353505

Jennifer Pollino - Operations Tech III - ARM QC

Date Passed: 13-Sep-2022

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Received by CG on 12/28/22 $10981 to $11010

Catalog No. : 31086 **Lot No.:** A0189418

Description : B/N Surrogate Mix (4/89 SOW)

Base Neutral Surrogate 5000µg/mL, Methylene Chloride, 5mL/ampul

Container Size : 5 mL **Pkg Amt:** > 5 mL

Expiration Date : August 31, 2028 **Storage:** 10°C or colder

Handling: Sonicate prior to use. **Ship:** Ambient

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
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3	p-Terphenyl-d14 **CAS #** 1718-51-0 (Lot PR-30504) **Purity** 99%	5,027.3 µg/mL	+/- 29.2289 µg/mL +/- 226.4304 µg/mL +/- 251.2524 µg/mL	Gravimetric Unstressed Stressed

Solvent: Methylene chloride
CAS # 75-09-2
Purity 99%

Tech Tips:
Due to the limited solubility of p-terphenyl-d14 in methanol, we do not recommend that this mixture be diluted in methanol.

Column:
30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

Carrier Gas:
hydrogen-constant pressure 10 psi.

Temp. Program:
40°C (hold 2 min.) to 330°C
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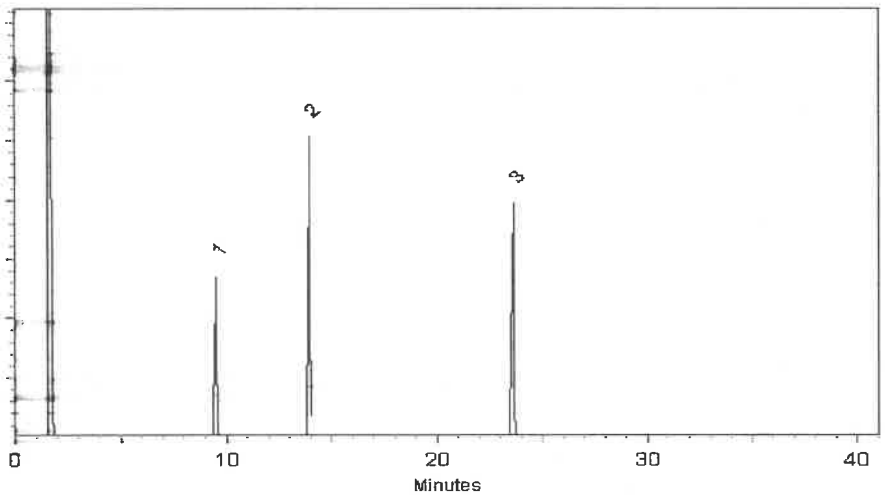
Det. Type:
FID



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John Friedline - Operations Technician I

Date Mixed: 09-Sep-2022 **Balance:** 1128353505

Jennifer Pollino - Operations Tech III - ARM QC

Date Passed: 13-Sep-2022

Manufactured under Restek's ISO 9001:2015 Registered Quality System Certificate #FM 80397

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Received by CG on 12/28/22 $10981 to $11010

Catalog No. : 31086 **Lot No.:** A0189418

Description : B/N Surrogate Mix (4/89 SOW)

Base Neutral Surrogate 5000µg/mL, Methylene Chloride, 5mL/ampul

Container Size : 5 mL **Pkg Amt:** > 5 mL

Expiration Date : August 31, 2028 **Storage:** 10°C or colder

Handling: Sonicate prior to use. **Ship:** Ambient

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
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3	p-Terphenyl-d14 **CAS #** 1718-51-0 (Lot PR-30504) **Purity** 99%	5,027.3 µg/mL	+/- 29.2289 µg/mL +/- 226.4304 µg/mL +/- 251.2524 µg/mL	Gravimetric Unstressed Stressed

Solvent: Methylene chloride
CAS # 75-09-2
Purity 99%

Tech Tips:
Due to the limited solubility of p-terphenyl-d14 in methanol, we do not recommend that this mixture be diluted in methanol.

Column:
30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

Carrier Gas:
hydrogen-constant pressure 10 psi.

Temp. Program:
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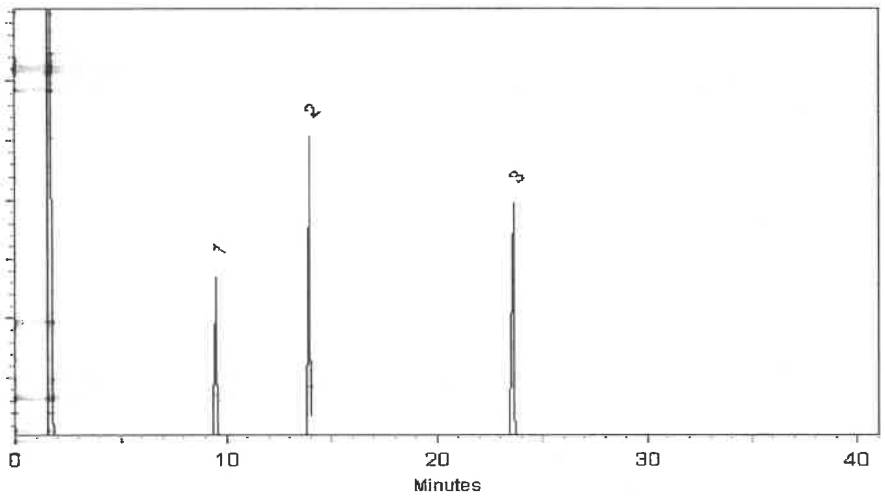

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John Friedline - Operations Technician I

Date Mixed: 09-Sep-2022 **Balance:** 1128353505

Jennifer Pollino - Operations Tech III - ARM QC

Date Passed: 13-Sep-2022

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Received by CG on 12/28/22 $10981 to $11010

Catalog No. : 31086 **Lot No.:** A0189418

Description : B/N Surrogate Mix (4/89 SOW)

Base Neutral Surrogate 5000µg/mL, Methylene Chloride, 5mL/ampul

Container Size : 5 mL **Pkg Amt:** > 5 mL

Expiration Date : August 31, 2028 **Storage:** 10°C or colder

Handling: Sonicate prior to use. **Ship:** Ambient

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
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3	p-Terphenyl-d14 **CAS #** 1718-51-0 (Lot PR-30504) **Purity** 99%	5,027.3 µg/mL	+/- 29.2289 µg/mL +/- 226.4304 µg/mL +/- 251.2524 µg/mL	Gravimetric Unstressed Stressed

Solvent: Methylene chloride
CAS # 75-09-2
Purity 99%

Tech Tips:
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Column:
30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

Carrier Gas:
hydrogen-constant pressure 10 psi.

Temp. Program:
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Inj. Temp:
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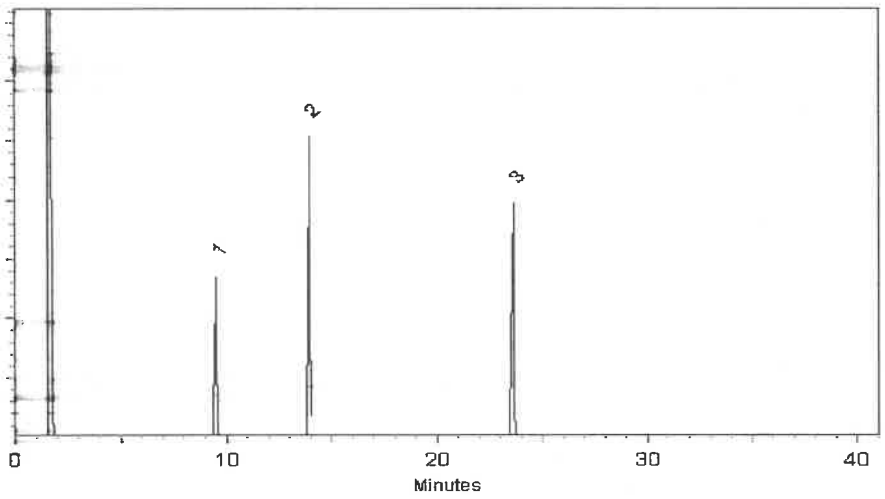

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John Friedline - Operations Technician I

Date Mixed: 09-Sep-2022 **Balance:** 1128353505

Jennifer Pollino - Operations Tech III - ARM QC

Date Passed: 13-Sep-2022

Manufactured under Restek's ISO 9001:2015 Registered Quality System Certificate #FM 80397

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ilac-MRA A2LA ACCREDITED ISO/IEC 17025 Accredited Testing Laboratory Certificate #3222.02

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Received on 01/13/23 by CG S11011 to S11015

Catalog No. : 555872 **Lot No.:** A0193449

Description : Custom Pentachlorophenol Standard

Custom Pentachlorophenol Standard 25,000µg/mL, Methanol, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : January 31, 2026 **Storage:** 10°C or colder

Ship: Ambient

CERTIFIED VALUES

Component #	Compound	CAS #	Lot #	Purity	Grav. Conc. (weight/volume)	Expanded Uncertainty * (95% C.L.; K=2)
1	Pentachlorophenol	87-86-5	RP221012	99%	25,050.0 µg/mL	+/- 778.6378

Solvent: Methanol
CAS # 67-56-1
Purity 99%

Russ Bookhamer - Operations Technician I **Date Mixed:** 11-Jan-2023 **Balance:** B442140311

Manufactured under Restek's ISO 9001:2015 Registered Quality System Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO 17034 and Guide 35. The certified expanded uncertainty value includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ uncertainty} = k\sqrt{u^2_{gravimetric} + u^2_{homogeneity} + u^2_{storage\ stability} + u^2_{shipping\ stability}}$$

  k is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampuls are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Stability of the unopened product, when stored in compliance with the recommended conditions, is guaranteed through the expiration displayed on the product label and certificate. Contact Restek for additional opened product stability information, with the knowledge/understanding that open product stability is subject to the specific handling and environmental conditions to which the product is exposed. For your convenience Restek supplies deactivated vials with most standards packed in 2mL ampuls. Larger volume deactivated vials are available through Restek as a custom ordered item. Additionally, Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

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Fax: 1-814-353-1309

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CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

gravimetric

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 555870 **Lot No.:** A0194698

Description : Custom 2,4-Dinitrophenol Standard

Custom 2,4-Dinitrophenol Standard 25,000µg/mL, Methanol, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : February 28, 2026 **Storage:** 10°C or colder

Ship: Ambient

CERTIFIED

Component #	Compound	CAS #	Lot #	Purity	Grav. Conc. (weight/volume)
1	2,4-Dinitrophenol	51-28-5	DR221221RSR	99%	25,195.0 µg/mL

Solvent: Methanol
CAS # 67-56-1
Purity 99%

Russ Bookhamer - Operations Technician I

Date Mixed: 15-Feb-2023 **Balance:** B442140311

Manufactured under Restek's Registered Quality Certificate #FM 8

tified Reference Material Notes

:es:

n date valid for unopened ampul stored in compliance with the recommended conditions.

ıty, concentration, and expiration of the CRM are based on the unopened product being stored according to the ɜnded condition found in the storage field.

d/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, LC/MS, RI, and/or melting point.

ıds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A n factor is used to calculate the amount of compound necessary to achieve the desired concentration of the ɔmpound in solution.

isomeric compounds is reported as the sum of the isomers.

lues are rounded to the nearest whole number.

rtainty Value Notes:

ɜrtainties are determined in accordance with ISO 17034 and Guide 35. The certified expanded ıty value includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability ıty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ uncertainty} = k\sqrt{u^2_{gravimetric} + u^2_{homogeneity} + u^2_{storage\ stability} + u^2_{shipping\ stability}}$$

ɜrage factor of 2, which gives a level of confidence of approximately 95%.

ıged amount is the minimum sample size for which uncertainty is valid. The ampuls are over-filled to ensure inimum packaged amount can be sufficiently transferred.

Notes:

tion is based upon gravimetric preparation using either a balance whose calibration has been verified daily Γ traceable weights, and/or dilutions with Class A glassware.

:

the unopened product, when stored in compliance with the recommended conditions, is guaranteed through ion displayed on the product label and certificate. Contact Restek for additional opened product stability ɳ, with the knowledge/understanding that open product stability is subject to the specific handling and ntal conditions to which the product is exposed. For your convenience Restek supplies deactivated vials with ɟards packed in 2mL ampuls. Larger volume deactivated vials are available through Restek as a custom ɜm. Additionally, Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, ıdes complete instructions.

ssolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely

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Catalog No. : 555870 **Lot No.:** A0194698

Description : Custom 2,4-Dinitrophenol Standard

Custom 2,4-Dinitrophenol Standard 25,000µg/mL, Methanol, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : February 28, 2026 **Storage:** 10°C or colder

Ship: Ambient

CERTIFIED

Component #	Compound	CAS #	Lot #	Purity	Grav. Conc. (weight/volume)
1	2,4-Dinitrophenol	51-28-5	DR221221RSR	99%	25,195.0 µg/mL

Solvent: Methanol
CAS # 67-56-1
Purity 99%

Russ Bookhamer - Operations Technician I

Date Mixed: 15-Feb-2023 **Balance:** B442140311

Manufactured under Restek's Registered Quality Certificate #FM 8

tified Reference Material Notes

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ıds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A n factor is used to calculate the amount of compound necessary to achieve the desired concentration of the ɔmpound in solution.

isomeric compounds is reported as the sum of the isomers.

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ıged amount is the minimum sample size for which uncertainty is valid. The ampuls are over-filled to ensure inimum packaged amount can be sufficiently transferred.

Notes:

tion is based upon gravimetric preparation using either a balance whose calibration has been verified daily Γ traceable weights, and/or dilutions with Class A glassware.

:

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Catalog No. : 555869 **Lot No.:** A0194702

Description : Custom Hexachlorocyclopentadiene Standard

Custom Hexachlorocyclopentadiene Standard 25,000µg/mL, Methanol, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : February 28, 2026 **Storage:** 10°C or colder

Ship: Ambient

CERTIFIED

Component #	Compound	CAS #	Lot #	Purity	Grav. Conc. (weight/volume)
1	Hexachlorocyclopentadiene	77-47-4	0012019	99%	25,008.0 µg/mL

Solvent: Methanol
CAS # 67-56-1
Purity 99%

Russ Bookhamer - Operations Technician I

Date Mixed: 15-Feb-2023 **Balance:** B442140311

Manufactured under Restek Registered Quality Certificate #FM

tified Reference Material Notes

:es:

n date valid for unopened ampul stored in compliance with the recommended conditions.

nty, concentration, and expiration of the CRM are based on the unopened product being stored according to the ended condition found in the storage field.

d/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, LC/MS, RI, and/or melting point.

nds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A n factor is used to calculate the amount of compound necessary to achieve the desired concentration of the mpound in solution.

isomeric compounds is reported as the sum of the isomers.

lues are rounded to the nearest whole number.

rtainty Value Notes:

rtainties are determined in accordance with ISO 17034 and Guide 35. The certified expanded ty value includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability ty and shipping stability uncertainty and were combined using the following formula:

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erage factor of 2, which gives a level of confidence of approximately 95%.

ged amount is the minimum sample size for which uncertainty is valid. The ampuls are over-filled to ensure nimum packaged amount can be sufficiently transferred.

Notes:

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Received on 04/24/23 by CG ~~SP11277~~ S11277 to S11306

Catalog No. : 555223 **Lot No.:** A0197354

Description : Custom 8270 Plus Standard #1

Custom 8270 Plus Standard #1 1,000µg/mL, Methylene Chloride, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : April 30, 2025 **Storage:** 10°C or colder

Handling: This product is photosensitive. **Ship:** Ambient

CERTIFIED VALUES

Component #	Compound	CAS #	Lot #	Purity	Grav. Conc. (weight/volume)	Expanded Uncertainty * (95% C.L.; K=2)
1	3,3'-Dichlorobenzidine	91-94-1	S230321RSR	99%	1,000.0 µg/mL	+/- 22.9569
2	Atrazine	1912-24-9	5FYWL	99%	1,001.0 µg/mL	+/- 22.9799
3	Benzidine	92-87-5	S221205RSR	99%	1,000.0 µg/mL	+/- 22.9569
4	epsilon-Caprolactam	105-60-2	I16X016	99%	1,001.0 µg/mL	+/- 22.9799

Solvent: Methylene chloride
CAS # 75-09-2
Purity 99%

Matt Fragassi - Mix Technician

Date Mixed: 24-Apr-2023 **Balance:** 1122030677

Manufactured under Restek's ISO 9001:2015
Registered Quality System
Certificate #FM 80397

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Container Size : 2 mL **Pkg Amt:** > 1 mL

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Container Size : 2 mL **Pkg Amt:** > 1 mL

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Expiration Date : April 30, 2025 **Storage:** 10°C or colder

Handling: This product is photosensitive. **Ship:** Ambient

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TEL +52 81 13 52 57 57
www.pqm.com.mx

CERTIFICATE OF ANALYSIS

PRODUCT :	SODIUM SULFATE CRYSTALS ANHYDROUS		
QUALITY :	ACS (CODE RMB3375)	FORMULA :	Na_2SO_4
SPECIFICATION NUMBER :	6399	RELEASE DATE:	ABR/21/2023
LOT NUMBER :	313201		

TEST	SPECIFICATIONS	LOT VALUES
Assay (Na_2SO_4)	Min. 99.0%	99.7 %
pH of a 5% solution at 25°C	5.2 - 9.2	6.1
Insoluble matter	Max. 0.01%	0.005 %
Loss on ignition	Max. 0.5%	0.1 %
Chloride (Cl)	Max. 0.001%	<0.001 %
Nitrogen compounds (as N)	Max. 5 ppm	<5 ppm
Phosphate (PO_4)	Max. 0.001%	<0.001 %
Heavy metals (as Pb)	Max. 5 ppm	<5 ppm
Iron (Fe)	Max. 0.001%	<0.001 %
Calcium (Ca)	Max. 0.01%	0.002 %
Magnesium (Mg)	Max. 0.005%	0.001 %
Potassium (K)	Max. 0.008%	0.003 %
Extraction-concentration suitability	Passes test	Passes test
Appearance	Passes test	Passes test
Identification	Passes test	Passes test
Solubility and foreing matter	Passes test	Passes test
Retained on US Standard No. 10 sieve	Max. 1%	0.1 %
Retained on US Standard No. 60 sieve	Min. 94%	97.3 %
Through US Standard No. 60 sieve	Max. 5%	2.5 %
Through US Standard No. 100 sieve	Max. 10%	0.1 %

COMMENTS

QC: PhC Irma Belmares

If you need further details, please call our factory or contact our local distributor.

RG-02-01, Ed. 3

Recd. by RB on 7/24/23 E3551

VWR®

Certificate of Analysis

Sodium Hydroxide (Pellets)

Material: 0583
Grade: ACS GRADE
Batch Number: 23B1556310

Chemical Formula: NaOH
Molecular Weight: 40
CAS #: 1310-73-2
Appearance:

Pellets

Manufacture Date: 12/14/2022
Expiration Date: 12/31/2025

Storage: Room Temperature

TEST	SPECIFICATION	ANALYSIS	DISPOSITION
Calcium	<= 0.005 %	<0.005 %	PASS
Chloride	<= 0.005 %	0.002 %	PASS
Heavy Metals	<= 0.002 %	<0.002 %	PASS
Iron	<= 0.001 %	<0.001 %	PASS
Magnesium	<= 0.002 %	<0.002 %	PASS
Mercury	<= 0.1 ppm	<0.1 ppm	PASS
Nickel	<= 0.001 %	<0.001 %	PASS
Nitrogen Compounds	<= 0.001 %	<0.001 %	PASS
Phosphate	<= 0.001 %	<0.001 %	PASS
Potassium	<= 0.02 %	<0.02 %	PASS
Purity	>= 97.0 %	99.2 %	PASS
Sodium Carbonate	<= 1.0 %	0.5 %	PASS
Sulfate	<= 0.003 %	<0.003 %	PASS

Internal ID #: 710

Signature

We certify that this batch conforms to the specifications listed.

This document has been electronically produced and is valid without a signature.

Leona Edwardson, Quality Control Sr. Manager - Solon
VWR Chemicals, LLC.
28600 Fountain Parkway, Solon OH 44139 USA

Additional Information

Analysis may have been rounded to significant digits in specification limits.

Product meets analytical specifications of the grades listed.

E 3657	E 3659
E 3654	E 3660

Methylene Chloride
ULTRA RESI-ANALYZED
For Organic Residue Analysis
(dichloromethane)

avantor™ | J.T.Baker®

Material No.: 9266-A4
Batch No.: 23K0962009
Manufactured Date: 2023-10-05
Expiration Date: 2025-01-03
Revision No.: 0

Certificate of Analysis

Test	Specification	Result
FID-Sensitive Impurities (as 2-Octanol) Single Impurity Peak (ng/mL)	≤ 5	< 1
ECD Sensitive Impurities (as Heptachlor Epoxide) Single Peak (pg/mL)	≤ 10	3
Assay (CH_2Cl_2) (by GC, exclusive of preservative, corrected for water)	≥ 99.8 %	100.0 %
Color (APHA)	≤ 10	10
Residue after Evaporation	≤ 1.0 ppm	0.2 ppm
Titrable Acid (µeq/g)	≤ 0.3	< 0.1
Chloride (Cl)	≤ 10 ppm	< 5 ppm
Water (by KF, coulometric)	≤ 0.02 %	< 0.01 %

For Laboratory,Research,or Manufacturing Use
MEETS SPECIFICATIONS WITHIN THE EXPIRATION PERIOD

Country of Origin: USA
Packaging Site: Phillipsburg Mfg Ctr & DC
Manufacturer source batch: MG23J05873

E3673

Ken Koehnlein
Sr. Manager, Quality Assurance

Acetone
BAKER RESI-ANALYZED® Reagent
For Organic Residue Analysis

avantor™ | J.T.Baker®

Material No.: 9254-03
Batch No.: 23H1462005
Manufactured Date: 2023-07-26
Expiration Date: 2026-07-25
Revision No.: 0

Certificate of Analysis

Test	Specification	Result
Assay ($(CH_3)_2CO$) (by GC, corrected for water)	≥ 99.4 %	99.7 %
Color (APHA)	≤ 10	5
Residue after Evaporation	≤ 1.0 ppm	0.3 ppm
Substances Reducing Permanganate	Passes Test	Passes Test
Titrable Acid (µeq/g)	≤ 0.3	0.1
Titrable Base (µeq/g)	≤ 0.6	< 0.1
Water (H_2O)	≤ 0.5 %	0.3 %
FID-Sensitive Impurities (as 2-Octanol) Single Impurity Peak (ng/mL)	≤ 5	< 1
ECD Sensitive Impurities (as Heptachlor Epoxide) Single Peak (pg/mL)	≤ 10	1

For Laboratory,Research,or Manufacturing Use
MEETS SPECIFICATIONS WITHIN THE EXPIRATION PERIOD

Country of Origin: USA
Packaging Site: Phillipsburg Mfg Ctr & DC

Recd. by RP on 1/3/24

E367H

Ken Koehnlein
Sr. Manager, Quality Assurance

For questions on this Certificate of Analysis please contact Technical Services at 855.282.6867 or +1.610.386.1700
Avantor Performance Materials, LLC
100 Matsonford Rd, Suite 200, Radnor, PA 19087. U.S.A. Phone 610.386.1700

Methylene Chloride
ULTRA RESI-ANALYZED
For Organic Residue Analysis
(dichloromethane)

avantor™ | J.T.Baker®

Material No.: 9266-A4
Batch No.: 23K0962009
Manufactured Date: 2023-10-05
Expiration Date: 2025-01-03
Revision No.: 0

Certificate of Analysis

Test	Specification	Result
FID-Sensitive Impurities (as 2-Octanol) Single Impurity Peak (ng/mL)	≤ 5	< 1
ECD Sensitive Impurities (as Heptachlor Epoxide) Single Peak (pg/mL)	≤ 10	3
Assay (CH_2Cl_2) (by GC, exclusive of preservative, corrected for water)	≥ 99.8 %	100.0 %
Color (APHA)	≤ 10	10
Residue after Evaporation	≤ 1.0 ppm	0.2 ppm
Titrable Acid (µeq/g)	≤ 0.3	< 0.1
Chloride (Cl)	≤ 10 ppm	< 5 ppm
Water (by KF, coulometric)	≤ 0.02 %	< 0.01 %

For Laboratory,Research,or Manufacturing Use
MEETS SPECIFICATIONS WITHIN THE EXPIRATION PERIOD

Country of Origin: USA
Packaging Site: Phillipsburg Mfg Ctr & DC
Manufacturer source batch: MG23J05873

E 3678

Ken Koehnlein
Sr. Manager, Quality Assurance

Acetone
BAKER RESI-ANALYZED® Reagent
For Organic Residue Analysis

avantor™ | J.T.Baker®

Material No.: 9254-03
Batch No.: 23H1462005
Manufactured Date: 2023-07-26
Expiration Date: 2026-07-25
Revision No.: 0

Certificate of Analysis

Test	Specification	Result
Assay ($(CH_3)_2CO$) (by GC, corrected for water)	≥ 99.4 %	99.7 %
Color (APHA)	≤ 10	5
Residue after Evaporation	≤ 1.0 ppm	0.3 ppm
Substances Reducing Permanganate	Passes Test	Passes Test
Titrable Acid (µeq/g)	≤ 0.3	0.1
Titrable Base (µeq/g)	≤ 0.6	< 0.1
Water (H_2O)	≤ 0.5 %	0.3 %
FID-Sensitive Impurities (as 2-Octanol) Single Impurity Peak (ng/mL)	≤ 5	< 1
ECD Sensitive Impurities (as Heptachlor Epoxide) Single Peak (pg/mL)	≤ 10	1

For Laboratory,Research,or Manufacturing Use
MEETS SPECIFICATIONS WITHIN THE EXPIRATION PERIOD

Country of Origin: USA
Packaging Site: Phillipsburg Mfg Ctr & DC

RS
2/14.

E3699

Ken Koehnlein
Sr. Manager, Quality Assurance

Methylene Chloride
ULTRA RESI-ANALYZED
For Organic Residue Analysis
(dichloromethane)

avantor™ | J.T.Baker®

Material No.: 9266-A4
Batch No.: 24A1562007
Manufactured Date: 2023-12-14
Expiration Date: 2025-03-14
Revision No.: 0

Certificate of Analysis

Test	Specification	Result
FID-Sensitive Impurities (as 2-Octanol) Single Impurity Peak (ng/mL)	≤ 5	< 1
ECD Sensitive Impurities (as Heptachlor Epoxide) Single Peak (pg/mL)	≤ 10	< 1
Assay (CH_2Cl_2) (by GC, exclusive of preservative, corrected for water)	≥ 99.8 %	100.0 %
Color (APHA)	≤ 10	5
Residue after Evaporation	≤ 1.0 ppm	0.1 ppm
Titrable Acid (µeq/g)	≤ 0.3	< 0.1
Chloride (Cl)	≤ 10 ppm	< 5 ppm
Water (by KF, coulometric)	≤ 0.02 %	< 0.01 %

For Laboratory,Research,or Manufacturing Use
MEETS SPECIFICATIONS WITHIN THE EXPIRATION PERIOD

Country of Origin: USA
Packaging Site: Phillipsburg Mfg Ctr & DC
Manufacturer source batch: MG23L14152

Rec. AS. 2/19/24

E3706

Ken Koehnlein
Sr. Manager, Quality Assurance

Methylene Chloride
ULTRA RESI-ANALYZED
For Organic Residue Analysis
(dichloromethane)

avantor™ | J.T.Baker®

Material No.: 9266-A4
Batch No.: 24A1562007
Manufactured Date: 2023-12-14
Expiration Date: 2025-03-14
Revision No.: 0

Certificate of Analysis

Test	Specification	Result
FID-Sensitive Impurities (as 2-Octanol) Single Impurity Peak (ng/mL)	≤ 5	< 1
ECD Sensitive Impurities (as Heptachlor Epoxide) Single Peak (pg/mL)	≤ 10	< 1
Assay (CH_2Cl_2) (by GC, exclusive of preservative, corrected for water)	≥ 99.8 %	100.0 %
Color (APHA)	≤ 10	5
Residue after Evaporation	≤ 1.0 ppm	0.1 ppm
Titrable Acid (µeq/g)	≤ 0.3	< 0.1
Chloride (Cl)	≤ 10 ppm	< 5 ppm
Water (by KF, coulometric)	≤ 0.02 %	< 0.01 %

For Laboratory,Research,or Manufacturing Use
MEETS SPECIFICATIONS WITHIN THE EXPIRATION PERIOD

Country of Origin: USA
Packaging Site: Phillipsburg Mfg Ctr & DC
Manufacturer source batch: MG23L14152

E 3707

Ken Koehnlein
Sr. Manager, Quality Assurance

Sulfuric Acid
BAKER INSTRA-ANALYZED® Reagent
For Trace Metal Analysis
Low Selenium

avantor™ | J.T.Baker®

Material No.: 9673-33
Batch No.: 23D2462010
Manufactured Date: 2023-03-22
Retest Date: 2028-03-20
Revision No.: 0

Certificate of Analysis

Test	Specification	Result
ACS – Assay (H_2SO_4)	95.0 – 98.0 %	96.1 %
Appearance	Passes Test	Passes Test
ACS – Color (APHA)	≤ 10	5
ACS – Residue after Ignition	≤ 3 ppm	< 1 ppm
ACS – Substances Reducing Permanganate (as SO2)	≤ 2 ppm	< 2 ppm
Ammonium (NH_4)	≤ 1 ppm	1 ppm
Chloride (Cl)	≤ 0.1 ppm	< 0.1 ppm
Nitrate (NO_3)	≤ 0.2 ppm	< 0.1 ppm
Phosphate (PO_4)	≤ 0.5 ppm	< 0.1 ppm
Trace Impurities – Aluminum (Al)	≤ 30.0 ppb	< 5.0 ppb
Arsenic and Antimony (as As)	≤ 4.0 ppb	< 2.0 ppb
Trace Impurities – Boron (B)	≤ 10.0 ppb	8.5 ppb
Trace Impurities – Cadmium (Cd)	≤ 2.0 ppb	< 0.3 ppb
Trace Impurities – Chromium (Cr)	≤ 6.0 ppb	< 0.4 ppb
Trace Impurities – Cobalt (Co)	≤ 0.5 ppb	< 0.3 ppb
Trace Impurities – Copper (Cu)	≤ 1.0 ppb	< 0.1 ppb
Trace Impurities – Gold (Au)	≤ 10.0 ppb	0.5 ppb
Heavy Metals (as Pb)	≤ 500.0 ppb	< 100.0 ppb
Trace Impurities – Iron (Fe)	≤ 50.0 ppb	1.3 ppb
Trace Impurities – Lead (Pb)	≤ 0.5 ppb	< 0.5 ppb
Trace Impurities – Magnesium (Mg)	≤ 7.0 ppb	0.8 ppb
Trace Impurities – Manganese (Mn)	≤ 1.0 ppb	< 0.4 ppb
Trace Impurities – Mercury (Hg)	≤ 0.5 ppb	< 0.1 ppb
Trace Impurities – Nickel (Ni)	≤ 2.0 ppb	0.3 ppb
Trace Impurities – Potassium (K)	≤ 500.0 ppb	< 2.0 ppb
Trace Impurities – Selenium (Se)	≤ 50.0 ppb	< 0.1 ppb
Trace Impurities – Silicon (Si)	≤ 100.0 ppb	31.5 ppb
Trace Impurities – Silver (Ag)	≤ 1.0 ppb	< 0.3 ppb

>>> Continued on page 2 >>>

Sulfuric Acid
BAKER INSTRA-ANALYZED® Reagent
For Trace Metal Analysis
Low Selenium

avantor™ | J.T.Baker®

Material No.: 9673-33
Batch No.: 23D2462010

Test	Specification	Result
Trace Impurities - Sodium (Na)	≤ 500.0 ppb	5.4 ppb
Trace Impurities - Strontium (Sr)	≤ 5.0 ppb	< 0.2 ppb
Trace Impurities - Tin (Sn)	≤ 5.0 ppb	< 0.8 ppb
Trace Impurities - Zinc (Zn)	≤ 5.0 ppb	0.4 ppb

For Laboratory,Research,or Manufacturing Use

Country of Origin: USA
Packaging Site: Phillipsburg Mfg Ctr & DC

James T Ethier

Jamie Ethier
Vice President Global Quality

CPI INTERNATIONAL

5580 Skylane Blvd
Santa Rosa, CA 95403

(707)525-5788
(800)878-7654 Toll Free
(707)545-7901 Fax

Manufacturer's Quality System
Audited & Registered
by TUV USA to ISO 9001:2015

S11440 ↓ S11A-12 XS 07/17/23

Date Received: 07/17/23

Certificate of Analysis

Rev 0

Catalog No.:	Lot No.:	Storage:	Solvent:	Exp. Date:	Description:
Z-110094-02	503442	≤ -10 °C	Methylene Chloride	8/26/2024	CLP Base/Neutral Surrogate Solution, 5,000 mg/L, 1 ml

Compound	CAS No.	Purity (%)	Compound Lot No.	Concentration, mg/L
1,2-dichlorobenzene-d_4	2199-69-1	99.7	247.29.3P	5052 ± 122.61
2-fluorobiphenyl	321-60-8	99.7	8.7.1.1P	5005 ± 121.47
nitrobenzene-d_5	4165-60-0	100	7.9.2P	5040 ± 122.21
p-terphenyl-d_{14}	1718-51-0	99.6	9.12.9P	5027 ± 122

*Not a certified value

Certified By: Joanna Radu

Joanna Radu
Chemist

All weights are traceable through N. I. S. T. Test No. 822/264157-00.
Concentration (correct for purity) and uncertainty (95% confidence) values listed are determined gravimetricly.

RESTEK
110 Benner Circle
Bellefonte, PA 16823-8812
Tel: 1-814-353-1300
Fax: 1-814-353-1309

www.restek.com

CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

chromatographic plus

ACCREDITED
ISO 17034 Accredited
Reference Material Producer
Certificate #3222.01

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 31206 **Lot No.:** A0196843

511499 & 511528 Y.P. 08/28/23

Description : SV Internal Standard Mix 2mg/ml

SV Internal Standard Mix 2mg/ml 2000 µg/ml, Methylene Chloride, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : March 31, 2029 **Storage:** 10°C or colder

Handling: Sonication required. Mix is photosensitive. **Ship:** Ambient

CERTIFIED VALUES

Elution-Order	Compound	CAS #	Lot #	Purity	Grav. Conc. (weight/volume)	Expanded Uncertainty * (95% C.L.; K=2)
1	1,4-Dichlorobenzene-d4	3855-82-1	PR-30447	99%	2,010.0 µg/mL	+/- 90.5322
2	Naphthalene-d8	1146-65-2	M-2180	99%	2,010.0 µg/mL	+/- 90.5316
3	Acenaphthene-d10	15067-26-2	PR-31822	99%	2,010.0 µg/mL	+/- 90.5334
4	Phenanthrene-d10	1517-22-2	PR-32303	99%	2,010.3 µg/mL	+/- 90.5466
5	Chrysene-d12	1719-03-5	PR-32210	99%	2,010.4 µg/mL	+/- 90.5490
6	Perylene-d12	1520-96-3	PR-33205	99%	2,010.2 µg/mL	+/- 90.5421

* Expanded Uncertainty displayed in same units as Grav. Conc.

Solvent: Methylene chloride
CAS # 75-09-2
Purity 99%

Quality Confirmation Test

Column:
30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

Carrier Gas:
hydrogen-constant pressure 10 psi.

Temp. Program:
75°C (hold 1 min.) to 330°C
@ 20°C/min. (hold 10 min.)

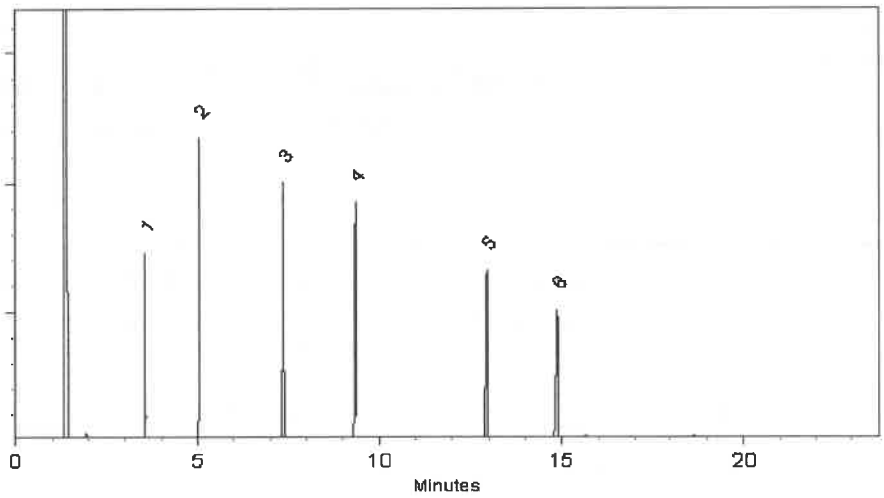
Inj. Temp:
250°C

Det. Temp:
330°C

Det. Type:
FID

Split Vent:
10 ml/min.

Inj. Vol
1µl



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Jess Hoy - Operations Tech I

Date Mixed: 10-Apr-2023 **Balance Serial #** 1128353505

Jennifer Pollino - Operations Tech III - ARM QC

Date Passed: 14-Apr-2023

Manufactured under Restek's ISO 9001:2015 Registered Quality System Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO 17034 and Guide 35. The certified expanded uncertainty value includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ uncertainty} = k\sqrt{u^2_{gravimetric} + u^2_{homogeneity} + u^2_{storage\ stability} + u^2_{shipping\ stability}}$$

  k is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampuls are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Stability of the unopened product, when stored in compliance with the recommended conditions, is guaranteed through the expiration displayed on the product label and certificate. Contact Restek for additional opened product stability information, with the knowledge/understanding that open product stability is subject to the specific handling and environmental conditions to which the product is exposed. For your convenience Restek supplies deactivated vials with most standards packed in 2mL ampuls. Larger volume deactivated vials are available through Restek as a custom ordered item. Additionally, Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

RESTEK
110 Benner Circle
Bellefonte, PA 16823-8812
Tel: 1-814-353-1300
Fax: 1-814-353-1309

www.restek.com

CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

gravimetric

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 555223 **Lot No.:** A0201940

Description : Custom 8270 Plus Standard #1

Custom 8270 Plus Standard #1 1,000µg/mL, Methylene Chloride, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : September 30, 2025 **Storage:** 10°C or colder

Handling: This product is photosensitive. **Ship:** Ambient

511539 ↓ 511568 Y.P. 091 191

CERTIFIED VALUES

Component #	Compound	CAS #	Lot #	Purity	Grav. Conc. (weight/volume)	Expanded Uncertainty * (95% C.L.; K=2)
1	3,3'-Dichlorobenzidine	91-94-1	S230321RSR	99%	1,001.0 µg/mL	+/- 22.9799
2	Atrazine	1912-24-9	5FYWL	99%	1,010.0 µg/mL	+/- 23.1865
3	Benzidine	92-87-5	S221205RSR	99%	1,008.0 µg/mL	+/- 23.1406
4	epsilon-Caprolactam	105-60-2	I16X016	99%	1,008.0 µg/mL	+/- 23.1406

Solvent: Methylene chloride
CAS # 75-09-2
Purity 99%

Sam Moodler - Operations Tech I

REVIEWED
By Jennifer Pollino at 7:10 am, Sep 13, 2023

Date Mixed: 13-Sep-2023 **Balance:** B345965662

Manufactured under Restek's ISO 9001:2015 Registered Quality System Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO 17034 and Guide 35. The certified expanded uncertainty value includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ uncertainty} = k\sqrt{u^2_{gravimetric} + u^2_{homogeneity} + u^2_{storage\ stability} + u^2_{shipping\ stability}}$$

  k is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampuls are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Stability of the unopened product, when stored in compliance with the recommended conditions, is guaranteed through the expiration displayed on the product label and certificate. Contact Restek for additional opened product stability information, with the knowledge/understanding that open product stability is subject to the specific handling and environmental conditions to which the product is exposed. For your convenience Restek supplies deactivated vials with most standards packed in 2mL ampuls. Larger volume deactivated vials are available through Restek as a custom ordered item. Additionally, Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

RESTEK
110 Benner Circle
Bellefonte, PA 16823-8812
Tel: 1-814-353-1300
Fax: 1-814-353-1309

www.restek.com

CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

gravimetric

ilac-MRA A2LA ACCREDITED ISO 17034 Accredited Reference Material Producer Certificate #3222.01

ilac-MRA A2LA ACCREDITED ISO/IEC 17025 Accredited Testing Laboratory Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 555224 **Lot No.:** A0201998

Description : Custom 8270 Plus Standard #2

Custom 8270 Plus Standard #2 1,000µg/mL, Methylene Chloride, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : September 30, 2025 **Storage:** 10°C or colder

Ship: Ambient

S11569
|
S11598

KS
09/19/2

CERTIFIED VALUES

Component #	Compound	CAS #	Lot #	Purity	Grav. Conc. (weight/volume)	Expanded Uncertainty * (95% C.L.; K=2)
1	1,2,4,5-Tetrachlorobenzene	95-94-3	MKCS1444	99%	1,003.5 µg/mL	+/- 29.497807
2	Acetophenone	98-86-2	STBH8205	99%	1,004.0 µg/mL	+/- 29.512504
3	Benzaldehyde	100-52-7	RD230209RSRA	99%	1,003.4 µg/mL	+/- 29.494867
4	Benzoic acid	65-85-0	MKCR2694	99%	1,002.2 µg/mL	+/- 29.459594
5	Biphenyl	92-52-4	MKCL6515	99%	1,002.1 µg/mL	+/- 29.456654

Solvent: Methylene chloride
CAS # 75-09-2
Purity 99%

Penelope Riglin - Operations Tech I

Date Mixed: 14-Sep-2023 **Balance:** 1128360905

Manufactured under Restek's ISO 9001:2015 Registered Quality System Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

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- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO 17034 and Guide 35. The certified expanded uncertainty value includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ uncertainty} = k\sqrt{u^2_{gravimetric} + u^2_{homogeneity} + u^2_{storage\ stability} + u^2_{shipping\ stability}}$$

  k is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampuls are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

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CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

gravimetric

ilac-MRA A2LA ACCREDITED ISO 17034 Accredited Reference Material Producer Certificate #3222.01

ilac-MRA A2LA ACCREDITED ISO/IEC 17025 Accredited Testing Laboratory Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 555224 **Lot No.:** A0201998

Description : Custom 8270 Plus Standard #2

Custom 8270 Plus Standard #2 1,000µg/mL, Methylene Chloride, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : September 30, 2025 **Storage:** 10°C or colder

Ship: Ambient

S11569
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S11598

KS
09/19/2

CERTIFIED VALUES

Component #	Compound	CAS #	Lot #	Purity	Grav. Conc. (weight/volume)	Expanded Uncertainty * (95% C.L.; K=2)
1	1,2,4,5-Tetrachlorobenzene	95-94-3	MKCS1444	99%	1,003.5 µg/mL	+/- 29.497807
2	Acetophenone	98-86-2	STBH8205	99%	1,004.0 µg/mL	+/- 29.512504
3	Benzaldehyde	100-52-7	RD230209RSRA	99%	1,003.4 µg/mL	+/- 29.494867
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5	Biphenyl	92-52-4	MKCL6515	99%	1,002.1 µg/mL	+/- 29.456654

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CAS # 75-09-2
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Penelope Riglin - Operations Tech I

Date Mixed: 14-Sep-2023 **Balance:** 1128360905

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Catalog No. : 555224 **Lot No.:** A0201998

Description : Custom 8270 Plus Standard #2

Custom 8270 Plus Standard #2 1,000µg/mL, Methylene Chloride, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : September 30, 2025 **Storage:** 10°C or colder

Ship: Ambient

S11569
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Catalog No. : 555224 **Lot No.:** A0201998

Description : Custom 8270 Plus Standard #2

Custom 8270 Plus Standard #2 1,000µg/mL, Methylene Chloride, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : September 30, 2025 **Storage:** 10°C or colder

Ship: Ambient

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09/19/2

CERTIFIED VALUES

Component #	Compound	CAS #	Lot #	Purity	Grav. Conc. (weight/volume)	Expanded Uncertainty * (95% C.L.; K=2)
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Solvent: Methylene chloride
CAS # 75-09-2
Purity 99%

Penelope Riglin - Operations Tech I

Date Mixed: 14-Sep-2023 **Balance:** 1128360905

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Catalog No. : 555224 **Lot No.:** A0201998

Description : Custom 8270 Plus Standard #2

Custom 8270 Plus Standard #2 1,000µg/mL, Methylene Chloride, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : September 30, 2025 **Storage:** 10°C or colder

Ship: Ambient

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09/19/2

CERTIFIED VALUES

Component #	Compound	CAS #	Lot #	Purity	Grav. Conc. (weight/volume)	Expanded Uncertainty * (95% C.L.; K=2)
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Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : September 30, 2025 **Storage:** 10°C or colder

Ship: Ambient

S11569
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09/19/2

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S11569
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CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

gravimetric

ilac-MRA A2LA ACCREDITED ISO 17034 Accredited Reference Material Producer Certificate #3222.01

ilac-MRA A2LA ACCREDITED ISO/IEC 17025 Accredited Testing Laboratory Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 555224 **Lot No.:** A0201998

Description : Custom 8270 Plus Standard #2

Custom 8270 Plus Standard #2 1,000µg/mL, Methylene Chloride, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : September 30, 2025 **Storage:** 10°C or colder

Ship: Ambient

S11569
|
S11598

KS
09/19/2

CERTIFIED VALUES

Component #	Compound	CAS #	Lot #	Purity	Grav. Conc. (weight/volume)	Expanded Uncertainty * (95% C.L.; K=2)
1	1,2,4,5-Tetrachlorobenzene	95-94-3	MKCS1444	99%	1,003.5 µg/mL	+/- 29.497807
2	Acetophenone	98-86-2	STBH8205	99%	1,004.0 µg/mL	+/- 29.512504
3	Benzaldehyde	100-52-7	RD230209RSRA	99%	1,003.4 µg/mL	+/- 29.494867
4	Benzoic acid	65-85-0	MKCR2694	99%	1,002.2 µg/mL	+/- 29.459594
5	Biphenyl	92-52-4	MKCL6515	99%	1,002.1 µg/mL	+/- 29.456654

Solvent: Methylene chloride
CAS # 75-09-2
Purity 99%

Penelope Riglin - Operations Tech I

Date Mixed: 14-Sep-2023 **Balance:** 1128360905

Manufactured under Restek's ISO 9001:2015 Registered Quality System Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO 17034 and Guide 35. The certified expanded uncertainty value includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ uncertainty} = k\sqrt{u^2_{gravimetric} + u^2_{homogeneity} + u^2_{storage\ stability} + u^2_{shipping\ stability}}$$

  k is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampuls are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Stability of the unopened product, when stored in compliance with the recommended conditions, is guaranteed through the expiration displayed on the product label and certificate. Contact Restek for additional opened product stability information, with the knowledge/understanding that open product stability is subject to the specific handling and environmental conditions to which the product is exposed. For your convenience Restek supplies deactivated vials with most standards packed in 2mL ampuls. Larger volume deactivated vials are available through Restek as a custom ordered item. Additionally, Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions.
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CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

chromatographic plus

ACCREDITED ISO 17034 Accredited Reference Material Producer Certificate #3222.01

ACCREDITED ISO/IEC 17025 Accredited Testing Laboratory Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 31853 **Lot No.:** A0196453

Description : 1,4-dioxane

1,4-Dioxane 2,000µg/mL, Methylene Chloride, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : March 31, 2028 **Storage:** 0°C or colder

Ship: Ambient

S11749 ↓ S11794 RC 11/30/23

CERTIFIED VALUES

Elution Order	Compound	CAS #	Lot #	Purity	Grav. Conc. (weight/volume)	Expanded Uncertainty * (95% C.L.; K=2)
1	1,4-Dioxane	123-91-1	SHBN3770	99%	2,013.0 µg/mL	+/- 25.0521

* Expanded Uncertainty displayed in same units as Grav. Conc.

Solvent: Methylene chloride
CAS # 75-09-2
Purity 99%

Quality Confirmation Test

Column:
30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

Carrier Gas:
hydrogen-constant flow 1.8 mL/min.

Temp. Program:
80°C (hold 0.1 min.) to 330°C
@ 9.6°C/min. (hold 2.86 min.)

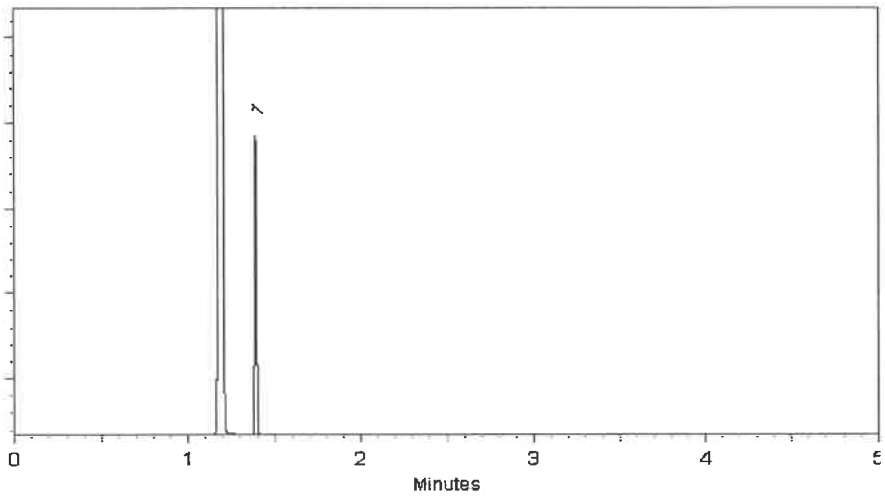
Inj. Temp:
250°C

Det. Temp:
340°C

Det. Type:
FID

Split Vent:
100 ml/min.

Inj. Vol
1µl



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Sam Moodler - Operations Tech I

Date Mixed: 30-Mar-2023 **Balance Serial #** B707717271

Jennifer Pollino - Operations Tech III - ARM QC

Date Passed: 31-Mar-2023

Manufactured under Restek's ISO 9001:2015 Registered Quality System Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
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Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
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Manufacturing Notes:

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Handling Notes:

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CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

chromatographic plus

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Catalog No. : 31853 **Lot No.:** A0196453

Description : 1,4-dioxane

1,4-Dioxane 2,000µg/mL, Methylene Chloride, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : March 31, 2028 **Storage:** 0°C or colder

Ship: Ambient

S11749 ↓ S11794 RC 11/30/23

CERTIFIED VALUES

Elution Order	Compound	CAS #	Lot #	Purity	Grav. Conc. (weight/volume)	Expanded Uncertainty * (95% C.L.; K=2)
1	1,4-Dioxane	123-91-1	SHBN3770	99%	2,013.0 µg/mL	+/- 25.0521

* Expanded Uncertainty displayed in same units as Grav. Conc.

Solvent: Methylene chloride
CAS # 75-09-2
Purity 99%

Quality Confirmation Test

Column:
30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

Carrier Gas:
hydrogen-constant flow 1.8 mL/min.

Temp. Program:
80°C (hold 0.1 min.) to 330°C
@ 9.6°C/min. (hold 2.86 min.)

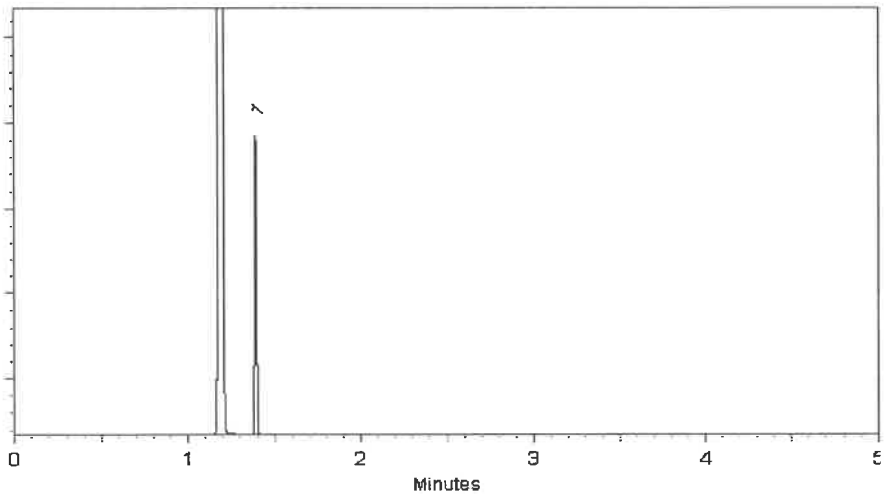
Inj. Temp:
250°C

Det. Temp:
340°C

Det. Type:
FID

Split Vent:
100 ml/min.

Inj. Vol
1µl



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Sam Moodler - Operations Tech I

Date Mixed: 30-Mar-2023 **Balance Serial #** B707717271

Jennifer Pollino - Operations Tech III - ARM QC

Date Passed: 31-Mar-2023

Manufactured under Restek's ISO 9001:2015 Registered Quality System Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

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- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

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Manufacturing Notes:

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Handling Notes:

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CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

chromatographic plus

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ACCREDITED ISO/IEC 17025 Accredited Testing Laboratory Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

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Catalog No. : 31853 **Lot No.:** A0196453

Description : 1,4-dioxane

1,4-Dioxane 2,000µg/mL, Methylene Chloride, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : March 31, 2028 **Storage:** 0°C or colder

Ship: Ambient

S11749 ↓ S11794 RC 11/30/23

CERTIFIED VALUES

Elution Order	Compound	CAS #	Lot #	Purity	Grav. Conc. (weight/volume)	Expanded Uncertainty * (95% C.L.; K=2)
1	1,4-Dioxane	123-91-1	SHBN3770	99%	2,013.0 µg/mL	+/- 25.0521

* Expanded Uncertainty displayed in same units as Grav. Conc.

Solvent: Methylene chloride
CAS # 75-09-2
Purity 99%

Quality Confirmation Test

Column:
30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

Carrier Gas:
hydrogen-constant flow 1.8 mL/min.

Temp. Program:
80°C (hold 0.1 min.) to 330°C
@ 9.6°C/min. (hold 2.86 min.)

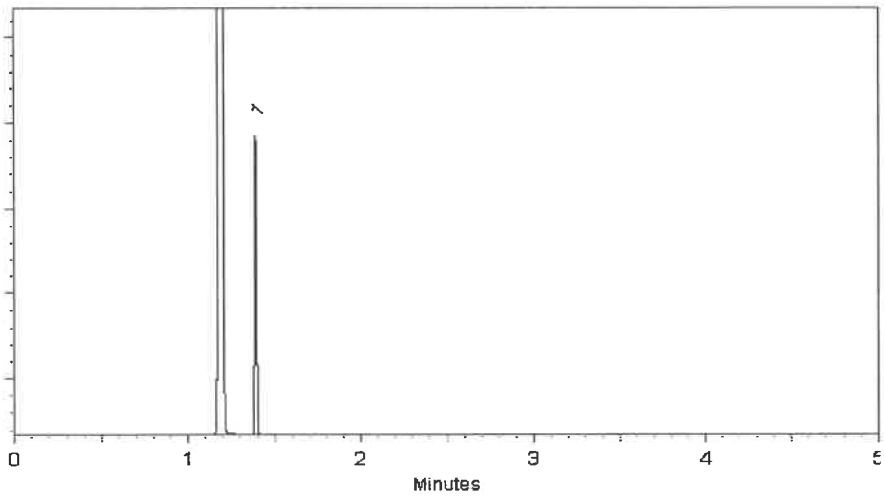
Inj. Temp:
250°C

Det. Temp:
340°C

Det. Type:
FID

Split Vent:
100 ml/min.

Inj. Vol
1µl



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Sam Moodler - Operations Tech I

Date Mixed: 30-Mar-2023 **Balance Serial #** B707717271

Jennifer Pollino - Operations Tech III - ARM QC

Date Passed: 31-Mar-2023

Manufactured under Restek's ISO 9001:2015 Registered Quality System Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

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Catalog No. : 31853 **Lot No.:** A0196453

Description : 1,4-dioxane

1,4-Dioxane 2,000µg/mL, Methylene Chloride, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : March 31, 2028 **Storage:** 0°C or colder

Ship: Ambient

S11749 ↓ S11794 RC 11/30/23

CERTIFIED VALUES

Elution Order	Compound	CAS #	Lot #	Purity	Grav. Conc. (weight/volume)	Expanded Uncertainty * (95% C.L.; K=2)
1	1,4-Dioxane	123-91-1	SHBN3770	99%	2,013.0 µg/mL	+/- 25.0521

* Expanded Uncertainty displayed in same units as Grav. Conc.

Solvent: Methylene chloride
CAS # 75-09-2
Purity 99%

Quality Confirmation Test

Column:
30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

Carrier Gas:
hydrogen-constant flow 1.8 mL/min.

Temp. Program:
80°C (hold 0.1 min.) to 330°C
@ 9.6°C/min. (hold 2.86 min.)

Inj. Temp:
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Det. Temp:
340°C

Det. Type:
FID

Split Vent:
100 ml/min.

Inj. Vol
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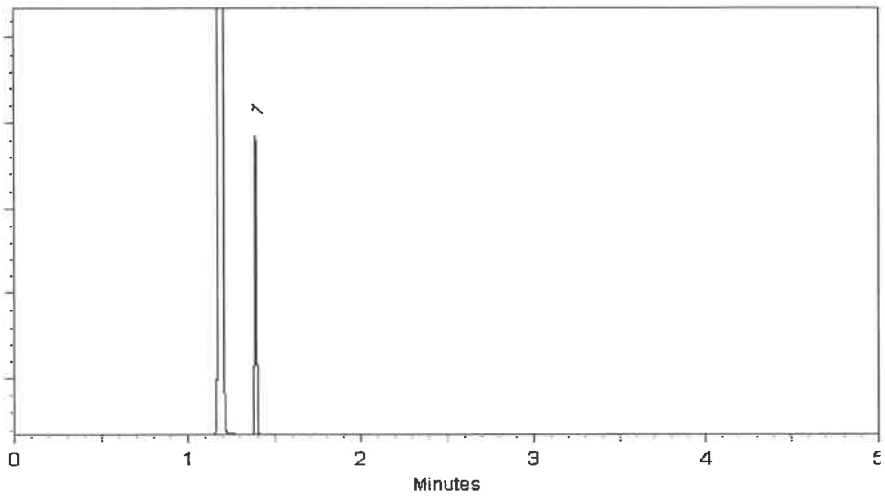

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Sam Moodler - Operations Tech I

Date Mixed: 30-Mar-2023 **Balance Serial #** B707717271

Jennifer Pollino - Operations Tech III - ARM QC

Date Passed: 31-Mar-2023

Manufactured under Restek's ISO 9001:2015 Registered Quality System Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

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Catalog No. : 31853 **Lot No.:** A0196453

Description : 1,4-dioxane

1,4-Dioxane 2,000µg/mL, Methylene Chloride, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

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Ship: Ambient

S11749 ↓ S11794 RC 11/30/23

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Solvent: Methylene chloride
CAS # 75-09-2
Purity 99%

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Rtx-5 (cat.#10223)

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@ 9.6°C/min. (hold 2.86 min.)

Inj. Temp:
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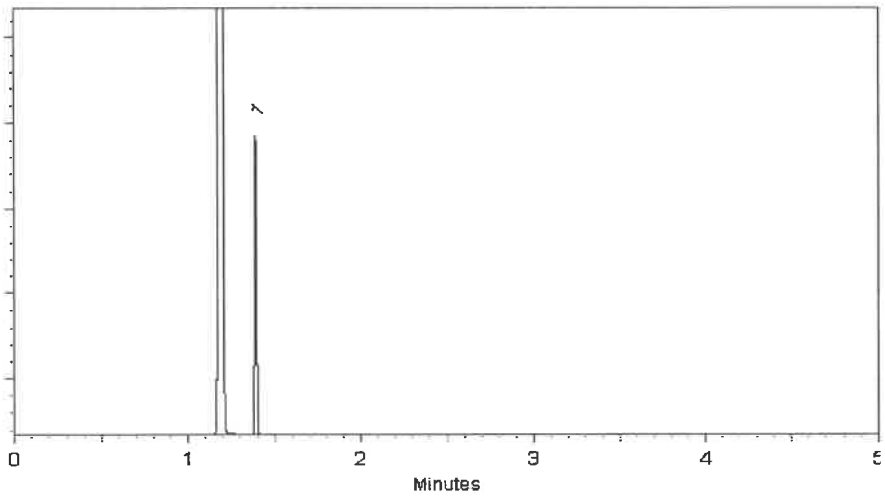
Det. Temp:
340°C

Det. Type:
FID

Split Vent:
100 ml/min.

Inj. Vol
1µl



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Sam Moodler - Operations Tech I

Date Mixed: 30-Mar-2023 **Balance Serial #** B707717271

Jennifer Pollino - Operations Tech III - ARM QC

Date Passed: 31-Mar-2023

Manufactured under Restek's ISO 9001:2015 Registered Quality System Certificate #FM 80397

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- The packaged amount is the minimum sample size for which uncertainty is valid. The ampuls are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Stability of the unopened product, when stored in compliance with the recommended conditions, is guaranteed through the expiration displayed on the product label and certificate. Contact Restek for additional opened product stability information, with the knowledge/understanding that open product stability is subject to the specific handling and environmental conditions to which the product is exposed. For your convenience Restek supplies deactivated vials with most standards packed in 2mL ampuls. Larger volume deactivated vials are available through Restek as a custom ordered item. Additionally, Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

RESTEK
110 Benner Circle
Bellefonte, PA 16823-8812
Tel: 1-814-353-1300
Fax: 1-814-353-1309

www.restek.com

CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

chromatographic plus

ACCREDITED
ISO 17034 Accredited
Reference Material Producer
Certificate #3222.01

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 31850 **Lot No.:** A0197982

Description : 8270 MegaMix®

8270 MegaMix® 500-1,000µg/mL, Methylene Chloride, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : November 30, 2024 **Storage:** 0°C or colder

Handling: Sonication required. Mix is photosensitive. **Ship:** Ambient

S11877 ↓ S11906 RC 11/30/23

CERTIFIED VALUES

Elution Order	Compound	CAS #	Lot #	Purity	Grav. Conc. (weight/volume)	Expanded Uncertainty * (95% C.L.; K=2)
1	Pyridine	110-86-1	SHBN7324	99%	1,006.9 µg/mL	+/- 36.6352
2	N-Nitrosodimethylamine	62-75-9	230209JLM	99%	1,007.4 µg/mL	+/- 36.6514
3	Phenol	108-95-2	MKCK1120	99%	1,005.3 µg/mL	+/- 36.5746
4	Aniline	62-53-3	X22F726	99%	1,004.6 µg/mL	+/- 36.5503
5	Bis(2-chloroethyl)ether	111-44-4	SHBL6942	99%	1,005.1 µg/mL	+/- 36.5665
6	2-Chlorophenol	95-57-8	STBJ3909	99%	1,007.1 µg/mL	+/- 36.6392
7	1,3-Dichlorobenzene	541-73-1	BCBZ7498	99%	1,006.7 µg/mL	+/- 36.6251
8	1,4-Dichlorobenzene	106-46-7	MKBS7929V	99%	1,005.6 µg/mL	+/- 36.5867
9	Benzyl alcohol	100-51-6	SHBK5943	99%	1,005.4 µg/mL	+/- 36.5786
10	1,2-Dichlorobenzene	95-50-1	SHBN3835	99%	1,003.9 µg/mL	+/- 36.5240
11	2-Methylphenol (o-cresol)	95-48-7	SHBN7598	99%	1,002.3 µg/mL	+/- 36.4654
12	2,2'-oxybis(1-chloropropane)	108-60-1	230329JLM	99%	1,004.3 µg/mL	+/- 36.5402
13	3-Methylphenol (m-cresol)	108-39-4	STBJ0710	99%	502.1 µg/mL	+/- 18.2671
14	4-Methylphenol (p-cresol)	106-44-5	SHBN3411	99%	501.9 µg/mL	+/- 18.2631
15	N-Nitroso-di-n-propylamine	621-64-7	N63MG	99%	1,004.0 µg/mL	+/- 36.5281
16	Hexachloroethane	67-72-1	QTORH	99%	1,006.1 µg/mL	+/- 36.6029
17	Nitrobenzene	98-95-3	10224044	99%	1,003.1 µg/mL	+/- 36.4957

18	Isophorone	78-59-1	MKCC9506	99%	1,003.8	µg/mL	+/- 36.5220
19	2-Nitrophenol	88-75-5	RP230509C	99%	1,005.8	µg/mL	+/- 36.5948
20	2,4-Dimethylphenol	105-67-9	XW5GK	99%	1,004.2	µg/mL	+/- 36.5341
21	Bis(2-chloroethoxy)methane	111-91-1	13670200	99%	1,006.3	µg/mL	+/- 36.6130
22	2,4-Dichlorophenol	120-83-2	BCBZ6787	99%	1,004.0	µg/mL	+/- 36.5281
23	1,2,4-Trichlorobenzene	120-82-1	SHBM0526	99%	1,007.1	µg/mL	+/- 36.6413
24	Naphthalene	91-20-3	MKCH0219	99%	1,006.7	µg/mL	+/- 36.6271
25	4-Chloroaniline	106-47-8	WXBC4601V	99%	1,005.4	µg/mL	+/- 36.5806
26	Hexachlorobutadiene	87-68-3	X05J	99%	1,006.4	µg/mL	+/- 36.6170
27	4-Chloro-3-methylphenol	59-50-7	BCCD4461	99%	1,004.7	µg/mL	+/- 36.5543
28	2-Methylnaphthalene	91-57-6	STBK0259	96%	1,002.3	µg/mL	+/- 36.4679
29	1-Methylnaphthalene	90-12-0	5234.00-3	99%	1,000.0	µg/mL	+/- 36.3825
30	Hexachlorocyclopentadiene	77-47-4	0012019	99%	1,006.1	µg/mL	+/- 36.6049
31	2,4,6-Trichlorophenol	88-06-2	STBJ5914	99%	1,004.9	µg/mL	+/- 36.5604
32	2,4,5-Trichlorophenol	95-95-4	FHN01	98%	1,006.5	µg/mL	+/- 36.6176
33	2-Chloronaphthalene	91-58-7	RPN7O	99%	1,004.4	µg/mL	+/- 36.5422
34	2-Nitroaniline	88-74-4	RP230509A	99%	1,002.3	µg/mL	+/- 36.4654
35	1,4-Dinitrobenzene	100-25-4	RP230512A	99%	1,001.5	µg/mL	+/- 36.4371
36	Acenaphthylene	208-96-8	L10L	95%	1,003.4	µg/mL	+/- 36.5066
37	1,3-Dinitrobenzene	99-65-0	1-DXX-24-1	99%	1,004.8	µg/mL	+/- 36.5564
38	Dimethylphthalate	131-11-3	10117699	99%	1,004.7	µg/mL	+/- 36.5543
39	2,6-Dinitrotoluene	606-20-2	BCCG1833	99%	1,006.8	µg/mL	+/- 36.6312
40	1,2-Dinitrobenzene	528-29-0	RP230428	99%	1,006.4	µg/mL	+/- 36.6170
41	Acenaphthene	83-32-9	MKCR7169	99%	1,000.0	µg/mL	+/- 36.3825
42	3-Nitroaniline	99-09-2	MKCH5457	99%	1,004.8	µg/mL	+/- 36.5584
43	2,4-Dinitrophenol	51-28-5	DR230417RSR	99%	1,005.8	µg/mL	+/- 36.5948
44	Dibenzofuran	132-64-9	MKCN1772	99%	1,004.3	µg/mL	+/- 36.5402
45	2,4-Dinitrotoluene	121-14-2	MKAA0690V	99%	1,005.8	µg/mL	+/- 36.5928
46	4-Nitrophenol	100-02-7	RP230511A	99%	1,005.8	µg/mL	+/- 36.5948
47	2,3,4,6-Tetrachlorophenol	58-90-2	PR-30126	99%	1,005.9	µg/mL	+/- 36.5988
48	2,3,5,6-Tetrachlorophenol	935-95-5	RP230513	99%	1,004.9	µg/mL	+/- 36.5624
49	Fluorene	86-73-7	10236068	99%	1,005.4	µg/mL	+/- 36.5806
50	4-Chlorophenyl phenyl ether	7005-72-3	MKCQ0984	99%	1,004.3	µg/mL	+/- 36.5382
51	Diethylphthalate	84-66-2	BCCD3396	99%	1,007.1	µg/mL	+/- 36.6392
52	4-Nitroaniline	100-01-6	RP220906	99%	1,005.3	µg/mL	+/- 36.5766
53	4,6-Dinitro-2-methylphenol (Dinitro-o-cresol)	534-52-1	230505JLM	99%	1,003.8	µg/mL	+/- 36.5200

54	Diphenylamine	122-39-4	MKCH1042	99%	1,002.5	µg/mL	+/- 36.4735
55	Azobenzene	103-33-3	BCCG7339	98%	1,003.5	µg/mL	+/- 36.5106
56	4-Bromophenyl phenyl ether	101-55-3	STBH6361	99%	1,005.6	µg/mL	+/- 36.5847
57	Hexachlorobenzene	118-74-1	14257500	99%	1,005.9	µg/mL	+/- 36.5988
58	Pentachlorophenol	87-86-5	RP230504	99%	1,004.2	µg/mL	+/- 36.5362
59	Phenanthrene	85-01-8	MKCQ8876	99%	1,004.1	µg/mL	+/- 36.5321
60	Anthracene	120-12-7	MKCR0570	99%	1,008.3	µg/mL	+/- 36.6857
61	Carbazole	86-74-8	14351100	99%	1,005.1	µg/mL	+/- 36.5665
62	Di-n-butylphthalate	84-74-2	MKCN4337	99%	1,006.4	µg/mL	+/- 36.6170
63	Fluoranthene	206-44-0	MKCQ4728	99%	1,003.7	µg/mL	+/- 36.5159
64	Pyrene	129-00-0	BCCG7845	99%	1,004.3	µg/mL	+/- 36.5382
65	Benzyl butyl phthalate	85-68-7	X12I018	99%	1,003.4	µg/mL	+/- 36.5058
66	Bis(2-ethylhexyl)adipate	103-23-1	MKCM1988	99%	1,003.4	µg/mL	+/- 36.5079
67	Benz(a)anthracene	56-55-3	0012022BAA	97%	1,004.9	µg/mL	+/- 36.5624
68	Chrysene	218-01-9	RP230512B	99%	1,006.2	µg/mL	+/- 36.6089
69	Bis(2-ethylhexyl)phthalate	117-81-7	MKCQ3468	99%	1,003.8	µg/mL	+/- 36.5220
70	Di-n-octyl phthalate	117-84-0	13994100	99%	1,004.2	µg/mL	+/- 36.5341
71	Benzo(b)fluoranthene	205-99-2	012013B	99%	1,008.4	µg/mL	+/- 36.6877
72	Benzo(k)fluoranthene	207-08-9	012022K	99%	1,004.1	µg/mL	+/- 36.5301
73	Benzo(a)pyrene	50-32-8	J6IUE	99%	1,006.4	µg/mL	+/- 36.6170
74	Indeno(1,2,3-cd)pyrene	193-39-5	12-JKL-118-9	97%	1,002.0	µg/mL	+/- 36.4557
75	Dibenz(a,h)anthracene	53-70-3	ER032211-01	99%	1,006.1	µg/mL	+/- 36.6029
76	Benzo(g,h,i)perylene	191-24-2	RP230511B	98%	1,006.8	µg/mL	+/- 36.6295

* Expanded Uncertainty displayed in same units as Grav. Conc.

Solvent: Methylene chloride
CAS # 75-09-2
Purity 99%

Quality Confirmation Test

Column:
30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

Carrier Gas:
hydrogen-constant flow 1.8 mL/min.

Temp. Program:
80°C (hold 0.1 min.) to 330°C
@ 9.6°C/min. (hold 2.86 min.)

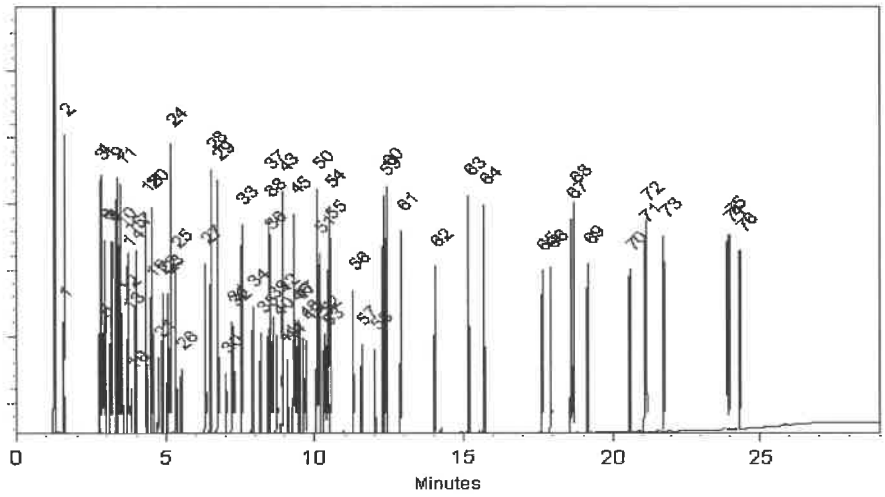
Inj. Temp:
250°C

Det. Temp:
340°C

Det. Type:
FID

Split Vent:
100 ml/min.

Inj. Vol
1µl



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Tom Suckar - Mix Technician

Date Mixed: 11-May-2023 **Balance Serial #** 1128353505

Christie Mills - Operations Tech II - ARM QC

Date Passed: 18-May-2023

Manufactured under Restek's ISO 9001:2015 Registered Quality System Certificate #FM 80397

RESTEK
110 Benner Circle
Bellefonte, PA 16823-8812
Tel: 1-814-353-1300
Fax: 1-814-353-1309

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CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

chromatographic plus

ACCREDITED
ISO 17034 Accredited
Reference Material Producer
Certificate #3222.01

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 31850 **Lot No.:** A0197982

Description : 8270 MegaMix®

8270 MegaMix® 500-1,000µg/mL, Methylene Chloride, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : November 30, 2024 **Storage:** 0°C or colder

Handling: Sonication required. Mix is photosensitive. **Ship:** Ambient

S11877 ↓ S11906 RC 11/30/23

CERTIFIED VALUES

Elution Order	Compound	CAS #	Lot #	Purity	Grav. Conc. (weight/volume)	Expanded Uncertainty * (95% C.L.; K=2)
1	Pyridine	110-86-1	SHBN7324	99%	1,006.9 µg/mL	+/- 36.6352
2	N-Nitrosodimethylamine	62-75-9	230209JLM	99%	1,007.4 µg/mL	+/- 36.6514
3	Phenol	108-95-2	MKCK1120	99%	1,005.3 µg/mL	+/- 36.5746
4	Aniline	62-53-3	X22F726	99%	1,004.6 µg/mL	+/- 36.5503
5	Bis(2-chloroethyl)ether	111-44-4	SHBL6942	99%	1,005.1 µg/mL	+/- 36.5665
6	2-Chlorophenol	95-57-8	STBJ3909	99%	1,007.1 µg/mL	+/- 36.6392
7	1,3-Dichlorobenzene	541-73-1	BCBZ7498	99%	1,006.7 µg/mL	+/- 36.6251
8	1,4-Dichlorobenzene	106-46-7	MKBS7929V	99%	1,005.6 µg/mL	+/- 36.5867
9	Benzyl alcohol	100-51-6	SHBK5943	99%	1,005.4 µg/mL	+/- 36.5786
10	1,2-Dichlorobenzene	95-50-1	SHBN3835	99%	1,003.9 µg/mL	+/- 36.5240
11	2-Methylphenol (o-cresol)	95-48-7	SHBN7598	99%	1,002.3 µg/mL	+/- 36.4654
12	2,2'-oxybis(1-chloropropane)	108-60-1	230329JLM	99%	1,004.3 µg/mL	+/- 36.5402
13	3-Methylphenol (m-cresol)	108-39-4	STBJ0710	99%	502.1 µg/mL	+/- 18.2671
14	4-Methylphenol (p-cresol)	106-44-5	SHBN3411	99%	501.9 µg/mL	+/- 18.2631
15	N-Nitroso-di-n-propylamine	621-64-7	N63MG	99%	1,004.0 µg/mL	+/- 36.5281
16	Hexachloroethane	67-72-1	QTORH	99%	1,006.1 µg/mL	+/- 36.6029
17	Nitrobenzene	98-95-3	10224044	99%	1,003.1 µg/mL	+/- 36.4957

18	Isophorone	78-59-1	MKCC9506	99%	1,003.8	µg/mL	+/- 36.5220
19	2-Nitrophenol	88-75-5	RP230509C	99%	1,005.8	µg/mL	+/- 36.5948
20	2,4-Dimethylphenol	105-67-9	XW5GK	99%	1,004.2	µg/mL	+/- 36.5341
21	Bis(2-chloroethoxy)methane	111-91-1	13670200	99%	1,006.3	µg/mL	+/- 36.6130
22	2,4-Dichlorophenol	120-83-2	BCBZ6787	99%	1,004.0	µg/mL	+/- 36.5281
23	1,2,4-Trichlorobenzene	120-82-1	SHBM0526	99%	1,007.1	µg/mL	+/- 36.6413
24	Naphthalene	91-20-3	MKCH0219	99%	1,006.7	µg/mL	+/- 36.6271
25	4-Chloroaniline	106-47-8	WXBC4601V	99%	1,005.4	µg/mL	+/- 36.5806
26	Hexachlorobutadiene	87-68-3	X05J	99%	1,006.4	µg/mL	+/- 36.6170
27	4-Chloro-3-methylphenol	59-50-7	BCCD4461	99%	1,004.7	µg/mL	+/- 36.5543
28	2-Methylnaphthalene	91-57-6	STBK0259	96%	1,002.3	µg/mL	+/- 36.4679
29	1-Methylnaphthalene	90-12-0	5234.00-3	99%	1,000.0	µg/mL	+/- 36.3825
30	Hexachlorocyclopentadiene	77-47-4	0012019	99%	1,006.1	µg/mL	+/- 36.6049
31	2,4,6-Trichlorophenol	88-06-2	STBJ5914	99%	1,004.9	µg/mL	+/- 36.5604
32	2,4,5-Trichlorophenol	95-95-4	FHN01	98%	1,006.5	µg/mL	+/- 36.6176
33	2-Chloronaphthalene	91-58-7	RPN7O	99%	1,004.4	µg/mL	+/- 36.5422
34	2-Nitroaniline	88-74-4	RP230509A	99%	1,002.3	µg/mL	+/- 36.4654
35	1,4-Dinitrobenzene	100-25-4	RP230512A	99%	1,001.5	µg/mL	+/- 36.4371
36	Acenaphthylene	208-96-8	L10L	95%	1,003.4	µg/mL	+/- 36.5066
37	1,3-Dinitrobenzene	99-65-0	1-DXX-24-1	99%	1,004.8	µg/mL	+/- 36.5564
38	Dimethylphthalate	131-11-3	10117699	99%	1,004.7	µg/mL	+/- 36.5543
39	2,6-Dinitrotoluene	606-20-2	BCCG1833	99%	1,006.8	µg/mL	+/- 36.6312
40	1,2-Dinitrobenzene	528-29-0	RP230428	99%	1,006.4	µg/mL	+/- 36.6170
41	Acenaphthene	83-32-9	MKCR7169	99%	1,000.0	µg/mL	+/- 36.3825
42	3-Nitroaniline	99-09-2	MKCH5457	99%	1,004.8	µg/mL	+/- 36.5584
43	2,4-Dinitrophenol	51-28-5	DR230417RSR	99%	1,005.8	µg/mL	+/- 36.5948
44	Dibenzofuran	132-64-9	MKCN1772	99%	1,004.3	µg/mL	+/- 36.5402
45	2,4-Dinitrotoluene	121-14-2	MKAA0690V	99%	1,005.8	µg/mL	+/- 36.5928
46	4-Nitrophenol	100-02-7	RP230511A	99%	1,005.8	µg/mL	+/- 36.5948
47	2,3,4,6-Tetrachlorophenol	58-90-2	PR-30126	99%	1,005.9	µg/mL	+/- 36.5988
48	2,3,5,6-Tetrachlorophenol	935-95-5	RP230513	99%	1,004.9	µg/mL	+/- 36.5624
49	Fluorene	86-73-7	10236068	99%	1,005.4	µg/mL	+/- 36.5806
50	4-Chlorophenyl phenyl ether	7005-72-3	MKCQ0984	99%	1,004.3	µg/mL	+/- 36.5382
51	Diethylphthalate	84-66-2	BCCD3396	99%	1,007.1	µg/mL	+/- 36.6392
52	4-Nitroaniline	100-01-6	RP220906	99%	1,005.3	µg/mL	+/- 36.5766
53	4,6-Dinitro-2-methylphenol (Dinitro-o-cresol)	534-52-1	230505JLM	99%	1,003.8	µg/mL	+/- 36.5200

54	Diphenylamine	122-39-4	MKCH1042	99%	1,002.5	µg/mL	+/- 36.4735
55	Azobenzene	103-33-3	BCCG7339	98%	1,003.5	µg/mL	+/- 36.5106
56	4-Bromophenyl phenyl ether	101-55-3	STBH6361	99%	1,005.6	µg/mL	+/- 36.5847
57	Hexachlorobenzene	118-74-1	14257500	99%	1,005.9	µg/mL	+/- 36.5988
58	Pentachlorophenol	87-86-5	RP230504	99%	1,004.2	µg/mL	+/- 36.5362
59	Phenanthrene	85-01-8	MKCQ8876	99%	1,004.1	µg/mL	+/- 36.5321
60	Anthracene	120-12-7	MKCR0570	99%	1,008.3	µg/mL	+/- 36.6857
61	Carbazole	86-74-8	14351100	99%	1,005.1	µg/mL	+/- 36.5665
62	Di-n-butylphthalate	84-74-2	MKCN4337	99%	1,006.4	µg/mL	+/- 36.6170
63	Fluoranthene	206-44-0	MKCQ4728	99%	1,003.7	µg/mL	+/- 36.5159
64	Pyrene	129-00-0	BCCG7845	99%	1,004.3	µg/mL	+/- 36.5382
65	Benzyl butyl phthalate	85-68-7	X12I018	99%	1,003.4	µg/mL	+/- 36.5058
66	Bis(2-ethylhexyl)adipate	103-23-1	MKCM1988	99%	1,003.4	µg/mL	+/- 36.5079
67	Benz(a)anthracene	56-55-3	0012022BAA	97%	1,004.9	µg/mL	+/- 36.5624
68	Chrysene	218-01-9	RP230512B	99%	1,006.2	µg/mL	+/- 36.6089
69	Bis(2-ethylhexyl)phthalate	117-81-7	MKCQ3468	99%	1,003.8	µg/mL	+/- 36.5220
70	Di-n-octyl phthalate	117-84-0	13994100	99%	1,004.2	µg/mL	+/- 36.5341
71	Benzo(b)fluoranthene	205-99-2	012013B	99%	1,008.4	µg/mL	+/- 36.6877
72	Benzo(k)fluoranthene	207-08-9	012022K	99%	1,004.1	µg/mL	+/- 36.5301
73	Benzo(a)pyrene	50-32-8	J6IUE	99%	1,006.4	µg/mL	+/- 36.6170
74	Indeno(1,2,3-cd)pyrene	193-39-5	12-JKL-118-9	97%	1,002.0	µg/mL	+/- 36.4557
75	Dibenz(a,h)anthracene	53-70-3	ER032211-01	99%	1,006.1	µg/mL	+/- 36.6029
76	Benzo(g,h,i)perylene	191-24-2	RP230511B	98%	1,006.8	µg/mL	+/- 36.6295

* Expanded Uncertainty displayed in same units as Grav. Conc.

Solvent: Methylene chloride
CAS # 75-09-2
Purity 99%

Quality Confirmation Test

Column:
30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

Carrier Gas:
hydrogen-constant flow 1.8 mL/min.

Temp. Program:
80°C (hold 0.1 min.) to 330°C
@ 9.6°C/min. (hold 2.86 min.)

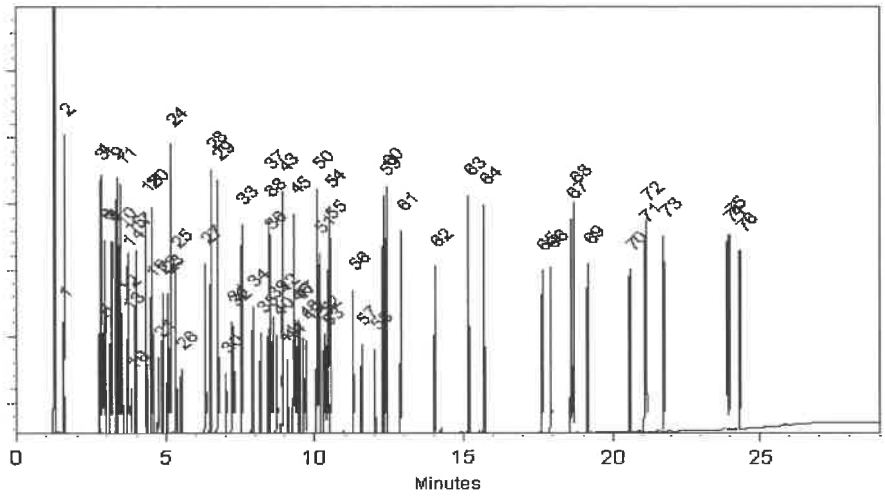
Inj. Temp:
250°C

Det. Temp:
340°C

Det. Type:
FID

Split Vent:
100 ml/min.

Inj. Vol
1µl



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Tom Suckar - Mix Technician

Date Mixed: 11-May-2023 **Balance Serial #** 1128353505

Christie Mills - Operations Tech II - ARM QC

Date Passed: 18-May-2023

Manufactured under Restek's ISO 9001:2015 Registered Quality System Certificate #FM 80397

RESTEK
110 Benner Circle
Bellefonte, PA 16823-8812
Tel: 1-814-353-1300
Fax: 1-814-353-1309

www.restek.com

CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

chromatographic plus

ACCREDITED
ISO 17034 Accredited
Reference Material Producer
Certificate #3222.01

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 31850 **Lot No.:** A0197982

Description : 8270 MegaMix®

8270 MegaMix® 500-1,000µg/mL, Methylene Chloride, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : November 30, 2024 **Storage:** 0°C or colder

Handling: Sonication required. Mix is photosensitive. **Ship:** Ambient

S11877 ↓ S11906 RC 11/30/23

CERTIFIED VALUES

Elution Order	Compound	CAS #	Lot #	Purity	Grav. Conc. (weight/volume)	Expanded Uncertainty * (95% C.L.; K=2)
1	Pyridine	110-86-1	SHBN7324	99%	1,006.9 µg/mL	+/- 36.6352
2	N-Nitrosodimethylamine	62-75-9	230209JLM	99%	1,007.4 µg/mL	+/- 36.6514
3	Phenol	108-95-2	MKCK1120	99%	1,005.3 µg/mL	+/- 36.5746
4	Aniline	62-53-3	X22F726	99%	1,004.6 µg/mL	+/- 36.5503
5	Bis(2-chloroethyl)ether	111-44-4	SHBL6942	99%	1,005.1 µg/mL	+/- 36.5665
6	2-Chlorophenol	95-57-8	STBJ3909	99%	1,007.1 µg/mL	+/- 36.6392
7	1,3-Dichlorobenzene	541-73-1	BCBZ7498	99%	1,006.7 µg/mL	+/- 36.6251
8	1,4-Dichlorobenzene	106-46-7	MKBS7929V	99%	1,005.6 µg/mL	+/- 36.5867
9	Benzyl alcohol	100-51-6	SHBK5943	99%	1,005.4 µg/mL	+/- 36.5786
10	1,2-Dichlorobenzene	95-50-1	SHBN3835	99%	1,003.9 µg/mL	+/- 36.5240
11	2-Methylphenol (o-cresol)	95-48-7	SHBN7598	99%	1,002.3 µg/mL	+/- 36.4654
12	2,2'-oxybis(1-chloropropane)	108-60-1	230329JLM	99%	1,004.3 µg/mL	+/- 36.5402
13	3-Methylphenol (m-cresol)	108-39-4	STBJ0710	99%	502.1 µg/mL	+/- 18.2671
14	4-Methylphenol (p-cresol)	106-44-5	SHBN3411	99%	501.9 µg/mL	+/- 18.2631
15	N-Nitroso-di-n-propylamine	621-64-7	N63MG	99%	1,004.0 µg/mL	+/- 36.5281
16	Hexachloroethane	67-72-1	QTORH	99%	1,006.1 µg/mL	+/- 36.6029
17	Nitrobenzene	98-95-3	10224044	99%	1,003.1 µg/mL	+/- 36.4957

18	Isophorone	78-59-1	MKCC9506	99%	1,003.8	µg/mL	+/- 36.5220
19	2-Nitrophenol	88-75-5	RP230509C	99%	1,005.8	µg/mL	+/- 36.5948
20	2,4-Dimethylphenol	105-67-9	XW5GK	99%	1,004.2	µg/mL	+/- 36.5341
21	Bis(2-chloroethoxy)methane	111-91-1	13670200	99%	1,006.3	µg/mL	+/- 36.6130
22	2,4-Dichlorophenol	120-83-2	BCBZ6787	99%	1,004.0	µg/mL	+/- 36.5281
23	1,2,4-Trichlorobenzene	120-82-1	SHBM0526	99%	1,007.1	µg/mL	+/- 36.6413
24	Naphthalene	91-20-3	MKCH0219	99%	1,006.7	µg/mL	+/- 36.6271
25	4-Chloroaniline	106-47-8	WXBC4601V	99%	1,005.4	µg/mL	+/- 36.5806
26	Hexachlorobutadiene	87-68-3	X05J	99%	1,006.4	µg/mL	+/- 36.6170
27	4-Chloro-3-methylphenol	59-50-7	BCCD4461	99%	1,004.7	µg/mL	+/- 36.5543
28	2-Methylnaphthalene	91-57-6	STBK0259	96%	1,002.3	µg/mL	+/- 36.4679
29	1-Methylnaphthalene	90-12-0	5234.00-3	99%	1,000.0	µg/mL	+/- 36.3825
30	Hexachlorocyclopentadiene	77-47-4	0012019	99%	1,006.1	µg/mL	+/- 36.6049
31	2,4,6-Trichlorophenol	88-06-2	STBJ5914	99%	1,004.9	µg/mL	+/- 36.5604
32	2,4,5-Trichlorophenol	95-95-4	FHN01	98%	1,006.5	µg/mL	+/- 36.6176
33	2-Chloronaphthalene	91-58-7	RPN7O	99%	1,004.4	µg/mL	+/- 36.5422
34	2-Nitroaniline	88-74-4	RP230509A	99%	1,002.3	µg/mL	+/- 36.4654
35	1,4-Dinitrobenzene	100-25-4	RP230512A	99%	1,001.5	µg/mL	+/- 36.4371
36	Acenaphthylene	208-96-8	L10L	95%	1,003.4	µg/mL	+/- 36.5066
37	1,3-Dinitrobenzene	99-65-0	1-DXX-24-1	99%	1,004.8	µg/mL	+/- 36.5564
38	Dimethylphthalate	131-11-3	10117699	99%	1,004.7	µg/mL	+/- 36.5543
39	2,6-Dinitrotoluene	606-20-2	BCCG1833	99%	1,006.8	µg/mL	+/- 36.6312
40	1,2-Dinitrobenzene	528-29-0	RP230428	99%	1,006.4	µg/mL	+/- 36.6170
41	Acenaphthene	83-32-9	MKCR7169	99%	1,000.0	µg/mL	+/- 36.3825
42	3-Nitroaniline	99-09-2	MKCH5457	99%	1,004.8	µg/mL	+/- 36.5584
43	2,4-Dinitrophenol	51-28-5	DR230417RSR	99%	1,005.8	µg/mL	+/- 36.5948
44	Dibenzofuran	132-64-9	MKCN1772	99%	1,004.3	µg/mL	+/- 36.5402
45	2,4-Dinitrotoluene	121-14-2	MKAA0690V	99%	1,005.8	µg/mL	+/- 36.5928
46	4-Nitrophenol	100-02-7	RP230511A	99%	1,005.8	µg/mL	+/- 36.5948
47	2,3,4,6-Tetrachlorophenol	58-90-2	PR-30126	99%	1,005.9	µg/mL	+/- 36.5988
48	2,3,5,6-Tetrachlorophenol	935-95-5	RP230513	99%	1,004.9	µg/mL	+/- 36.5624
49	Fluorene	86-73-7	10236068	99%	1,005.4	µg/mL	+/- 36.5806
50	4-Chlorophenyl phenyl ether	7005-72-3	MKCQ0984	99%	1,004.3	µg/mL	+/- 36.5382
51	Diethylphthalate	84-66-2	BCCD3396	99%	1,007.1	µg/mL	+/- 36.6392
52	4-Nitroaniline	100-01-6	RP220906	99%	1,005.3	µg/mL	+/- 36.5766
53	4,6-Dinitro-2-methylphenol (Dinitro-o-cresol)	534-52-1	230505JLM	99%	1,003.8	µg/mL	+/- 36.5200

54	Diphenylamine	122-39-4	MKCH1042	99%	1,002.5	µg/mL	+/- 36.4735
55	Azobenzene	103-33-3	BCCG7339	98%	1,003.5	µg/mL	+/- 36.5106
56	4-Bromophenyl phenyl ether	101-55-3	STBH6361	99%	1,005.6	µg/mL	+/- 36.5847
57	Hexachlorobenzene	118-74-1	14257500	99%	1,005.9	µg/mL	+/- 36.5988
58	Pentachlorophenol	87-86-5	RP230504	99%	1,004.2	µg/mL	+/- 36.5362
59	Phenanthrene	85-01-8	MKCQ8876	99%	1,004.1	µg/mL	+/- 36.5321
60	Anthracene	120-12-7	MKCR0570	99%	1,008.3	µg/mL	+/- 36.6857
61	Carbazole	86-74-8	14351100	99%	1,005.1	µg/mL	+/- 36.5665
62	Di-n-butylphthalate	84-74-2	MKCN4337	99%	1,006.4	µg/mL	+/- 36.6170
63	Fluoranthene	206-44-0	MKCQ4728	99%	1,003.7	µg/mL	+/- 36.5159
64	Pyrene	129-00-0	BCCG7845	99%	1,004.3	µg/mL	+/- 36.5382
65	Benzyl butyl phthalate	85-68-7	X12I018	99%	1,003.4	µg/mL	+/- 36.5058
66	Bis(2-ethylhexyl)adipate	103-23-1	MKCM1988	99%	1,003.4	µg/mL	+/- 36.5079
67	Benz(a)anthracene	56-55-3	0012022BAA	97%	1,004.9	µg/mL	+/- 36.5624
68	Chrysene	218-01-9	RP230512B	99%	1,006.2	µg/mL	+/- 36.6089
69	Bis(2-ethylhexyl)phthalate	117-81-7	MKCQ3468	99%	1,003.8	µg/mL	+/- 36.5220
70	Di-n-octyl phthalate	117-84-0	13994100	99%	1,004.2	µg/mL	+/- 36.5341
71	Benzo(b)fluoranthene	205-99-2	012013B	99%	1,008.4	µg/mL	+/- 36.6877
72	Benzo(k)fluoranthene	207-08-9	012022K	99%	1,004.1	µg/mL	+/- 36.5301
73	Benzo(a)pyrene	50-32-8	J6IUE	99%	1,006.4	µg/mL	+/- 36.6170
74	Indeno(1,2,3-cd)pyrene	193-39-5	12-JKL-118-9	97%	1,002.0	µg/mL	+/- 36.4557
75	Dibenz(a,h)anthracene	53-70-3	ER032211-01	99%	1,006.1	µg/mL	+/- 36.6029
76	Benzo(g,h,i)perylene	191-24-2	RP230511B	98%	1,006.8	µg/mL	+/- 36.6295

* Expanded Uncertainty displayed in same units as Grav. Conc.

Solvent: Methylene chloride
CAS # 75-09-2
Purity 99%

Quality Confirmation Test

Column:
30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

Carrier Gas:
hydrogen-constant flow 1.8 mL/min.

Temp. Program:
80°C (hold 0.1 min.) to 330°C
@ 9.6°C/min. (hold 2.86 min.)

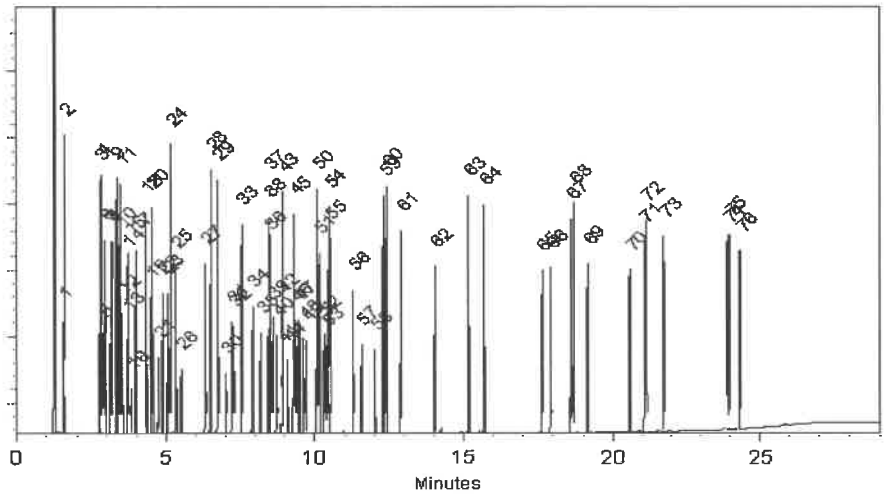
Inj. Temp:
250°C

Det. Temp:
340°C

Det. Type:
FID

Split Vent:
100 ml/min.

Inj. Vol
1µl



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Tom Suckar - Mix Technician

Date Mixed: 11-May-2023 **Balance Serial #** 1128353505

Christie Mills - Operations Tech II - ARM QC

Date Passed: 18-May-2023

Manufactured under Restek's ISO 9001:2015 Registered Quality System Certificate #FM 80397

RESTEK
110 Benner Circle
Bellefonte, PA 16823-8812
Tel: 1-814-353-1300
Fax: 1-814-353-1309

www.restek.com

CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

chromatographic plus

ACCREDITED
ISO 17034 Accredited
Reference Material Producer
Certificate #3222.01

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 31850 **Lot No.:** A0197982

Description : 8270 MegaMix®

8270 MegaMix® 500-1,000µg/mL, Methylene Chloride, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : November 30, 2024 **Storage:** 0°C or colder

Handling: Sonication required. Mix is photosensitive. **Ship:** Ambient

S11877 ↓ S11906 RC 11/30/23

CERTIFIED VALUES

Elution Order	Compound	CAS #	Lot #	Purity	Grav. Conc. (weight/volume)	Expanded Uncertainty * (95% C.L.; K=2)
1	Pyridine	110-86-1	SHBN7324	99%	1,006.9 µg/mL	+/- 36.6352
2	N-Nitrosodimethylamine	62-75-9	230209JLM	99%	1,007.4 µg/mL	+/- 36.6514
3	Phenol	108-95-2	MKCK1120	99%	1,005.3 µg/mL	+/- 36.5746
4	Aniline	62-53-3	X22F726	99%	1,004.6 µg/mL	+/- 36.5503
5	Bis(2-chloroethyl)ether	111-44-4	SHBL6942	99%	1,005.1 µg/mL	+/- 36.5665
6	2-Chlorophenol	95-57-8	STBJ3909	99%	1,007.1 µg/mL	+/- 36.6392
7	1,3-Dichlorobenzene	541-73-1	BCBZ7498	99%	1,006.7 µg/mL	+/- 36.6251
8	1,4-Dichlorobenzene	106-46-7	MKBS7929V	99%	1,005.6 µg/mL	+/- 36.5867
9	Benzyl alcohol	100-51-6	SHBK5943	99%	1,005.4 µg/mL	+/- 36.5786
10	1,2-Dichlorobenzene	95-50-1	SHBN3835	99%	1,003.9 µg/mL	+/- 36.5240
11	2-Methylphenol (o-cresol)	95-48-7	SHBN7598	99%	1,002.3 µg/mL	+/- 36.4654
12	2,2'-oxybis(1-chloropropane)	108-60-1	230329JLM	99%	1,004.3 µg/mL	+/- 36.5402
13	3-Methylphenol (m-cresol)	108-39-4	STBJ0710	99%	502.1 µg/mL	+/- 18.2671
14	4-Methylphenol (p-cresol)	106-44-5	SHBN3411	99%	501.9 µg/mL	+/- 18.2631
15	N-Nitroso-di-n-propylamine	621-64-7	N63MG	99%	1,004.0 µg/mL	+/- 36.5281
16	Hexachloroethane	67-72-1	QTORH	99%	1,006.1 µg/mL	+/- 36.6029
17	Nitrobenzene	98-95-3	10224044	99%	1,003.1 µg/mL	+/- 36.4957

18	Isophorone	78-59-1	MKCC9506	99%	1,003.8	µg/mL	+/- 36.5220
19	2-Nitrophenol	88-75-5	RP230509C	99%	1,005.8	µg/mL	+/- 36.5948
20	2,4-Dimethylphenol	105-67-9	XW5GK	99%	1,004.2	µg/mL	+/- 36.5341
21	Bis(2-chloroethoxy)methane	111-91-1	13670200	99%	1,006.3	µg/mL	+/- 36.6130
22	2,4-Dichlorophenol	120-83-2	BCBZ6787	99%	1,004.0	µg/mL	+/- 36.5281
23	1,2,4-Trichlorobenzene	120-82-1	SHBM0526	99%	1,007.1	µg/mL	+/- 36.6413
24	Naphthalene	91-20-3	MKCH0219	99%	1,006.7	µg/mL	+/- 36.6271
25	4-Chloroaniline	106-47-8	WXBC4601V	99%	1,005.4	µg/mL	+/- 36.5806
26	Hexachlorobutadiene	87-68-3	X05J	99%	1,006.4	µg/mL	+/- 36.6170
27	4-Chloro-3-methylphenol	59-50-7	BCCD4461	99%	1,004.7	µg/mL	+/- 36.5543
28	2-Methylnaphthalene	91-57-6	STBK0259	96%	1,002.3	µg/mL	+/- 36.4679
29	1-Methylnaphthalene	90-12-0	5234.00-3	99%	1,000.0	µg/mL	+/- 36.3825
30	Hexachlorocyclopentadiene	77-47-4	0012019	99%	1,006.1	µg/mL	+/- 36.6049
31	2,4,6-Trichlorophenol	88-06-2	STBJ5914	99%	1,004.9	µg/mL	+/- 36.5604
32	2,4,5-Trichlorophenol	95-95-4	FHN01	98%	1,006.5	µg/mL	+/- 36.6176
33	2-Chloronaphthalene	91-58-7	RPN7O	99%	1,004.4	µg/mL	+/- 36.5422
34	2-Nitroaniline	88-74-4	RP230509A	99%	1,002.3	µg/mL	+/- 36.4654
35	1,4-Dinitrobenzene	100-25-4	RP230512A	99%	1,001.5	µg/mL	+/- 36.4371
36	Acenaphthylene	208-96-8	L10L	95%	1,003.4	µg/mL	+/- 36.5066
37	1,3-Dinitrobenzene	99-65-0	1-DXX-24-1	99%	1,004.8	µg/mL	+/- 36.5564
38	Dimethylphthalate	131-11-3	10117699	99%	1,004.7	µg/mL	+/- 36.5543
39	2,6-Dinitrotoluene	606-20-2	BCCG1833	99%	1,006.8	µg/mL	+/- 36.6312
40	1,2-Dinitrobenzene	528-29-0	RP230428	99%	1,006.4	µg/mL	+/- 36.6170
41	Acenaphthene	83-32-9	MKCR7169	99%	1,000.0	µg/mL	+/- 36.3825
42	3-Nitroaniline	99-09-2	MKCH5457	99%	1,004.8	µg/mL	+/- 36.5584
43	2,4-Dinitrophenol	51-28-5	DR230417RSR	99%	1,005.8	µg/mL	+/- 36.5948
44	Dibenzofuran	132-64-9	MKCN1772	99%	1,004.3	µg/mL	+/- 36.5402
45	2,4-Dinitrotoluene	121-14-2	MKAA0690V	99%	1,005.8	µg/mL	+/- 36.5928
46	4-Nitrophenol	100-02-7	RP230511A	99%	1,005.8	µg/mL	+/- 36.5948
47	2,3,4,6-Tetrachlorophenol	58-90-2	PR-30126	99%	1,005.9	µg/mL	+/- 36.5988
48	2,3,5,6-Tetrachlorophenol	935-95-5	RP230513	99%	1,004.9	µg/mL	+/- 36.5624
49	Fluorene	86-73-7	10236068	99%	1,005.4	µg/mL	+/- 36.5806
50	4-Chlorophenyl phenyl ether	7005-72-3	MKCQ0984	99%	1,004.3	µg/mL	+/- 36.5382
51	Diethylphthalate	84-66-2	BCCD3396	99%	1,007.1	µg/mL	+/- 36.6392
52	4-Nitroaniline	100-01-6	RP220906	99%	1,005.3	µg/mL	+/- 36.5766
53	4,6-Dinitro-2-methylphenol (Dinitro-o-cresol)	534-52-1	230505JLM	99%	1,003.8	µg/mL	+/- 36.5200

54	Diphenylamine	122-39-4	MKCH1042	99%	1,002.5	µg/mL	+/- 36.4735
55	Azobenzene	103-33-3	BCCG7339	98%	1,003.5	µg/mL	+/- 36.5106
56	4-Bromophenyl phenyl ether	101-55-3	STBH6361	99%	1,005.6	µg/mL	+/- 36.5847
57	Hexachlorobenzene	118-74-1	14257500	99%	1,005.9	µg/mL	+/- 36.5988
58	Pentachlorophenol	87-86-5	RP230504	99%	1,004.2	µg/mL	+/- 36.5362
59	Phenanthrene	85-01-8	MKCQ8876	99%	1,004.1	µg/mL	+/- 36.5321
60	Anthracene	120-12-7	MKCR0570	99%	1,008.3	µg/mL	+/- 36.6857
61	Carbazole	86-74-8	14351100	99%	1,005.1	µg/mL	+/- 36.5665
62	Di-n-butylphthalate	84-74-2	MKCN4337	99%	1,006.4	µg/mL	+/- 36.6170
63	Fluoranthene	206-44-0	MKCQ4728	99%	1,003.7	µg/mL	+/- 36.5159
64	Pyrene	129-00-0	BCCG7845	99%	1,004.3	µg/mL	+/- 36.5382
65	Benzyl butyl phthalate	85-68-7	X12I018	99%	1,003.4	µg/mL	+/- 36.5058
66	Bis(2-ethylhexyl)adipate	103-23-1	MKCM1988	99%	1,003.4	µg/mL	+/- 36.5079
67	Benz(a)anthracene	56-55-3	0012022BAA	97%	1,004.9	µg/mL	+/- 36.5624
68	Chrysene	218-01-9	RP230512B	99%	1,006.2	µg/mL	+/- 36.6089
69	Bis(2-ethylhexyl)phthalate	117-81-7	MKCQ3468	99%	1,003.8	µg/mL	+/- 36.5220
70	Di-n-octyl phthalate	117-84-0	13994100	99%	1,004.2	µg/mL	+/- 36.5341
71	Benzo(b)fluoranthene	205-99-2	012013B	99%	1,008.4	µg/mL	+/- 36.6877
72	Benzo(k)fluoranthene	207-08-9	012022K	99%	1,004.1	µg/mL	+/- 36.5301
73	Benzo(a)pyrene	50-32-8	J6IUE	99%	1,006.4	µg/mL	+/- 36.6170
74	Indeno(1,2,3-cd)pyrene	193-39-5	12-JKL-118-9	97%	1,002.0	µg/mL	+/- 36.4557
75	Dibenz(a,h)anthracene	53-70-3	ER032211-01	99%	1,006.1	µg/mL	+/- 36.6029
76	Benzo(g,h,i)perylene	191-24-2	RP230511B	98%	1,006.8	µg/mL	+/- 36.6295

* Expanded Uncertainty displayed in same units as Grav. Conc.

Solvent: Methylene chloride
CAS # 75-09-2
Purity 99%

Quality Confirmation Test

Column:
30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

Carrier Gas:
hydrogen-constant flow 1.8 mL/min.

Temp. Program:
80°C (hold 0.1 min.) to 330°C
@ 9.6°C/min. (hold 2.86 min.)

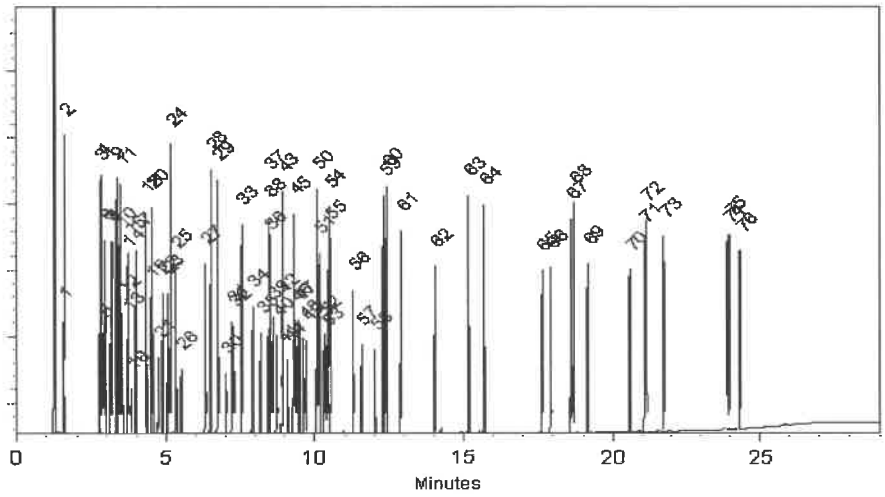
Inj. Temp:
250°C

Det. Temp:
340°C

Det. Type:
FID

Split Vent:
100 ml/min.

Inj. Vol
1µl



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Tom Suckar - Mix Technician

Date Mixed: 11-May-2023 **Balance Serial #** 1128353505

Christie Mills - Operations Tech II - ARM QC

Date Passed: 18-May-2023

Manufactured under Restek's ISO 9001:2015 Registered Quality System Certificate #FM 80397

RESTEK
110 Benner Circle
Bellefonte, PA 16823-8812
Tel: 1-814-353-1300
Fax: 1-814-353-1309

www.restek.com

CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

chromatographic plus

ACCREDITED
ISO 17034 Accredited
Reference Material Producer
Certificate #3222.01

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 31850 **Lot No.:** A0197982

Description : 8270 MegaMix®

8270 MegaMix® 500-1,000µg/mL, Methylene Chloride, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : November 30, 2024 **Storage:** 0°C or colder

Handling: Sonication required. Mix is photosensitive. **Ship:** Ambient

S11877 ↓ S11906 RC 11/30/23

CERTIFIED VALUES

Elution Order	Compound	CAS #	Lot #	Purity	Grav. Conc. (weight/volume)	Expanded Uncertainty * (95% C.L.; K=2)
1	Pyridine	110-86-1	SHBN7324	99%	1,006.9 µg/mL	+/- 36.6352
2	N-Nitrosodimethylamine	62-75-9	230209JLM	99%	1,007.4 µg/mL	+/- 36.6514
3	Phenol	108-95-2	MKCK1120	99%	1,005.3 µg/mL	+/- 36.5746
4	Aniline	62-53-3	X22F726	99%	1,004.6 µg/mL	+/- 36.5503
5	Bis(2-chloroethyl)ether	111-44-4	SHBL6942	99%	1,005.1 µg/mL	+/- 36.5665
6	2-Chlorophenol	95-57-8	STBJ3909	99%	1,007.1 µg/mL	+/- 36.6392
7	1,3-Dichlorobenzene	541-73-1	BCBZ7498	99%	1,006.7 µg/mL	+/- 36.6251
8	1,4-Dichlorobenzene	106-46-7	MKBS7929V	99%	1,005.6 µg/mL	+/- 36.5867
9	Benzyl alcohol	100-51-6	SHBK5943	99%	1,005.4 µg/mL	+/- 36.5786
10	1,2-Dichlorobenzene	95-50-1	SHBN3835	99%	1,003.9 µg/mL	+/- 36.5240
11	2-Methylphenol (o-cresol)	95-48-7	SHBN7598	99%	1,002.3 µg/mL	+/- 36.4654
12	2,2'-oxybis(1-chloropropane)	108-60-1	230329JLM	99%	1,004.3 µg/mL	+/- 36.5402
13	3-Methylphenol (m-cresol)	108-39-4	STBJ0710	99%	502.1 µg/mL	+/- 18.2671
14	4-Methylphenol (p-cresol)	106-44-5	SHBN3411	99%	501.9 µg/mL	+/- 18.2631
15	N-Nitroso-di-n-propylamine	621-64-7	N63MG	99%	1,004.0 µg/mL	+/- 36.5281
16	Hexachloroethane	67-72-1	QTORH	99%	1,006.1 µg/mL	+/- 36.6029
17	Nitrobenzene	98-95-3	10224044	99%	1,003.1 µg/mL	+/- 36.4957

18	Isophorone	78-59-1	MKCC9506	99%	1,003.8	µg/mL	+/- 36.5220
19	2-Nitrophenol	88-75-5	RP230509C	99%	1,005.8	µg/mL	+/- 36.5948
20	2,4-Dimethylphenol	105-67-9	XW5GK	99%	1,004.2	µg/mL	+/- 36.5341
21	Bis(2-chloroethoxy)methane	111-91-1	13670200	99%	1,006.3	µg/mL	+/- 36.6130
22	2,4-Dichlorophenol	120-83-2	BCBZ6787	99%	1,004.0	µg/mL	+/- 36.5281
23	1,2,4-Trichlorobenzene	120-82-1	SHBM0526	99%	1,007.1	µg/mL	+/- 36.6413
24	Naphthalene	91-20-3	MKCH0219	99%	1,006.7	µg/mL	+/- 36.6271
25	4-Chloroaniline	106-47-8	WXBC4601V	99%	1,005.4	µg/mL	+/- 36.5806
26	Hexachlorobutadiene	87-68-3	X05J	99%	1,006.4	µg/mL	+/- 36.6170
27	4-Chloro-3-methylphenol	59-50-7	BCCD4461	99%	1,004.7	µg/mL	+/- 36.5543
28	2-Methylnaphthalene	91-57-6	STBK0259	96%	1,002.3	µg/mL	+/- 36.4679
29	1-Methylnaphthalene	90-12-0	5234.00-3	99%	1,000.0	µg/mL	+/- 36.3825
30	Hexachlorocyclopentadiene	77-47-4	0012019	99%	1,006.1	µg/mL	+/- 36.6049
31	2,4,6-Trichlorophenol	88-06-2	STBJ5914	99%	1,004.9	µg/mL	+/- 36.5604
32	2,4,5-Trichlorophenol	95-95-4	FHN01	98%	1,006.5	µg/mL	+/- 36.6176
33	2-Chloronaphthalene	91-58-7	RPN7O	99%	1,004.4	µg/mL	+/- 36.5422
34	2-Nitroaniline	88-74-4	RP230509A	99%	1,002.3	µg/mL	+/- 36.4654
35	1,4-Dinitrobenzene	100-25-4	RP230512A	99%	1,001.5	µg/mL	+/- 36.4371
36	Acenaphthylene	208-96-8	L10L	95%	1,003.4	µg/mL	+/- 36.5066
37	1,3-Dinitrobenzene	99-65-0	1-DXX-24-1	99%	1,004.8	µg/mL	+/- 36.5564
38	Dimethylphthalate	131-11-3	10117699	99%	1,004.7	µg/mL	+/- 36.5543
39	2,6-Dinitrotoluene	606-20-2	BCCG1833	99%	1,006.8	µg/mL	+/- 36.6312
40	1,2-Dinitrobenzene	528-29-0	RP230428	99%	1,006.4	µg/mL	+/- 36.6170
41	Acenaphthene	83-32-9	MKCR7169	99%	1,000.0	µg/mL	+/- 36.3825
42	3-Nitroaniline	99-09-2	MKCH5457	99%	1,004.8	µg/mL	+/- 36.5584
43	2,4-Dinitrophenol	51-28-5	DR230417RSR	99%	1,005.8	µg/mL	+/- 36.5948
44	Dibenzofuran	132-64-9	MKCN1772	99%	1,004.3	µg/mL	+/- 36.5402
45	2,4-Dinitrotoluene	121-14-2	MKAA0690V	99%	1,005.8	µg/mL	+/- 36.5928
46	4-Nitrophenol	100-02-7	RP230511A	99%	1,005.8	µg/mL	+/- 36.5948
47	2,3,4,6-Tetrachlorophenol	58-90-2	PR-30126	99%	1,005.9	µg/mL	+/- 36.5988
48	2,3,5,6-Tetrachlorophenol	935-95-5	RP230513	99%	1,004.9	µg/mL	+/- 36.5624
49	Fluorene	86-73-7	10236068	99%	1,005.4	µg/mL	+/- 36.5806
50	4-Chlorophenyl phenyl ether	7005-72-3	MKCQ0984	99%	1,004.3	µg/mL	+/- 36.5382
51	Diethylphthalate	84-66-2	BCCD3396	99%	1,007.1	µg/mL	+/- 36.6392
52	4-Nitroaniline	100-01-6	RP220906	99%	1,005.3	µg/mL	+/- 36.5766
53	4,6-Dinitro-2-methylphenol (Dinitro-o-cresol)	534-52-1	230505JLM	99%	1,003.8	µg/mL	+/- 36.5200

54	Diphenylamine	122-39-4	MKCH1042	99%	1,002.5	µg/mL	+/- 36.4735
55	Azobenzene	103-33-3	BCCG7339	98%	1,003.5	µg/mL	+/- 36.5106
56	4-Bromophenyl phenyl ether	101-55-3	STBH6361	99%	1,005.6	µg/mL	+/- 36.5847
57	Hexachlorobenzene	118-74-1	14257500	99%	1,005.9	µg/mL	+/- 36.5988
58	Pentachlorophenol	87-86-5	RP230504	99%	1,004.2	µg/mL	+/- 36.5362
59	Phenanthrene	85-01-8	MKCQ8876	99%	1,004.1	µg/mL	+/- 36.5321
60	Anthracene	120-12-7	MKCR0570	99%	1,008.3	µg/mL	+/- 36.6857
61	Carbazole	86-74-8	14351100	99%	1,005.1	µg/mL	+/- 36.5665
62	Di-n-butylphthalate	84-74-2	MKCN4337	99%	1,006.4	µg/mL	+/- 36.6170
63	Fluoranthene	206-44-0	MKCQ4728	99%	1,003.7	µg/mL	+/- 36.5159
64	Pyrene	129-00-0	BCCG7845	99%	1,004.3	µg/mL	+/- 36.5382
65	Benzyl butyl phthalate	85-68-7	X12I018	99%	1,003.4	µg/mL	+/- 36.5058
66	Bis(2-ethylhexyl)adipate	103-23-1	MKCM1988	99%	1,003.4	µg/mL	+/- 36.5079
67	Benz(a)anthracene	56-55-3	0012022BAA	97%	1,004.9	µg/mL	+/- 36.5624
68	Chrysene	218-01-9	RP230512B	99%	1,006.2	µg/mL	+/- 36.6089
69	Bis(2-ethylhexyl)phthalate	117-81-7	MKCQ3468	99%	1,003.8	µg/mL	+/- 36.5220
70	Di-n-octyl phthalate	117-84-0	13994100	99%	1,004.2	µg/mL	+/- 36.5341
71	Benzo(b)fluoranthene	205-99-2	012013B	99%	1,008.4	µg/mL	+/- 36.6877
72	Benzo(k)fluoranthene	207-08-9	012022K	99%	1,004.1	µg/mL	+/- 36.5301
73	Benzo(a)pyrene	50-32-8	J6IUE	99%	1,006.4	µg/mL	+/- 36.6170
74	Indeno(1,2,3-cd)pyrene	193-39-5	12-JKL-118-9	97%	1,002.0	µg/mL	+/- 36.4557
75	Dibenz(a,h)anthracene	53-70-3	ER032211-01	99%	1,006.1	µg/mL	+/- 36.6029
76	Benzo(g,h,i)perylene	191-24-2	RP230511B	98%	1,006.8	µg/mL	+/- 36.6295

* Expanded Uncertainty displayed in same units as Grav. Conc.

Solvent: Methylene chloride
CAS # 75-09-2
Purity 99%

Quality Confirmation Test

Column:
30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

Carrier Gas:
hydrogen-constant flow 1.8 mL/min.

Temp. Program:
80°C (hold 0.1 min.) to 330°C
@ 9.6°C/min. (hold 2.86 min.)

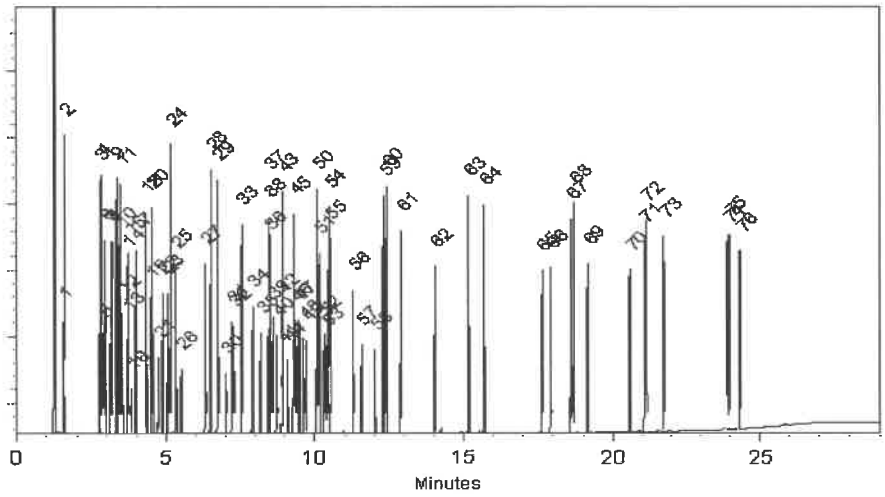
Inj. Temp:
250°C

Det. Temp:
340°C

Det. Type:
FID

Split Vent:
100 ml/min.

Inj. Vol
1µl



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Tom Suckar - Mix Technician

Date Mixed: 11-May-2023 **Balance Serial #** 1128353505

Christie Mills - Operations Tech II - ARM QC

Date Passed: 18-May-2023

Manufactured under Restek's ISO 9001:2015 Registered Quality System Certificate #FM 80397

RESTEK
110 Benner Circle
Bellefonte, PA 16823-8812
Tel: 1-814-353-1300
Fax: 1-814-353-1309

www.restek.com

CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

chromatographic plus

ACCREDITED
ISO 17034 Accredited
Reference Material Producer
Certificate #3222.01

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 31850 **Lot No.:** A0197982

Description : 8270 MegaMix®

8270 MegaMix® 500-1,000µg/mL, Methylene Chloride, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : November 30, 2024 **Storage:** 0°C or colder

Handling: Sonication required. Mix is photosensitive. **Ship:** Ambient

S11877 ↓ S11906 RC 11/30/23

CERTIFIED VALUES

Elution Order	Compound	CAS #	Lot #	Purity	Grav. Conc. (weight/volume)	Expanded Uncertainty * (95% C.L.; K=2)
1	Pyridine	110-86-1	SHBN7324	99%	1,006.9 µg/mL	+/- 36.6352
2	N-Nitrosodimethylamine	62-75-9	230209JLM	99%	1,007.4 µg/mL	+/- 36.6514
3	Phenol	108-95-2	MKCK1120	99%	1,005.3 µg/mL	+/- 36.5746
4	Aniline	62-53-3	X22F726	99%	1,004.6 µg/mL	+/- 36.5503
5	Bis(2-chloroethyl)ether	111-44-4	SHBL6942	99%	1,005.1 µg/mL	+/- 36.5665
6	2-Chlorophenol	95-57-8	STBJ3909	99%	1,007.1 µg/mL	+/- 36.6392
7	1,3-Dichlorobenzene	541-73-1	BCBZ7498	99%	1,006.7 µg/mL	+/- 36.6251
8	1,4-Dichlorobenzene	106-46-7	MKBS7929V	99%	1,005.6 µg/mL	+/- 36.5867
9	Benzyl alcohol	100-51-6	SHBK5943	99%	1,005.4 µg/mL	+/- 36.5786
10	1,2-Dichlorobenzene	95-50-1	SHBN3835	99%	1,003.9 µg/mL	+/- 36.5240
11	2-Methylphenol (o-cresol)	95-48-7	SHBN7598	99%	1,002.3 µg/mL	+/- 36.4654
12	2,2'-oxybis(1-chloropropane)	108-60-1	230329JLM	99%	1,004.3 µg/mL	+/- 36.5402
13	3-Methylphenol (m-cresol)	108-39-4	STBJ0710	99%	502.1 µg/mL	+/- 18.2671
14	4-Methylphenol (p-cresol)	106-44-5	SHBN3411	99%	501.9 µg/mL	+/- 18.2631
15	N-Nitroso-di-n-propylamine	621-64-7	N63MG	99%	1,004.0 µg/mL	+/- 36.5281
16	Hexachloroethane	67-72-1	QTORH	99%	1,006.1 µg/mL	+/- 36.6029
17	Nitrobenzene	98-95-3	10224044	99%	1,003.1 µg/mL	+/- 36.4957

18	Isophorone	78-59-1	MKCC9506	99%	1,003.8	µg/mL	+/- 36.5220
19	2-Nitrophenol	88-75-5	RP230509C	99%	1,005.8	µg/mL	+/- 36.5948
20	2,4-Dimethylphenol	105-67-9	XW5GK	99%	1,004.2	µg/mL	+/- 36.5341
21	Bis(2-chloroethoxy)methane	111-91-1	13670200	99%	1,006.3	µg/mL	+/- 36.6130
22	2,4-Dichlorophenol	120-83-2	BCBZ6787	99%	1,004.0	µg/mL	+/- 36.5281
23	1,2,4-Trichlorobenzene	120-82-1	SHBM0526	99%	1,007.1	µg/mL	+/- 36.6413
24	Naphthalene	91-20-3	MKCH0219	99%	1,006.7	µg/mL	+/- 36.6271
25	4-Chloroaniline	106-47-8	WXBC4601V	99%	1,005.4	µg/mL	+/- 36.5806
26	Hexachlorobutadiene	87-68-3	X05J	99%	1,006.4	µg/mL	+/- 36.6170
27	4-Chloro-3-methylphenol	59-50-7	BCCD4461	99%	1,004.7	µg/mL	+/- 36.5543
28	2-Methylnaphthalene	91-57-6	STBK0259	96%	1,002.3	µg/mL	+/- 36.4679
29	1-Methylnaphthalene	90-12-0	5234.00-3	99%	1,000.0	µg/mL	+/- 36.3825
30	Hexachlorocyclopentadiene	77-47-4	0012019	99%	1,006.1	µg/mL	+/- 36.6049
31	2,4,6-Trichlorophenol	88-06-2	STBJ5914	99%	1,004.9	µg/mL	+/- 36.5604
32	2,4,5-Trichlorophenol	95-95-4	FHN01	98%	1,006.5	µg/mL	+/- 36.6176
33	2-Chloronaphthalene	91-58-7	RPN7O	99%	1,004.4	µg/mL	+/- 36.5422
34	2-Nitroaniline	88-74-4	RP230509A	99%	1,002.3	µg/mL	+/- 36.4654
35	1,4-Dinitrobenzene	100-25-4	RP230512A	99%	1,001.5	µg/mL	+/- 36.4371
36	Acenaphthylene	208-96-8	L10L	95%	1,003.4	µg/mL	+/- 36.5066
37	1,3-Dinitrobenzene	99-65-0	1-DXX-24-1	99%	1,004.8	µg/mL	+/- 36.5564
38	Dimethylphthalate	131-11-3	10117699	99%	1,004.7	µg/mL	+/- 36.5543
39	2,6-Dinitrotoluene	606-20-2	BCCG1833	99%	1,006.8	µg/mL	+/- 36.6312
40	1,2-Dinitrobenzene	528-29-0	RP230428	99%	1,006.4	µg/mL	+/- 36.6170
41	Acenaphthene	83-32-9	MKCR7169	99%	1,000.0	µg/mL	+/- 36.3825
42	3-Nitroaniline	99-09-2	MKCH5457	99%	1,004.8	µg/mL	+/- 36.5584
43	2,4-Dinitrophenol	51-28-5	DR230417RSR	99%	1,005.8	µg/mL	+/- 36.5948
44	Dibenzofuran	132-64-9	MKCN1772	99%	1,004.3	µg/mL	+/- 36.5402
45	2,4-Dinitrotoluene	121-14-2	MKAA0690V	99%	1,005.8	µg/mL	+/- 36.5928
46	4-Nitrophenol	100-02-7	RP230511A	99%	1,005.8	µg/mL	+/- 36.5948
47	2,3,4,6-Tetrachlorophenol	58-90-2	PR-30126	99%	1,005.9	µg/mL	+/- 36.5988
48	2,3,5,6-Tetrachlorophenol	935-95-5	RP230513	99%	1,004.9	µg/mL	+/- 36.5624
49	Fluorene	86-73-7	10236068	99%	1,005.4	µg/mL	+/- 36.5806
50	4-Chlorophenyl phenyl ether	7005-72-3	MKCQ0984	99%	1,004.3	µg/mL	+/- 36.5382
51	Diethylphthalate	84-66-2	BCCD3396	99%	1,007.1	µg/mL	+/- 36.6392
52	4-Nitroaniline	100-01-6	RP220906	99%	1,005.3	µg/mL	+/- 36.5766
53	4,6-Dinitro-2-methylphenol (Dinitro-o-cresol)	534-52-1	230505JLM	99%	1,003.8	µg/mL	+/- 36.5200

54	Diphenylamine	122-39-4	MKCH1042	99%	1,002.5	µg/mL	+/- 36.4735
55	Azobenzene	103-33-3	BCCG7339	98%	1,003.5	µg/mL	+/- 36.5106
56	4-Bromophenyl phenyl ether	101-55-3	STBH6361	99%	1,005.6	µg/mL	+/- 36.5847
57	Hexachlorobenzene	118-74-1	14257500	99%	1,005.9	µg/mL	+/- 36.5988
58	Pentachlorophenol	87-86-5	RP230504	99%	1,004.2	µg/mL	+/- 36.5362
59	Phenanthrene	85-01-8	MKCQ8876	99%	1,004.1	µg/mL	+/- 36.5321
60	Anthracene	120-12-7	MKCR0570	99%	1,008.3	µg/mL	+/- 36.6857
61	Carbazole	86-74-8	14351100	99%	1,005.1	µg/mL	+/- 36.5665
62	Di-n-butylphthalate	84-74-2	MKCN4337	99%	1,006.4	µg/mL	+/- 36.6170
63	Fluoranthene	206-44-0	MKCQ4728	99%	1,003.7	µg/mL	+/- 36.5159
64	Pyrene	129-00-0	BCCG7845	99%	1,004.3	µg/mL	+/- 36.5382
65	Benzyl butyl phthalate	85-68-7	X12I018	99%	1,003.4	µg/mL	+/- 36.5058
66	Bis(2-ethylhexyl)adipate	103-23-1	MKCM1988	99%	1,003.4	µg/mL	+/- 36.5079
67	Benz(a)anthracene	56-55-3	0012022BAA	97%	1,004.9	µg/mL	+/- 36.5624
68	Chrysene	218-01-9	RP230512B	99%	1,006.2	µg/mL	+/- 36.6089
69	Bis(2-ethylhexyl)phthalate	117-81-7	MKCQ3468	99%	1,003.8	µg/mL	+/- 36.5220
70	Di-n-octyl phthalate	117-84-0	13994100	99%	1,004.2	µg/mL	+/- 36.5341
71	Benzo(b)fluoranthene	205-99-2	012013B	99%	1,008.4	µg/mL	+/- 36.6877
72	Benzo(k)fluoranthene	207-08-9	012022K	99%	1,004.1	µg/mL	+/- 36.5301
73	Benzo(a)pyrene	50-32-8	J6IUE	99%	1,006.4	µg/mL	+/- 36.6170
74	Indeno(1,2,3-cd)pyrene	193-39-5	12-JKL-118-9	97%	1,002.0	µg/mL	+/- 36.4557
75	Dibenz(a,h)anthracene	53-70-3	ER032211-01	99%	1,006.1	µg/mL	+/- 36.6029
76	Benzo(g,h,i)perylene	191-24-2	RP230511B	98%	1,006.8	µg/mL	+/- 36.6295

* Expanded Uncertainty displayed in same units as Grav. Conc.

Solvent: Methylene chloride
CAS # 75-09-2
Purity 99%

Quality Confirmation Test

Column:
30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

Carrier Gas:
hydrogen-constant flow 1.8 mL/min.

Temp. Program:
80°C (hold 0.1 min.) to 330°C
@ 9.6°C/min. (hold 2.86 min.)

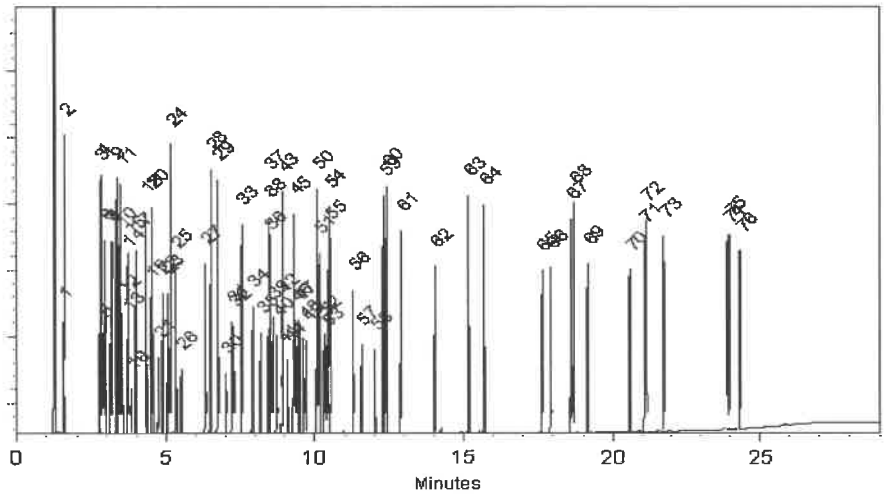
Inj. Temp:
250°C

Det. Temp:
340°C

Det. Type:
FID

Split Vent:
100 ml/min.

Inj. Vol
1µl



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Tom Suckar - Mix Technician

Date Mixed: 11-May-2023 **Balance Serial #** 1128353505

Christie Mills - Operations Tech II - ARM QC

Date Passed: 18-May-2023

Manufactured under Restek's ISO 9001:2015 Registered Quality System Certificate #FM 80397

RESTEK
110 Benner Circle
Bellefonte, PA 16823-8812
Tel: 1-814-353-1300
Fax: 1-814-353-1309

www.restek.com

CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

chromatographic plus

ACCREDITED
ISO 17034 Accredited
Reference Material Producer
Certificate #3222.01

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 31850 **Lot No.:** A0197982

Description : 8270 MegaMix®

8270 MegaMix® 500-1,000µg/mL, Methylene Chloride, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : November 30, 2024 **Storage:** 0°C or colder

Handling: Sonication required. Mix is photosensitive. **Ship:** Ambient

S11877 ↓ S11906 RC 11/30/23

CERTIFIED VALUES

Elution Order	Compound	CAS #	Lot #	Purity	Grav. Conc. (weight/volume)	Expanded Uncertainty * (95% C.L.; K=2)
1	Pyridine	110-86-1	SHBN7324	99%	1,006.9 µg/mL	+/- 36.6352
2	N-Nitrosodimethylamine	62-75-9	230209JLM	99%	1,007.4 µg/mL	+/- 36.6514
3	Phenol	108-95-2	MKCK1120	99%	1,005.3 µg/mL	+/- 36.5746
4	Aniline	62-53-3	X22F726	99%	1,004.6 µg/mL	+/- 36.5503
5	Bis(2-chloroethyl)ether	111-44-4	SHBL6942	99%	1,005.1 µg/mL	+/- 36.5665
6	2-Chlorophenol	95-57-8	STBJ3909	99%	1,007.1 µg/mL	+/- 36.6392
7	1,3-Dichlorobenzene	541-73-1	BCBZ7498	99%	1,006.7 µg/mL	+/- 36.6251
8	1,4-Dichlorobenzene	106-46-7	MKBS7929V	99%	1,005.6 µg/mL	+/- 36.5867
9	Benzyl alcohol	100-51-6	SHBK5943	99%	1,005.4 µg/mL	+/- 36.5786
10	1,2-Dichlorobenzene	95-50-1	SHBN3835	99%	1,003.9 µg/mL	+/- 36.5240
11	2-Methylphenol (o-cresol)	95-48-7	SHBN7598	99%	1,002.3 µg/mL	+/- 36.4654
12	2,2'-oxybis(1-chloropropane)	108-60-1	230329JLM	99%	1,004.3 µg/mL	+/- 36.5402
13	3-Methylphenol (m-cresol)	108-39-4	STBJ0710	99%	502.1 µg/mL	+/- 18.2671
14	4-Methylphenol (p-cresol)	106-44-5	SHBN3411	99%	501.9 µg/mL	+/- 18.2631
15	N-Nitroso-di-n-propylamine	621-64-7	N63MG	99%	1,004.0 µg/mL	+/- 36.5281
16	Hexachloroethane	67-72-1	QTORH	99%	1,006.1 µg/mL	+/- 36.6029
17	Nitrobenzene	98-95-3	10224044	99%	1,003.1 µg/mL	+/- 36.4957

18	Isophorone	78-59-1	MKCC9506	99%	1,003.8	µg/mL	+/- 36.5220
19	2-Nitrophenol	88-75-5	RP230509C	99%	1,005.8	µg/mL	+/- 36.5948
20	2,4-Dimethylphenol	105-67-9	XW5GK	99%	1,004.2	µg/mL	+/- 36.5341
21	Bis(2-chloroethoxy)methane	111-91-1	13670200	99%	1,006.3	µg/mL	+/- 36.6130
22	2,4-Dichlorophenol	120-83-2	BCBZ6787	99%	1,004.0	µg/mL	+/- 36.5281
23	1,2,4-Trichlorobenzene	120-82-1	SHBM0526	99%	1,007.1	µg/mL	+/- 36.6413
24	Naphthalene	91-20-3	MKCH0219	99%	1,006.7	µg/mL	+/- 36.6271
25	4-Chloroaniline	106-47-8	WXBC4601V	99%	1,005.4	µg/mL	+/- 36.5806
26	Hexachlorobutadiene	87-68-3	X05J	99%	1,006.4	µg/mL	+/- 36.6170
27	4-Chloro-3-methylphenol	59-50-7	BCCD4461	99%	1,004.7	µg/mL	+/- 36.5543
28	2-Methylnaphthalene	91-57-6	STBK0259	96%	1,002.3	µg/mL	+/- 36.4679
29	1-Methylnaphthalene	90-12-0	5234.00-3	99%	1,000.0	µg/mL	+/- 36.3825
30	Hexachlorocyclopentadiene	77-47-4	0012019	99%	1,006.1	µg/mL	+/- 36.6049
31	2,4,6-Trichlorophenol	88-06-2	STBJ5914	99%	1,004.9	µg/mL	+/- 36.5604
32	2,4,5-Trichlorophenol	95-95-4	FHN01	98%	1,006.5	µg/mL	+/- 36.6176
33	2-Chloronaphthalene	91-58-7	RPN7O	99%	1,004.4	µg/mL	+/- 36.5422
34	2-Nitroaniline	88-74-4	RP230509A	99%	1,002.3	µg/mL	+/- 36.4654
35	1,4-Dinitrobenzene	100-25-4	RP230512A	99%	1,001.5	µg/mL	+/- 36.4371
36	Acenaphthylene	208-96-8	L10L	95%	1,003.4	µg/mL	+/- 36.5066
37	1,3-Dinitrobenzene	99-65-0	1-DXX-24-1	99%	1,004.8	µg/mL	+/- 36.5564
38	Dimethylphthalate	131-11-3	10117699	99%	1,004.7	µg/mL	+/- 36.5543
39	2,6-Dinitrotoluene	606-20-2	BCCG1833	99%	1,006.8	µg/mL	+/- 36.6312
40	1,2-Dinitrobenzene	528-29-0	RP230428	99%	1,006.4	µg/mL	+/- 36.6170
41	Acenaphthene	83-32-9	MKCR7169	99%	1,000.0	µg/mL	+/- 36.3825
42	3-Nitroaniline	99-09-2	MKCH5457	99%	1,004.8	µg/mL	+/- 36.5584
43	2,4-Dinitrophenol	51-28-5	DR230417RSR	99%	1,005.8	µg/mL	+/- 36.5948
44	Dibenzofuran	132-64-9	MKCN1772	99%	1,004.3	µg/mL	+/- 36.5402
45	2,4-Dinitrotoluene	121-14-2	MKAA0690V	99%	1,005.8	µg/mL	+/- 36.5928
46	4-Nitrophenol	100-02-7	RP230511A	99%	1,005.8	µg/mL	+/- 36.5948
47	2,3,4,6-Tetrachlorophenol	58-90-2	PR-30126	99%	1,005.9	µg/mL	+/- 36.5988
48	2,3,5,6-Tetrachlorophenol	935-95-5	RP230513	99%	1,004.9	µg/mL	+/- 36.5624
49	Fluorene	86-73-7	10236068	99%	1,005.4	µg/mL	+/- 36.5806
50	4-Chlorophenyl phenyl ether	7005-72-3	MKCQ0984	99%	1,004.3	µg/mL	+/- 36.5382
51	Diethylphthalate	84-66-2	BCCD3396	99%	1,007.1	µg/mL	+/- 36.6392
52	4-Nitroaniline	100-01-6	RP220906	99%	1,005.3	µg/mL	+/- 36.5766
53	4,6-Dinitro-2-methylphenol (Dinitro-o-cresol)	534-52-1	230505JLM	99%	1,003.8	µg/mL	+/- 36.5200

54	Diphenylamine	122-39-4	MKCH1042	99%	1,002.5	µg/mL	+/- 36.4735
55	Azobenzene	103-33-3	BCCG7339	98%	1,003.5	µg/mL	+/- 36.5106
56	4-Bromophenyl phenyl ether	101-55-3	STBH6361	99%	1,005.6	µg/mL	+/- 36.5847
57	Hexachlorobenzene	118-74-1	14257500	99%	1,005.9	µg/mL	+/- 36.5988
58	Pentachlorophenol	87-86-5	RP230504	99%	1,004.2	µg/mL	+/- 36.5362
59	Phenanthrene	85-01-8	MKCQ8876	99%	1,004.1	µg/mL	+/- 36.5321
60	Anthracene	120-12-7	MKCR0570	99%	1,008.3	µg/mL	+/- 36.6857
61	Carbazole	86-74-8	14351100	99%	1,005.1	µg/mL	+/- 36.5665
62	Di-n-butylphthalate	84-74-2	MKCN4337	99%	1,006.4	µg/mL	+/- 36.6170
63	Fluoranthene	206-44-0	MKCQ4728	99%	1,003.7	µg/mL	+/- 36.5159
64	Pyrene	129-00-0	BCCG7845	99%	1,004.3	µg/mL	+/- 36.5382
65	Benzyl butyl phthalate	85-68-7	X12I018	99%	1,003.4	µg/mL	+/- 36.5058
66	Bis(2-ethylhexyl)adipate	103-23-1	MKCM1988	99%	1,003.4	µg/mL	+/- 36.5079
67	Benz(a)anthracene	56-55-3	0012022BAA	97%	1,004.9	µg/mL	+/- 36.5624
68	Chrysene	218-01-9	RP230512B	99%	1,006.2	µg/mL	+/- 36.6089
69	Bis(2-ethylhexyl)phthalate	117-81-7	MKCQ3468	99%	1,003.8	µg/mL	+/- 36.5220
70	Di-n-octyl phthalate	117-84-0	13994100	99%	1,004.2	µg/mL	+/- 36.5341
71	Benzo(b)fluoranthene	205-99-2	012013B	99%	1,008.4	µg/mL	+/- 36.6877
72	Benzo(k)fluoranthene	207-08-9	012022K	99%	1,004.1	µg/mL	+/- 36.5301
73	Benzo(a)pyrene	50-32-8	J6IUE	99%	1,006.4	µg/mL	+/- 36.6170
74	Indeno(1,2,3-cd)pyrene	193-39-5	12-JKL-118-9	97%	1,002.0	µg/mL	+/- 36.4557
75	Dibenz(a,h)anthracene	53-70-3	ER032211-01	99%	1,006.1	µg/mL	+/- 36.6029
76	Benzo(g,h,i)perylene	191-24-2	RP230511B	98%	1,006.8	µg/mL	+/- 36.6295

* Expanded Uncertainty displayed in same units as Grav. Conc.

Solvent: Methylene chloride
CAS # 75-09-2
Purity 99%

Quality Confirmation Test

Column:
30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

Carrier Gas:
hydrogen-constant flow 1.8 mL/min.

Temp. Program:
80°C (hold 0.1 min.) to 330°C
@ 9.6°C/min. (hold 2.86 min.)

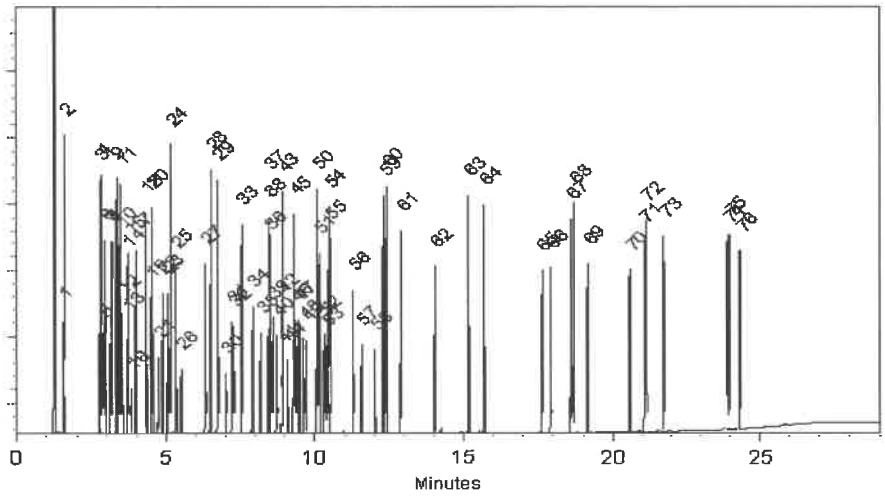
Inj. Temp:
250°C

Det. Temp:
340°C

Det. Type:
FID

Split Vent:
100 ml/min.

Inj. Vol
1µl



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Tom Suckar - Mix Technician

Date Mixed: 11-May-2023 **Balance Serial #** 1128353505

Christie Mills - Operations Tech II - ARM QC

Date Passed: 18-May-2023

Manufactured under Restek's ISO 9001:2015 Registered Quality System Certificate #FM 80397

RESTEK
110 Benner Circle
Bellefonte, PA 16823-8812
Tel: 1-814-353-1300
Fax: 1-814-353-1309

www.restek.com

CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

chromatographic plus

ACCREDITED
ISO 17034 Accredited
Reference Material Producer
Certificate #3222.01

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 31850 **Lot No.:** A0197982

Description : 8270 MegaMix®

8270 MegaMix® 500-1,000µg/mL, Methylene Chloride, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : November 30, 2024 **Storage:** 0°C or colder

Handling: Sonication required. Mix is photosensitive. **Ship:** Ambient

S11877 ↓ S11906 RC 11/30/23

CERTIFIED VALUES

Elution Order	Compound	CAS #	Lot #	Purity	Grav. Conc. (weight/volume)	Expanded Uncertainty * (95% C.L.; K=2)
1	Pyridine	110-86-1	SHBN7324	99%	1,006.9 µg/mL	+/- 36.6352
2	N-Nitrosodimethylamine	62-75-9	230209JLM	99%	1,007.4 µg/mL	+/- 36.6514
3	Phenol	108-95-2	MKCK1120	99%	1,005.3 µg/mL	+/- 36.5746
4	Aniline	62-53-3	X22F726	99%	1,004.6 µg/mL	+/- 36.5503
5	Bis(2-chloroethyl)ether	111-44-4	SHBL6942	99%	1,005.1 µg/mL	+/- 36.5665
6	2-Chlorophenol	95-57-8	STBJ3909	99%	1,007.1 µg/mL	+/- 36.6392
7	1,3-Dichlorobenzene	541-73-1	BCBZ7498	99%	1,006.7 µg/mL	+/- 36.6251
8	1,4-Dichlorobenzene	106-46-7	MKBS7929V	99%	1,005.6 µg/mL	+/- 36.5867
9	Benzyl alcohol	100-51-6	SHBK5943	99%	1,005.4 µg/mL	+/- 36.5786
10	1,2-Dichlorobenzene	95-50-1	SHBN3835	99%	1,003.9 µg/mL	+/- 36.5240
11	2-Methylphenol (o-cresol)	95-48-7	SHBN7598	99%	1,002.3 µg/mL	+/- 36.4654
12	2,2'-oxybis(1-chloropropane)	108-60-1	230329JLM	99%	1,004.3 µg/mL	+/- 36.5402
13	3-Methylphenol (m-cresol)	108-39-4	STBJ0710	99%	502.1 µg/mL	+/- 18.2671
14	4-Methylphenol (p-cresol)	106-44-5	SHBN3411	99%	501.9 µg/mL	+/- 18.2631
15	N-Nitroso-di-n-propylamine	621-64-7	N63MG	99%	1,004.0 µg/mL	+/- 36.5281
16	Hexachloroethane	67-72-1	QTORH	99%	1,006.1 µg/mL	+/- 36.6029
17	Nitrobenzene	98-95-3	10224044	99%	1,003.1 µg/mL	+/- 36.4957

18	Isophorone	78-59-1	MKCC9506	99%	1,003.8	µg/mL	+/- 36.5220
19	2-Nitrophenol	88-75-5	RP230509C	99%	1,005.8	µg/mL	+/- 36.5948
20	2,4-Dimethylphenol	105-67-9	XW5GK	99%	1,004.2	µg/mL	+/- 36.5341
21	Bis(2-chloroethoxy)methane	111-91-1	13670200	99%	1,006.3	µg/mL	+/- 36.6130
22	2,4-Dichlorophenol	120-83-2	BCBZ6787	99%	1,004.0	µg/mL	+/- 36.5281
23	1,2,4-Trichlorobenzene	120-82-1	SHBM0526	99%	1,007.1	µg/mL	+/- 36.6413
24	Naphthalene	91-20-3	MKCH0219	99%	1,006.7	µg/mL	+/- 36.6271
25	4-Chloroaniline	106-47-8	WXBC4601V	99%	1,005.4	µg/mL	+/- 36.5806
26	Hexachlorobutadiene	87-68-3	X05J	99%	1,006.4	µg/mL	+/- 36.6170
27	4-Chloro-3-methylphenol	59-50-7	BCCD4461	99%	1,004.7	µg/mL	+/- 36.5543
28	2-Methylnaphthalene	91-57-6	STBK0259	96%	1,002.3	µg/mL	+/- 36.4679
29	1-Methylnaphthalene	90-12-0	5234.00-3	99%	1,000.0	µg/mL	+/- 36.3825
30	Hexachlorocyclopentadiene	77-47-4	0012019	99%	1,006.1	µg/mL	+/- 36.6049
31	2,4,6-Trichlorophenol	88-06-2	STBJ5914	99%	1,004.9	µg/mL	+/- 36.5604
32	2,4,5-Trichlorophenol	95-95-4	FHN01	98%	1,006.5	µg/mL	+/- 36.6176
33	2-Chloronaphthalene	91-58-7	RPN7O	99%	1,004.4	µg/mL	+/- 36.5422
34	2-Nitroaniline	88-74-4	RP230509A	99%	1,002.3	µg/mL	+/- 36.4654
35	1,4-Dinitrobenzene	100-25-4	RP230512A	99%	1,001.5	µg/mL	+/- 36.4371
36	Acenaphthylene	208-96-8	L10L	95%	1,003.4	µg/mL	+/- 36.5066
37	1,3-Dinitrobenzene	99-65-0	1-DXX-24-1	99%	1,004.8	µg/mL	+/- 36.5564
38	Dimethylphthalate	131-11-3	10117699	99%	1,004.7	µg/mL	+/- 36.5543
39	2,6-Dinitrotoluene	606-20-2	BCCG1833	99%	1,006.8	µg/mL	+/- 36.6312
40	1,2-Dinitrobenzene	528-29-0	RP230428	99%	1,006.4	µg/mL	+/- 36.6170
41	Acenaphthene	83-32-9	MKCR7169	99%	1,000.0	µg/mL	+/- 36.3825
42	3-Nitroaniline	99-09-2	MKCH5457	99%	1,004.8	µg/mL	+/- 36.5584
43	2,4-Dinitrophenol	51-28-5	DR230417RSR	99%	1,005.8	µg/mL	+/- 36.5948
44	Dibenzofuran	132-64-9	MKCN1772	99%	1,004.3	µg/mL	+/- 36.5402
45	2,4-Dinitrotoluene	121-14-2	MKAA0690V	99%	1,005.8	µg/mL	+/- 36.5928
46	4-Nitrophenol	100-02-7	RP230511A	99%	1,005.8	µg/mL	+/- 36.5948
47	2,3,4,6-Tetrachlorophenol	58-90-2	PR-30126	99%	1,005.9	µg/mL	+/- 36.5988
48	2,3,5,6-Tetrachlorophenol	935-95-5	RP230513	99%	1,004.9	µg/mL	+/- 36.5624
49	Fluorene	86-73-7	10236068	99%	1,005.4	µg/mL	+/- 36.5806
50	4-Chlorophenyl phenyl ether	7005-72-3	MKCQ0984	99%	1,004.3	µg/mL	+/- 36.5382
51	Diethylphthalate	84-66-2	BCCD3396	99%	1,007.1	µg/mL	+/- 36.6392
52	4-Nitroaniline	100-01-6	RP220906	99%	1,005.3	µg/mL	+/- 36.5766
53	4,6-Dinitro-2-methylphenol (Dinitro-o-cresol)	534-52-1	230505JLM	99%	1,003.8	µg/mL	+/- 36.5200

54	Diphenylamine	122-39-4	MKCH1042	99%	1,002.5	µg/mL	+/- 36.4735
55	Azobenzene	103-33-3	BCCG7339	98%	1,003.5	µg/mL	+/- 36.5106
56	4-Bromophenyl phenyl ether	101-55-3	STBH6361	99%	1,005.6	µg/mL	+/- 36.5847
57	Hexachlorobenzene	118-74-1	14257500	99%	1,005.9	µg/mL	+/- 36.5988
58	Pentachlorophenol	87-86-5	RP230504	99%	1,004.2	µg/mL	+/- 36.5362
59	Phenanthrene	85-01-8	MKCQ8876	99%	1,004.1	µg/mL	+/- 36.5321
60	Anthracene	120-12-7	MKCR0570	99%	1,008.3	µg/mL	+/- 36.6857
61	Carbazole	86-74-8	14351100	99%	1,005.1	µg/mL	+/- 36.5665
62	Di-n-butylphthalate	84-74-2	MKCN4337	99%	1,006.4	µg/mL	+/- 36.6170
63	Fluoranthene	206-44-0	MKCQ4728	99%	1,003.7	µg/mL	+/- 36.5159
64	Pyrene	129-00-0	BCCG7845	99%	1,004.3	µg/mL	+/- 36.5382
65	Benzyl butyl phthalate	85-68-7	X12I018	99%	1,003.4	µg/mL	+/- 36.5058
66	Bis(2-ethylhexyl)adipate	103-23-1	MKCM1988	99%	1,003.4	µg/mL	+/- 36.5079
67	Benz(a)anthracene	56-55-3	0012022BAA	97%	1,004.9	µg/mL	+/- 36.5624
68	Chrysene	218-01-9	RP230512B	99%	1,006.2	µg/mL	+/- 36.6089
69	Bis(2-ethylhexyl)phthalate	117-81-7	MKCQ3468	99%	1,003.8	µg/mL	+/- 36.5220
70	Di-n-octyl phthalate	117-84-0	13994100	99%	1,004.2	µg/mL	+/- 36.5341
71	Benzo(b)fluoranthene	205-99-2	012013B	99%	1,008.4	µg/mL	+/- 36.6877
72	Benzo(k)fluoranthene	207-08-9	012022K	99%	1,004.1	µg/mL	+/- 36.5301
73	Benzo(a)pyrene	50-32-8	J6IUE	99%	1,006.4	µg/mL	+/- 36.6170
74	Indeno(1,2,3-cd)pyrene	193-39-5	12-JKL-118-9	97%	1,002.0	µg/mL	+/- 36.4557
75	Dibenz(a,h)anthracene	53-70-3	ER032211-01	99%	1,006.1	µg/mL	+/- 36.6029
76	Benzo(g,h,i)perylene	191-24-2	RP230511B	98%	1,006.8	µg/mL	+/- 36.6295

* Expanded Uncertainty displayed in same units as Grav. Conc.

Solvent: Methylene chloride
CAS # 75-09-2
Purity 99%

Quality Confirmation Test

Column:
30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

Carrier Gas:
hydrogen-constant flow 1.8 mL/min.

Temp. Program:
80°C (hold 0.1 min.) to 330°C
@ 9.6°C/min. (hold 2.86 min.)

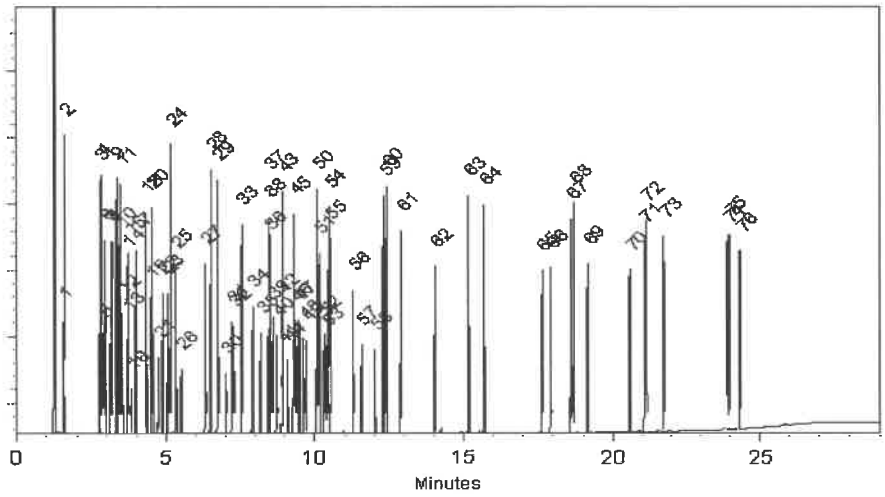
Inj. Temp:
250°C

Det. Temp:
340°C

Det. Type:
FID

Split Vent:
100 ml/min.

Inj. Vol
1µl



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Tom Suckar - Mix Technician

Date Mixed: 11-May-2023 **Balance Serial #** 1128353505

Christie Mills - Operations Tech II - ARM QC

Date Passed: 18-May-2023

Manufactured under Restek's ISO 9001:2015 Registered Quality System Certificate #FM 80397

RESTEK
110 Benner Circle
Bellefonte, PA 16823-8812
Tel: 1-814-353-1300
Fax: 1-814-353-1309

www.restek.com

CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

chromatographic plus

ACCREDITED
ISO 17034 Accredited
Reference Material Producer
Certificate #3222.01

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 31206 **Lot No.:** A0201320

S12013 ↓ S12042 RC 12/26/23

Description : SV Internal Standard Mix 2mg/ml

SV Internal Standard Mix 2mg/ml 2000 µg/ml, Methylene Chloride, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : July 31, 2029 **Storage:** 10°C or colder

Handling: Sonication required. Mix is photosensitive. **Ship:** Ambient

CERTIFIED VALUES

Elution Order	Compound	CAS #	Lot #	Purity	Grav. Conc. (weight/volume)	Expanded Uncertainty * (95% C.L.; K=2)
1	1,4-Dichlorobenzene-d4	3855-82-1	PR-30447	99%	2,017.0 µg/mL	+/- 90.8469
2	Naphthalene-d8	1146-65-2	M-2180	99%	2,011.3 µg/mL	+/- 90.5917
3	Acenaphthene-d10	15067-26-2	PR-33507	99%	2,008.6 µg/mL	+/- 90.4685
4	Phenanthrene-d10	1517-22-2	PR-32303	99%	2,019.4 µg/mL	+/- 90.9550
5	Chrysene-d12	1719-03-5	PR-32210	99%	2,013.7 µg/mL	+/- 90.6968
6	Perylene-d12	1520-96-3	PR-33205	99%	2,012.7 µg/mL	+/- 90.6517

* Expanded Uncertainty displayed in same units as Grav. Conc.

Solvent: Methylene chloride
CAS # 75-09-2
Purity 99%

Quality Confirmation Test

Column:
30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

Carrier Gas:
hydrogen-constant pressure 10 psi.

Temp. Program:
75°C (hold 1 min.) to 330°C
@ 20°C/min. (hold 10 min.)

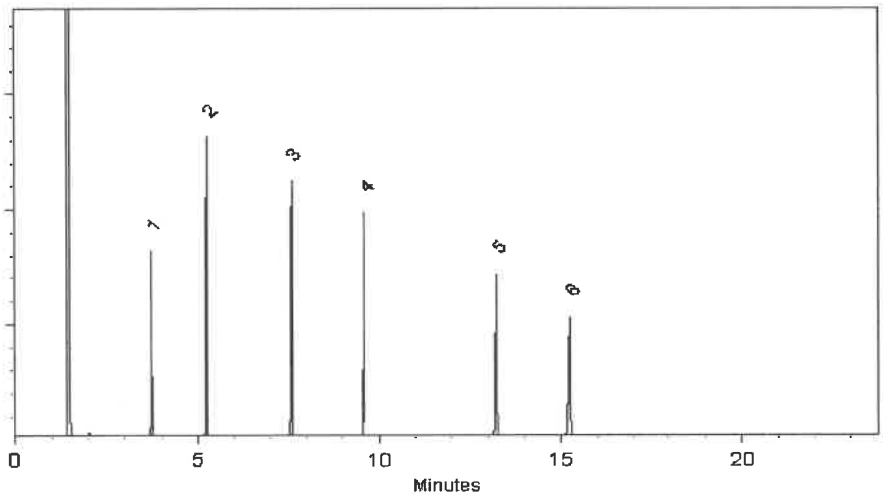
Inj. Temp:
250°C

Det. Temp:
330°C

Det. Type:
FID

Split Vent:
10 ml/min.

Inj. Vol
1µl



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Peter Robbins - Operations Technician I

Date Mixed: 23-Aug-2023 **Balance Serial #** B345965662

Jennifer Pollino - Operations Tech III - ARM QC

Date Passed: 25-Aug-2023

Manufactured under Restek's ISO 9001:2015 Registered Quality System Certificate #FM 80397

CHEMTECH

SHIPPING DOCUMENTS

CHEMTECH
CHAIN OF CUSTODY RECORD

284 Sheffield Street, Mountainside, NJ 07092
(908) 789-8900 • Fax (908) 789-8922
www.chemtech.net

CHEMTECH PROJECT NO.
QUOTE NO. P1747
COC Number 2043853

CLIENT INFORMATION

REPORT TO BE SENT TO:
COMPANY: LiRo Engineers, Inc.
ADDRESS: 703 Fourimer street
CITY Brooklyn STATE: NY ZIP: 11211
ATTENTION: Steve Frank / Amy Hewson
PHONE: 716 882-5476 FAX:

CLIENT PROJECT INFORMATION

PROJECT NAME: Walter Gladwin Park Rec. Center
PROJECT NO.: 19-294-0265.01 LOCATION: Bronx, NY
PROJECT MANAGER: Steve Frank
e-mail: franks@liro-hill.com
PHONE: 716 882-5476 FAX:

CLIENT BILLING INFORMATION

BILL TO: PO#:
ADDRESS: Same
CITY STATE: ZIP:
ATTENTION: PHONE:

DATA TURNAROUND INFORMATION

FAX (RUSH) DAYS*
HARDCOPY (DATA PACKAGE): DAYS*
EDD: 5 day TAT DAYS*
*TO BE APPROVED BY CHEMTECH
STANDARD HARDCOPY TURNAROUND TIME IS 10 BUSINESS DAYS

DATA DELIVERABLE INFORMATION

☒ Level 1 (Results Only) ☐ Level 4 (QC + Full Raw Data)
☐ Level 2 (Results + QC) ☐ NJ Reduced ☐ US EPA CLP
☐ Level 3 (Results + QC + Raw Data) ☐ NYS ASP A ☐ NYS ASP B
☐ Other
☐ EDD FORMAT

ANALYSIS

1 TCL VOCs
2 SVOCs
3 PCBs
4 Pesticides
5 TAL metals*
6
7 NYCDEP Sanitary or Combined Sewer Discharge Parameters
8
9

CHEMTECH SAMPLE ID	PROJECT SAMPLE IDENTIFICATION	SAMPLE MATRIX	SAMPLE TYPE COMP	SAMPLE TYPE GRAB	SAMPLE COLLECTION DATE	SAMPLE COLLECTION TIME	# OF BOTTLES	PRESERVATIVES 1	2	3	4	5	6	7	8	9	COMMENTS
								A	D	B	→	→	→	~	~		← Specify Preservatives
1.	MW-01	GW		X	3/12/24	0800	7	X	X	X	X	X					A-HCl D-NaOH
2.	MW-01 DUP	GW		X	↓	0830	7	X	X	X	X	X					B-HN03 E-ICE
3.	MW-01	GW		X	3/13/24	1000	14							X	X		C-H2SO4 F-OTHER
4.	MW-02	GW		X	3/12/24	1200	7	X	X	X	X	X					
5.	TWP-04	GW		X	↓	1100	7	X	X	X	X	X					
6.	Trip Blank #1	DI Water		X	—	—	2	X									
7.																	
8.																	
9.																	
10.																	

SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION INCLUDING COURIER DELIVERY

RELINQUISHED BY SAMPLER:	DATE/TIME:	RECEIVED BY:
1. Eva Hu	3/13/24 1220	1. 3-13-24
2.		2.
3.	3-13-24 1630	3.

Conditions of bottles or coolers at receipt: ☐ COMPLIANT ☐ NON COMPLIANT ☐ COOLER TEMP 3.4 °C
Comments: * TAL Metals (Filtered & Unfiltered)

Page 1 of 1
CLIENT: ☐ Hand Delivered ☐ Other
CHEMTECH: ☒ Picked Up ☐ Field Sampling
Shipment Complete ☐ YES ☐ NO

WHITE - CHEMTECH COPY FOR RETURN TO CLIENT YELLOW - CHEMTECH COPY PINK - SAMPLER COPY

CHEMTECH 284 Sheffield Street, Mountainside NJ 07092 (908)-789-8900 Fax : 908 789 8922

Laboratory Certification

Certified By	License No.
CAS EPA CLP Contract	68HERH20D0011
Connecticut	PH-0649
DOD ELAP (L-A-B)	L2219
Maine	2022022
Maryland	296
New Hampshire	255423
New Jersey	20012
New York	11376
Pennsylvania	68-00548
Soil Permit	P330-21-00137
Texas	T104704488-23-16

CHEMTECH

LOGIN REPORT/SAMPLE TRANSFER

Order ID : P1747 LIRO01
Client Name : LiRo Engineers, Inc.
Client Contact : Steve Frank
Invoice Name : LiRo Engineers, Inc.
Invoice Contact : Steve Frank

Order Date : 3/13/2024 12:28:00 PM
Project Name : Walter Gladwin Recreation
Receive DateTime : 3/13/2024 ~~12:00:00 AM~~ 16:30
Purchase Order :

Project Mgr :
Report Type : NYS ASP A
EDD Type : NYSDEC EDD V-3
Hard Copy Date :
Date Signoff :

LAB ID	CLIENT ID	MATRIX	SAMPLE DATE	SAMPLE TIME	TEST	TEST GROUP	METHOD	FAX DATE	DUE DATES
P1747-01	MW-01	Water	03/12/2024	08:00					
					VOC-TCLVOA-10		8260-Low		5 Bus. Days
P1747-02	MW-01-DUP	Water	03/12/2024	08:30					
					VOC-TCLVOA-10		8260-Low		5 Bus. Days
P1747-03	MW-01	Water	03/13/2024	10:00					
					VOC-NYCD	NYCDischarge	624.1		5 Bus. Days
P1747-04	MW-02	Water	03/12/2024	12:00					
					VOC-TCLVOA-10		8260-Low		5 Bus. Days
P1747-05	MW-04	Water	03/12/2024	11:00					
					VOC-TCLVOA-10		8260-Low		5 Bus. Days
P1747-06	TRIP-BLANK	Water	03/12/2024	00:00					
					VOC-TCLVOA-10		8260-Low		5 Bus. Days

Relinguished By :
Date / Time : 3-14-24 0903

Received By :
Date / Time : 3/14/24 09:03

Storage Area : **VOA Refridgerator Room**

Ref #4
Ref #5