



2045 Mills Road West

TEL: (250) 655-5800

Sidney, BC, Canada V8L5X2

TOLL-FREE: 1-888-373-0881

---

SGS AXYS Client No.: 4972

Client Address: AECOM  
1111 Third Avenue, Suite 1600  
Seattle, WA, US, 98101

The SGS AXYS contact for these data is Sean Campbell.

# BATCH SUMMARY

<b>Batch ID:</b>	WG65583	<b>Date:</b>	16-Nov-2018
<b>Analysis Type:</b>	PCB Congener	<b>Matrix Type:</b>	Filter

## BATCH MAKEUP

<b>Contract:</b>	4972	<b>Blank:</b>	WG65583-101
<b>Samples:</b>	L29923-1 PDI-RB-XF-180820 L29967-1 PDI-WS-T04-1808 L29967-2 PDI-WS-T02-1808 L29967-3 PDI-WS-T05-1808 L29967-4 PDI-WS-T07-1808 L29967-5 PDI-WS-T03-1808 L29967-6 PDI-WS-T01-1808 L29967-7 PDI-WS-T06-1808	<b>Reference or Spike:</b>	WG65583-102
		<b>Duplicate:</b>	WG65583-103

**Comments:**

1. Data are considered final.
2. Data are not blank corrected. Blank data should be taken into consideration when evaluating sample data.
3. Blank data should be evaluated against specifications using the same blank sample size as the size of the client samples.
4. An interference known to originate during extraction from the high boiling point of the toluene was observed in sample 'PDI-RB-XF-180820' and the OPR (SGS AXYS IDs: L29923-1 and WG65583-102, respectively) near the mass and retention time of the mono-substituted PCBs. These compounds have been flagged 'NQ' – not quantifiable.
5. The recoveries of multiple <sup>13</sup>C-labelled quantification and cleanup standards in sample 'PDI-WS-T07-1808' (SGS AXYS ID: L29967-4) did not meet the method criteria; these compounds are flagged with a 'V'. As the isotope dilution/internal standard method of quantification produces data that are recovery corrected, the slight variances from the method acceptance criteria are deemed not to affect the quantification of these analytes. Percent surrogate recoveries are used as general method performance indicator only.

Copyright SGS AXYS Analytical Services Ltd  
February 2017

FQA-006 Rev. 4. 20-Sep-2013

## SGS AXYS METHOD MLA-010 Rev 12

Form 1A  
PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.

PDI-RB-XF-180820

Sample Collection:

20-Aug-2018 15:43

**SGS AXYS ANALYTICAL SERVICES**
 2045 MILLS RD., SIDNEY, B.C., CANADA  
 V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811
**Contract No.:** 4972**Matrix:** FILTER**Sample Receipt Date:** 22-Aug-2018**Extraction Date:** 10-Oct-2018**Analysis Date:** 24-Oct-2018 **Time:** 23:51:22**Extract Volume (uL):** 20**Injection Volume (uL):** 1.0**Dilution Factor:** N/A**Concentration Units:** pg/sample**Project No.**PORTLAND HARBOR PDI AND  
BASELINE WATER**Lab Sample I.D.:** L29923-1

0.2 sample

**Initial Calibration Date:** 07-Jul-2018**Instrument ID:** HR GC/MS**GC Column ID:** SPB OCTYL**Sample Data Filename:** PB8C\_366 S: 5**Blank Data Filename:** PB8C\_366 S: 4**Cal. Ver. Data Filename:** PB8C\_366 S: 1

This page is part of a total report that contains information necessary for accreditation compliance.  
 This test is not NELAP accredited. Sample results relate only to the sample tested.

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG <sup>1</sup>	CONC. FOUND	REPORTING LIMIT (RL) <sup>2</sup>	ION ABUND. RATIO	RRT
2-MoCB	1		NQ				
3-MoCB	2		NQ				
4-MoCB	3		NQ				
2,2'-DiCB	4			66.0	46.8 (S)	1.50	1.001
2,3-DiCB	5		U		39.5 (S)		
2,3'-DiCB	6			51.5	35.3 (S)	1.55	1.171
2,4-DiCB	7		K	93.4	35.8 (S)	2.07	1.156
2,4'-DiCB	8			203	32.0 (S)	1.47	1.202
2,5-DiCB	9		U		35.5 (S)		
2,6-DiCB	10		U		35.7 (S)		
3,3'-DiCB	11			1050	37.1 (S)	1.54	0.968
3,4-DiCB	12	12 + 13	C U		37.6 (S)		
3,4'-DiCB	13	12 + 13	C12				
3,5-DiCB	14		U		36.2 (S)		
4,4'-DiCB	15		K	64.8	38.3 (S)	1.31	1.001
2,2',3-TrICB	16		K	128	5.58 (S)	1.37	1.164
2,2',4-TrICB	17		G	148	4.83 (S)	1.10	1.137
2,2',5-TrICB	18	18 + 30	C	257	4.49 (Q)	1.10	1.112
2,2',6-TrICB	19		K J	30.3	5.46 (S)	1.22	1.001
2,3,3'-TrICB	20	20 + 28	C	311	6.48 (S)	1.00	0.849
2,3,4-TrICB	21	21 + 33	C	191	6.39 (S)	1.09	0.857
2,3,4'-TrICB	22			113	7.36 (S)	0.93	0.872
2,3,5-TrICB	23		U		6.90 (S)		
2,3,6-TrICB	24		K J	7.02	4.49 (Q)	0.57	1.160
2,3',4-TrICB	25			123	5.57 (S)	1.03	0.825
2,3',5-TrICB	26	26 + 29	C	55.1	6.64 (S)	1.05	1.300
2,3',6-TrICB	27		J	21.6	4.49 (Q)	1.17	1.150
2,4,4'-TrICB	28	20 + 28	C20				
2,4,5-TrICB	29	26 + 29	C26				
2,4,6-TrICB	30	18 + 30	C18				
2,4',5-TrICB	31			252	6.11 (S)	1.01	0.837
2,4',6-TrICB	32		G	45.2	6.49 (S)	1.17	1.196
2',3,4-TrICB	33	21 + 33	C21				
2',3,5-TrICB	34		U		6.85 (S)		
3,3',4-TrICB	35		J	9.08	6.78 (S)	0.93	0.985
3,3',5-TrICB	36		U		6.25 (S)		
3,4,4'-TrICB	37			39.3	6.63 (S)	1.10	1.001
3,4,5-TrICB	38		U		6.67 (S)		
3,4',5-TrICB	39		U		6.65 (S)		

This page is part of a total report that contains information necessary for accreditation compliance.  
 This test is not NELAP accredited. Sample results relate only to the sample tested.

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG <sup>1</sup>	CONC. FOUND	REPORTING LIMIT (RL) <sup>2</sup>	ION ABUND. RATIO	RRT
2,2',3,3'-TeCB	40	40 + 41 + 71	C	96.3	4.49 (Q)	0.80	1.333
2,2',3,4-TeCB	41	40 + 41 + 71	C40				
2,2',3,4'-TeCB	42			48.9	4.49 (Q)	0.76	1.310
2,2',3,5-TeCB	43		U		4.49 (Q)		
2,2',3,5'-TeCB	44	44 + 47 + 65	C	1370	4.49 (Q)	0.77	1.284
2,2',3,6-TeCB	45	45 + 51	C	296	4.49 (Q)	0.84	1.147
2,2',3,6'-TeCB	46		J	14.0	4.49 (Q)	0.72	1.158
2,2',4,4'-TeCB	47	44 + 47 + 65	C44				
2,2',4,5-TeCB	48			46.8	4.49 (Q)	0.80	1.271
2,2',4,5'-TeCB	49	49 + 69	C	106	4.49 (Q)	0.76	1.257
2,2',4,6-TeCB	50	50 + 53	C K J	26.4	4.49 (Q)	0.49	1.109
2,2',4,6'-TeCB	51	45 + 51	C45				
2,2',5,5'-TeCB	52			265	4.49 (Q)	0.80	1.232
2,2',5,6'-TeCB	53	50 + 53	C50				
2,2',6,6'-TeCB	54		U		4.49 (Q)		
2,3,3',4-TeCB	55		U		5.16 (S)		
2,3,3',4'-TeCB	56			39.9	5.16 (S)	0.72	0.904
2,3,3',5-TeCB	57		U		4.65 (S)		
2,3,3',5'-TeCB	58		U		4.78 (S)		
2,3,3',6-TeCB	59	59 + 62 + 75	C K J	18.7	4.49 (Q)	0.54	1.300
2,3,4,4'-TeCB	60		K J	28.3	5.21 (S)	1.07	0.911
2,3,4,5-TeCB	61	61 + 70 + 74 + 76	C	153	4.67 (S)	0.71	0.874
2,3,4,6-TeCB	62	59 + 62 + 75	C59				
2,3,4',5-TeCB	63		U		4.68 (S)		
2,3,4',6-TeCB	64			62.5	4.49 (Q)	0.83	1.346
2,3,5,6-TeCB	65	44 + 47 + 65	C44				
2,3',4,4'-TeCB	66			86.0	4.65 (S)	0.73	0.884
2,3',4,5-TeCB	67		U		4.49 (Q)		
2,3',4,5'-TeCB	68			143	4.65 (S)	0.77	0.831
2,3',4,6-TeCB	69	49 + 69	C49				
2,3',4',5-TeCB	70	61 + 70 + 74 + 76	C61				
2,3',4',6-TeCB	71	40 + 41 + 71	C40				
2,3',5,5'-TeCB	72		U		4.53 (S)		
2,3',5',6-TeCB	73		U		4.49 (Q)		
2,4,4',5-TeCB	74	61 + 70 + 74 + 76	C61				
2,4,4',6-TeCB	75	59 + 62 + 75	C59				
2',3,4,5-TeCB	76	61 + 70 + 74 + 76	C61				
3,3',4,4'-TeCB	77		K J	8.61	4.83 (S)	1.02	1.001
3,3',4,5-TeCB	78		U		5.06 (S)		
3,3',4,5'-TeCB	79		U		4.49 (Q)		
3,3',5,5'-TeCB	80		U		4.68 (S)		
3,4,4',5-TeCB	81		U		4.91 (S)		
2,2',3,3',4-PeCB	82		U		6.03 (S)		
2,2',3,3',5-PeCB	83	83 + 99	C	44.4	5.51 (S)	1.72	0.885
2,2',3,3',6-PeCB	84		J	24.0	5.92 (S)	1.50	1.163
2,2',3,4,4'-PeCB	85	85 + 116 + 117	C K J	13.9	4.59 (S)	1.00	0.920
2,2',3,4,5-PeCB	86	86 + 87 + 97 + 108 + 119 + 125	C K G	66.6	4.73 (S)	1.16	0.902
2,2',3,4,5'-PeCB	87	86 + 87 + 97 + 108 + 119 + 125	C86				
2,2',3,4,6-PeCB	88	88 + 91	C J	18.8	5.25 (S)	1.67	1.154
2,2',3,4,6'-PeCB	89		U		5.59 (S)		
2,2',3,4',5-PeCB	90	90 + 101 + 113	C	64.9	4.70 (S)	1.56	0.869
2,2',3,4',6-PeCB	91	88 + 91	C88				
2,2',3,5,5'-PeCB	92		K J	15.7	5.49 (S)	4.15	0.853
2,2',3,5,6-PeCB	93	93 + 95 + 98 + 100 + 102	C	93.1	5.09 (S)	1.52	1.122
2,2',3,5,6'-PeCB	94		U		5.65 (S)		
2,2',3,5',6-PeCB	95	93 + 95 + 98 + 100 + 102	C93				
2,2',3,6,6'-PeCB	96		U		4.49 (Q)		
2,2',3',4,5-PeCB	97	86 + 87 + 97 + 108 + 119 + 125	C86				
2,2',3',4,6-PeCB	98	93 + 95 + 98 + 100 + 102	C93				
2,2',4,4',5-PeCB	99	83 + 99	C83				

This page is part of a total report that contains information necessary for accreditation compliance.  
 This test is not NELAP accredited. Sample results relate only to the sample tested.

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG <sup>1</sup>	CONC. FOUND	REPORTING LIMIT (RL) <sup>2</sup>	ION ABUND. RATIO	RRT
2,2',4,4',6-PeCB	100	93 + 95 + 98 + 100 + 102	C93				
2,2',4,5,5'-PeCB	101	90 + 101 + 113	C90				
2,2',4,5,6'-PeCB	102	93 + 95 + 98 + 100 + 102	C93				
2,2',4,5',6-PeCB	103		U		4.64 (S)		
2,2',4,6,6'-PeCB	104		U		4.49 (Q)		
2,3,3',4,4'-PeCB	105		J	21.7	5.10 (S)	1.47	1.000
2,3,3',4,5-PeCB	106		U		5.76 (S)		
2,3,3',4',5-PeCB	107	107 + 124	C U		6.11 (S)		
2,3,3',4,5'-PeCB	108	86 + 87 + 97 + 108 + 119 + 125	C86				
2,3,3',4,6-PeCB	109		U		5.56 (S)		
2,3,3',4',6-PeCB	110	110 + 115	C	66.9	4.49 (Q)	1.60	0.925
2,3,3',5,5'-PeCB	111		U		4.49 (Q)		
2,3,3',5,6-PeCB	112		U		4.49 (Q)		
2,3,3',5',6-PeCB	113	90 + 101 + 113	C90				
2,3,4,4',5-PeCB	114		U		5.71 (S)		
2,3,4,4',6-PeCB	115	110 + 115	C110				
2,3,4,5,6-PeCB	116	85 + 116 + 117	C85				
2,3,4',5,6-PeCB	117	85 + 116 + 117	C85				
2,3',4,4',5-PeCB	118			44.2	5.54 (S)	1.35	1.001
2,3',4,4',6-PeCB	119	86 + 87 + 97 + 108 + 119 + 125	C86				
2,3',4,5,5'-PeCB	120		U		4.49 (Q)		
2,3',4,5',6-PeCB	121		U		4.49 (Q)		
2',3,3',4,5-PeCB	122		U		6.73 (S)		
2',3,4,4',5-PeCB	123		U		5.66 (S)		
2',3,4,5,5'-PeCB	124	107 + 124	C107				
2',3,4,5,6'-PeCB	125	86 + 87 + 97 + 108 + 119 + 125	C86				
3,3',4,4',5-PeCB	126		U		7.22 (S)		
3,3',4,5,5'-PeCB	127		U		6.48 (S)		
2,2',3,3',4,4'-HxCB	128	128 + 166	C U		4.49 (Q)		
2,2',3,3',4,5-HxCB	129	129 + 138 + 160 + 163	C	51.2	4.49 (Q)	1.27	0.928
2,2',3,3',4,5'-HxCB	130		K J	5.36	5.34 (S)	0.97	0.913
2,2',3,3',4,6-HxCB	131		U		4.87 (S)		
2,2',3,3',4,6'-HxCB	132		J	22.2	5.17 (S)	1.27	1.175
2,2',3,3',5,5'-HxCB	133		U		4.75 (S)		
2,2',3,3',5,6-HxCB	134	134 + 143	C U		4.84 (S)		
2,2',3,3',5,6'-HxCB	135	135 + 151 + 154	C J	26.6	4.49 (Q)	1.19	1.105
2,2',3,3',6,6'-HxCB	136		K J	7.90	4.49 (Q)	1.57	1.025
2,2',3,4,4',5-HxCB	137		U		5.23 (S)		
2,2',3,4,4',5'-HxCB	138	129 + 138 + 160 + 163	C129				
2,2',3,4,4',6-HxCB	139	139 + 140	C U		4.49 (Q)		
2,2',3,4,4',6'-HxCB	140	139 + 140	C139				
2,2',3,4,5,5'-HxCB	141		J	15.2	4.79 (S)	1.36	0.903
2,2',3,4,5,6-HxCB	142		U		4.91 (S)		
2,2',3,4,5,6'-HxCB	143	134 + 143	C134				
2,2',3,4,5',6-HxCB	144		K J	4.64	4.49 (Q)	1.03	1.122
2,2',3,4,6,6'-HxCB	145		U		4.49 (Q)		
2,2',3,4',5,5'-HxCB	146		K J	11.4	4.49 (Q)	0.96	0.883
2,2',3,4',5,6-HxCB	147	147 + 149	C	52.3	4.49 (Q)	1.10	1.134
2,2',3,4',5,6'-HxCB	148		U		4.49 (Q)		
2,2',3,4',5,6-HxCB	149	147 + 149	C147				
2,2',3,4',6,6'-HxCB	150		U		4.49 (Q)		
2,2',3,5,5',6-HxCB	151	135 + 151 + 154	C135				
2,2',3,5,6,6'-HxCB	152		U		4.49 (Q)		
2,2',4,4',5,5'-HxCB	153	153 + 168	C	53.7	4.49 (Q)	1.09	0.898
2,2',4,4',5,6'-HxCB	154	135 + 151 + 154	C135				
2,2',4,4',6,6'-HxCB	155		U		4.49 (Q)		
2,3,3',4,4',5-HxCB	156	156 + 157	C J	9.82	4.50 (S)	1.14	1.000
2,3,3',4,4',5'-HxCB	157	156 + 157	C156				
2,3,3',4,4',6-HxCB	158		U		4.49 (Q)		
2,3,3',4,5,5'-HxCB	159		U		4.49 (Q)		
2,3,3',4,5,6-HxCB	160	129 + 138 + 160 + 163	C129				

This page is part of a total report that contains information necessary for accreditation compliance.  
This test is not NELAP accredited. Sample results relate only to the sample tested.

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG <sup>1</sup>	CONC. FOUND	REPORTING LIMIT (RL) <sup>2</sup>	ION ABUND. RATIO	RRT
2,3,3',4,5',6-HxCB	161		U		4.49 (Q)		
2,3,3',4',5,5'-HxCB	162		U		4.49 (Q)		
2,3,3',4',5,6-HxCB	163	129 + 138 + 160 + 163	C129				
2,3,3',4',5',6-HxCB	164		U		4.49 (Q)		
2,3,3',5,5',6-HxCB	165		U		4.49 (Q)		
2,3,4,4',5,6-HxCB	166	128 + 166	C128				
2,3',4,4',5,5'-HxCB	167		U		4.49 (Q)		
2,3',4,4',5',6-HxCB	168	153 + 168	C153				
3,3',4,4',5,5'-HxCB	169		U		4.49 (Q)		
2,2',3,3',4,4',5-HpCB	170		K J	9.27	5.09 (S)	1.33	1.000
2,2',3,3',4,4',6-HpCB	171	171 + 173	C U		5.57 (S)		
2,2',3,3',4,5,5'-HpCB	172		U		5.85 (S)		
2,2',3,3',4,5,6-HpCB	173	171 + 173	C171				
2,2',3,3',4,5,6'-HpCB	174		K J	9.23	5.22 (S)	0.87	1.134
2,2',3,3',4,5',6-HpCB	175		U		5.04 (S)		
2,2',3,3',4,6,6'-HpCB	176		U		4.49 (Q)		
2,2',3,3',4',5,6-HpCB	177		K J	6.71	4.49 (Q)	0.87	1.146
2,2',3,3',5,5',6-HpCB	178		J	7.34	5.16 (S)	1.15	1.085
2,2',3,3',5,6,6'-HpCB	179		K J	6.24	4.49 (Q)	0.62	1.010
2,2',3,4,4',5,5'-HpCB	180	180 + 193	C K J	33.0	5.48 (S)	0.62	1.000
2,2',3,4,4',5,6-HpCB	181		U		5.33 (S)		
2,2',3,4,4',5,6'-HpCB	182		U		4.91 (S)		
2,2',3,4,4',5',6-HpCB	183	183 + 185	C J	5.82	5.03 (S)	0.95	1.127
2,2',3,4,4',6,6'-HpCB	184		U		4.49 (Q)		
2,2',3,4,5,5',6-HpCB	185	183 + 185	C183				
2,2',3,4,5,6,6'-HpCB	186		U		4.49 (Q)		
2,2',3,4',5,5',6-HpCB	187		J	21.4	4.71 (S)	1.13	1.110
2,2',3,4',5,6,6'-HpCB	188		U		4.49 (Q)		
2,3,3',4,4',5,5'-HpCB	189		U		7.02 (S)		
2,3,3',4,4',5,6-HpCB	190		U		4.49 (Q)		
2,3,3',4,4',5',6-HpCB	191		U		4.49 (Q)		
2,3,3',4,5,5',6-HpCB	192		U		4.86 (S)		
2,3,3',4',5,5',6-HpCB	193	180 + 193	C180				
2,2',3,3',4,4',5,5'-OccB	194		K J	6.17	4.49 (Q)	1.48	0.991
2,2',3,3',4,4',5,6-Occb	195		U		4.57 (S)		
2,2',3,3',4,4',5,6'-OccB	196		K J	5.37	4.57 (S)	0.29	0.916
2,2',3,3',4,4',6,6'-OccB	197	197 + 200	C U		4.49 (Q)		
2,2',3,3',4,5,5',6-Occb	198	198 + 199	C K J	16.6	4.68 (S)	0.60	1.115
2,2',3,3',4,5,5',6'-OccB	199	198 + 199	C198				
2,2',3,3',4,5,6,6'-OccB	200	197 + 200	C197				
2,2',3,3',4,5',6,6'-OccB	201		U		4.49 (Q)		
2,2',3,3',5,5',6,6'-OccB	202		K J	5.76	4.49 (Q)	0.69	1.000
2,2',3,4,4',5,5',6-Occb	203		K J	6.61	4.49 (Q)	2.51	0.919
2,2',3,4,4',5,6,6'-OccB	204		U		4.49 (Q)		
2,3,3',4,4',5,5',6-Occb	205		U		4.49 (Q)		
2,2',3,3',4,4',5,5',6-NoCB	206		U		4.89 (S)		
2,2',3,3',4,4',5,6,6'-NoCB	207		U		4.49 (Q)		
2,2',3,3',4,5,5',6,6'-NoCB	208		K J	6.09	4.49 (Q)	1.37	1.001
2,2',3,3',4,4',5,5',6,6'-DeCB	209		K J	12.8	4.49 (Q)	1.78	1.001

(1) Where applicable, custom lab flags have been used on this report; U = not detected at RL; K = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration; J = concentration less than lowest calibration equivalent; G = lock mass interference present; C = co-eluting congener; NQ = data not quantifiable.

(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = minimum reporting level.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_ Jason MacKenzie \_\_\_\_\_

For Axys Internal Use Only [ XSL Template: Form16681A.xsl; Created: 16-Nov-2018 10:17:08; Application: XMLTransformer-1.16.51;  
Report Filename: 1668\_PCB1668\_PCBTF\_L29923-1\_Form1A\_PB8C\_366S5\_SJ2455488.html; Workgroup: WG65583; Design ID: 3360 ]

## SGS AXYS METHOD MLA-010 Rev 12

Form 2  
PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.

PDI-RB-XF-180820

Sample Collection:

20-Aug-2018 15:43

**SGS AXYS ANALYTICAL SERVICES**
 2045 MILLS RD., SIDNEY, B.C., CANADA  
 V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

**Contract No.:** 4972  
**Matrix:** FILTER  
**Sample Receipt Date:** 22-Aug-2018  
**Extraction Date:** 10-Oct-2018  
**Analysis Date:** 24-Oct-2018 **Time:** 23:51:22  
**Extract Volume (uL):** 20  
**Injection Volume (uL):** 1.0  
**Dilution Factor:** N/A  
**Concentration Units:** pg absolute

**Project No.**

PORTRLAND HARBOR PDI AND  
BASELINE WATER  
**Lab Sample I.D.:** L29923-1  
**Sample Size:** 0.2 sample  
**Initial Calibration Date:** 07-Jul-2018  
**Instrument ID:** HR GC/MS  
**GC Column ID:** SPB OCTYL  
**Sample Data Filename:** PB8C\_366 S: 5  
**Blank Data Filename:** PB8C\_366 S: 4  
**Cal. Ver. Data Filename:** PB8C\_366 S: 1

This page is part of a total report that contains information necessary for accreditation compliance.  
 This test is not NELAP accredited. Sample results relate only to the sample tested.

LABELED COMPOUND	IUPAC NO. <sup>1</sup>	CO-ELUTIONS	LAB FLAG <sup>2</sup>	SPIKE CONC.	CONC. FOUND	R(%) <sup>3</sup>	ION ABUND. RATIO	RRT
13C12-2-MoCB	1L		NQ					
13C12-4-MoCB	3L		NQ					
13C12-2,2'-DiCB	4L			4000	1300	32.5	1.57	0.876
13C12-4,4'-DiCB	15L			4000	1520	37.9	1.58	1.251
13C12-2,2',6-TriCB	19L			4000	1620	40.6	1.05	1.071
13C12-3,4,4'-TriCB	37L			4000	1580	39.4	1.02	1.091
13C12-2,2',6,6'-TeCB	54L			4000	1640	41.1	0.79	0.812
13C12-3,3',4,4'-TeCB	77L			4000	1940	48.6	0.76	1.397
13C12-3,4,4',5-TeCB	81L			4000	1880	47.0	0.76	1.373
13C12-2,2',4,6,6'-PeCB	104L			4000	1480	37.1	1.59	0.808
13C12-2,3,3',4,4'-PeCB	105L			4000	2120	53.1	1.57	1.200
13C12-2,3,4,4',5-PeCB	114L			4000	1900	47.5	1.56	1.180
13C12-2,3',4,4',5-PeCB	118L			4000	2020	50.5	1.56	1.162
13C12-2',3,4,4',5-PeCB	123L			4000	2060	51.5	1.52	1.151
13C12-3,3',4,4',5-PeCB	126L			4000	1760	43.9	1.54	1.302
13C12-2,2',4,4',6,6'-HxCB	155L			4000	1440	35.9	1.31	0.785
13C12-2,3,3',4,4',5-HxCB	156L	156L + 157L	C	8000	3740	46.8	1.26	1.108
13C12-2,3,3',4,4',5'-HxCB	157L	156L + 157L	C156L					
13C12-2,3',4,4',5,5'-HxCB	167L			4000	1910	47.9	1.22	1.078
13C12-3,3',4,4',5,5'-HxCB	169L			4000	1830	45.7	1.24	1.192
13C12-2,2',3,3',4,4',5-HpCB	170L			4000	2290	57.3	1.06	0.897
13C12-2,2',3,4,4',5,5'-HpCB	180L			4000	2010	50.3	1.04	0.873
13C12-2,2',3,4',5,6,6'-HpCB	188L			4000	1910	47.6	1.04	0.712
13C12-2,3,3',4,4',5,5'-HpCB	189L			4000	1700	42.5	1.02	0.959
13C12-2,2',3,3',5,5',6,6'-OcCB	202L			4000	1390	34.7	0.87	0.817
13C12-2,3,3',4,4',5,5',6-OcCB	205L			4000	2120	53.0	0.88	1.010
13C12-2,2',3,3',4,4',5,5',6-NoCB	206L			4000	1830	45.8	0.77	1.044
13C12-2,2',3,3',4,5,5',6,6'-NoCB	208L			4000	1930	48.3	0.78	0.949
13C12-2,2',3,3',4,4',5,5',6,6'-DeCB	209L			4000	1520	37.9	1.21	1.075
<b>CLEANUP STANDARD</b>								
13C12-2,4,4'-TriCB	28L			4000	1610	40.3	1.01	0.925
13C12-2,3,3',5,5'-PeCB	111L			4000	1950	48.6	1.63	1.088
13C12-2,2',3,3',5,5'-HpCB	178L			4000	1750	43.7	1.06	1.012

(1) Suffix "L" indicates labeled compound.

(2) Where applicable, custom lab flags have been used on this report; C = co-eluting congener; NQ = data not quantifiable.

(3) R% = percent recovery of labeled compounds.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_ Jason MacKenzie \_\_\_\_\_

## SGS AXYS METHOD MLA-010 Rev 12

Form 1A  
PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.

PDI-WS-T04-1808

Sample Collection:

23-Aug-2018 10:08

**SGS AXYS ANALYTICAL SERVICES**2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811**Contract No.:** 4972**Matrix:** FILTER**Sample Receipt Date:** 29-Aug-2018**Extraction Date:** 10-Oct-2018**Analysis Date:** 25-Oct-2018 **Time:** 00:55:09**Extract Volume (uL):** 20**Injection Volume (uL):** 1.0**Dilution Factor:** N/A**Concentration Units:** pg/sample**Project No.**PORTLAND HARBOR PDI AND  
BASELINE WATER**Lab Sample I.D.:** L29967-1**Sample Size:** 0.2 sample**Initial Calibration Date:** 07-Jul-2018**Instrument ID:** HR GC/MS**GC Column ID:** SPB OCTYL**Sample Data Filename:** PB8C\_366 S: 6**Blank Data Filename:** PB8C\_366 S: 4**Cal. Ver. Data Filename:** PB8C\_366 S: 1

This page is part of a total report that contains information necessary for accreditation compliance.  
This test is not NELAP accredited. Sample results relate only to the sample tested.

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG <sup>1</sup>	CONC. FOUND	REPORTING LIMIT (RL) <sup>2</sup>	ION ABUND. RATIO	RRT
2-MoCB	1		G	66.5	5.79 (S)	2.99	1.003
3-MoCB	2			72.9	5.93 (S)	3.21	0.989
4-MoCB	3			80.7	4.69 (S)	3.30	1.001
2,2'-DiCB	4			202	43.1 (S)	1.49	1.001
2,3-DiCB	5		U		37.2 (S)		
2,3'-DiCB	6			81.6	33.2 (S)	1.69	1.176
2,4-DiCB	7			107	33.7 (S)	1.56	1.158
2,4'-DiCB	8			327	30.1 (S)	1.47	1.208
2,5-DiCB	9		U		33.5 (S)		
2,6-DiCB	10		U		33.6 (S)		
3,3'-DiCB	11			1510	34.9 (S)	1.49	0.968
3,4-DiCB	12	12 + 13	C	68.2	35.4 (S)	1.60	0.983
3,4'-DiCB	13	12 + 13	C12				
3,5-DiCB	14		U		34.1 (S)		
4,4'-DiCB	15			204	36.2 (S)	1.56	1.001
2,2',3-TrICB	16			206	5.24 (S)	1.07	1.166
2,2',4-TrICB	17		G	325	4.54 (S)	1.07	1.138
2,2',5-TrICB	18	18 + 30	C	477	4.33 (Q)	1.07	1.113
2,2',6-TrICB	19			336	5.24 (S)	1.05	1.001
2,3,3'-TrICB	20	20 + 28	C	973	4.33 (Q)	0.99	0.848
2,3,4-TrICB	21	21 + 33	C	469	4.33 (Q)	1.02	0.856
2,3,4'-TrICB	22			296	4.38 (S)	1.00	0.872
2,3,5-TrICB	23		U		4.33 (Q)		
2,3,6-TrICB	24		J	5.80	4.33 (Q)	1.02	1.159
2,3',4-TrICB	25			226	4.33 (Q)	0.96	0.825
2,3',5-TrICB	26	26 + 29	C	168	4.33 (Q)	0.98	1.301
2,3',6-TrICB	27			68.8	4.33 (Q)	1.15	1.151
2,4,4'-TrICB	28	20 + 28	C20				
2,4,5-TrICB	29	26 + 29	C26				
2,4,6-TrICB	30	18 + 30	C18				
2,4',5-TrICB	31			686	4.33 (Q)	0.99	0.836
2,4',6-TrICB	32		G	89.5	4.33 (Q)	0.99	1.198
2',3,4-TrICB	33	21 + 33	C21				
2',3,5-TrICB	34		K J	9.28	4.33 (Q)	0.73	1.273
3,3',4-TrICB	35		J	31.0	4.33 (Q)	0.93	0.985
3,3',5-TrICB	36		J	30.7	4.33 (Q)	1.10	0.932
3,4,4'-TrICB	37			210	4.33 (Q)	0.96	1.001
3,4,5-TrICB	38		U		4.33 (Q)		
3,4',5-TrICB	39		K J	18.3	4.33 (Q)	0.79	0.946

This page is part of a total report that contains information necessary for accreditation compliance.  
 This test is not NELAP accredited. Sample results relate only to the sample tested.

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG <sup>1</sup>	CONC. FOUND	REPORTING LIMIT (RL) <sup>2</sup>	ION ABUND. RATIO	RRT
2,2',3,3'-TeCB	40	40 + 41 + 71	C	608	4.33 (Q)	0.82	1.335
2,2',3,4'-TeCB	41	40 + 41 + 71	C40				
2,2',3,4'-TeCB	42			286	4.33 (Q)	0.72	1.311
2,2',3,5'-TeCB	43		J	31.9	4.33 (Q)	0.79	1.246
2,2',3,5'-TeCB	44	44 + 47 + 65	C	4320	4.33 (Q)	0.78	1.285
2,2',3,6'-TeCB	45	45 + 51	C	1150	4.33 (Q)	0.76	1.147
2,2',3,6'-TeCB	46			64.9	4.33 (Q)	0.81	1.159
2,2',4,4'-TeCB	47	44 + 47 + 65	C44				
2,2',4,5'-TeCB	48			178	4.33 (Q)	0.75	1.271
2,2',4,5'-TeCB	49	49 + 69	C	968	4.33 (Q)	0.78	1.257
2,2',4,6'-TeCB	50	50 + 53	C	349	4.33 (Q)	0.75	1.110
2,2',4,6'-TeCB	51	45 + 51	C45				
2,2',5,5'-TeCB	52			1570	4.33 (Q)	0.78	1.233
2,2',5,6'-TeCB	53	50 + 53	C50				
2,2',6,6'-TeCB	54			89.1	4.33 (Q)	0.79	1.001
2,3,3',4'-TeCB	55		U		9.43 (S)		
2,3,3',4'-TeCB	56			558	9.43 (S)	0.75	0.904
2,3,3',5'-TeCB	57		U		8.50 (S)		
2,3,3',5'-TeCB	58		U		8.73 (S)		
2,3,3',6'-TeCB	59	59 + 62 + 75	C	108	4.33 (Q)	0.76	1.300
2,3,4,4'-TeCB	60			245	9.53 (S)	0.78	0.911
2,3,4,5'-TeCB	61	61 + 70 + 74 + 76	C	1810	8.52 (S)	0.76	0.874
2,3,4,6'-TeCB	62	59 + 62 + 75	C59				
2,3,4',5'-TeCB	63			46.1	8.56 (S)	0.88	0.864
2,3,4',6'-TeCB	64			474	4.33 (Q)	0.80	1.348
2,3,5,6'-TeCB	65	44 + 47 + 65	C44				
2,3',4,4'-TeCB	66		G	1210	8.49 (S)	0.76	0.884
2,3',4,5'-TeCB	67		J	27.1	7.38 (S)	0.71	0.855
2,3',4,5'-TeCB	68			548	8.49 (S)	0.75	0.831
2,3',4,6'-TeCB	69	49 + 69	C49				
2,3',4',5'-TeCB	70	61 + 70 + 74 + 76	C61				
2,3',4',6'-TeCB	71	40 + 41 + 71	C40				
2,3',5,5'-TeCB	72		K J	29.3	8.27 (S)	0.91	0.822
2,3',5,6'-TeCB	73		U		4.33 (Q)		
2,4,4',5'-TeCB	74	61 + 70 + 74 + 76	C61				
2,4,4',6'-TeCB	75	59 + 62 + 75	C59				
2',3,4,5'-TeCB	76	61 + 70 + 74 + 76	C61				
3,3',4,4'-TeCB	77			133	8.35 (S)	0.82	1.000
3,3',4,5'-TeCB	78		U		9.24 (S)		
3,3',4,5'-TeCB	79		K J	26.9	7.61 (S)	1.06	0.969
3,3',5,5'-TeCB	80		U		8.55 (S)		
3,4,4',5'-TeCB	81		U		8.53 (S)		
2,2',3,3',4'-PeCB	82			262	7.19 (S)	1.53	0.934
2,2',3,3',5'-PeCB	83	83 + 99	C	1570	6.56 (S)	1.60	0.885
2,2',3,3',6'-PeCB	84			510	7.05 (S)	1.59	1.165
2,2',3,4,4'-PeCB	85	85 + 116 + 117	C	411	5.47 (S)	1.57	0.920
2,2',3,4,5'-PeCB	86	86 + 87 + 97 + 108 + 119 + 125	C G	1570	5.64 (S)	1.50	0.901
2,2',3,4,5'-PeCB	87	86 + 87 + 97 + 108 + 119 + 125	C86				
2,2',3,4,6'-PeCB	88	88 + 91	C	451	6.26 (S)	1.65	1.156
2,2',3,4,6'-PeCB	89		K J	23.9	6.65 (S)	1.85	1.184
2,2',3,4',5'-PeCB	90	90 + 101 + 113	C	2560	5.60 (S)	1.59	0.869
2,2',3,4',6'-PeCB	91	88 + 91	C88				
2,2',3,5,5'-PeCB	92			533	6.54 (S)	1.48	0.853
2,2',3,5,6'-PeCB	93	93 + 95 + 98 + 100 + 102	C	2070	6.06 (S)	1.56	1.122
2,2',3,5,6'-PeCB	94			38.2	6.73 (S)	1.47	1.103
2,2',3,5',6'-PeCB	95	93 + 95 + 98 + 100 + 102	C93				
2,2',3,6,6'-PeCB	96		K J	33.9	4.33 (Q)	1.27	1.017
2,2',3',4,5'-PeCB	97	86 + 87 + 97 + 108 + 119 + 125	C86				
2,2',3',4,6'-PeCB	98	93 + 95 + 98 + 100 + 102	C93				
2,2',4,4',5'-PeCB	99	83 + 99	C83				

This page is part of a total report that contains information necessary for accreditation compliance.  
 This test is not NELAP accredited. Sample results relate only to the sample tested.

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG <sup>1</sup>	CONC. FOUND	REPORTING LIMIT (RL) <sup>2</sup>	ION ABUND. RATIO	RRT
2,2',4,4',6-PeCB	100	93 + 95 + 98 + 100 + 102	C93				
2,2',4,5,5'-PeCB	101	90 + 101 + 113	C90				
2,2',4,5,6'-PeCB	102	93 + 95 + 98 + 100 + 102	C93				
2,2',4,5',6-PeCB	103			88.9	5.52 (S)	1.55	1.094
2,2',4,6,6'-PeCB	104		K J	16.0	4.33 (Q)	1.32	1.001
2,3,3',4,4'-PeCB	105			755	6.19 (S)	1.50	1.000
2,3,3',4,5-PeCB	106		U		7.66 (S)		
2,3,3',4,5'-PeCB	107	107 + 124	C	84.7	8.13 (S)	1.50	0.991
2,3,3',4,5'-PeCB	108	86 + 87 + 97 + 108 + 119 + 125	C86				
2,3,3',4,6-PeCB	109			167	7.40 (S)	1.61	0.998
2,3,3',4',6-PeCB	110	110 + 115	C	2570	4.86 (S)	1.60	0.925
2,3,3',5,5'-PeCB	111		U		4.88 (S)		
2,3,3',5,6-PeCB	112		U		4.75 (S)		
2,3,3',5',6-PeCB	113	90 + 101 + 113	C90				
2,3,4,4',5-PeCB	114			51.4	7.86 (S)	1.77	1.000
2,3,4,4',6-PeCB	115	110 + 115	C110				
2,3,4,5,6-PeCB	116	85 + 116 + 117	C85				
2,3,4',5,6-PeCB	117	85 + 116 + 117	C85				
2,3',4,4',5-PeCB	118			1950	7.70 (S)	1.51	1.001
2,3',4,4',6-PeCB	119	86 + 87 + 97 + 108 + 119 + 125	C86				
2,3',4,5,5'-PeCB	120		J	22.3	4.71 (S)	1.46	0.958
2,3',4,5',6-PeCB	121		U		4.97 (S)		
2',3,3',4,5-PeCB	122		J	29.4	8.96 (S)	1.53	1.010
2',3,4,4',5-PeCB	123		K	50.4	7.33 (S)	1.49	1.000
2',3,4,5,5'-PeCB	124	107 + 124	C107				
2',3,4,5,6'-PeCB	125	86 + 87 + 97 + 108 + 119 + 125	C86				
3,3',4,4',5-PeCB	126		K J	24.3	9.43 (S)	1.12	1.001
3,3',4,5,5'-PeCB	127		U		8.63 (S)		
2,2',3,3',4,4'-HxCB	128	128 + 166	C	654	7.20 (S)	1.30	0.959
2,2',3,3',4,5-HxCB	129	129 + 138 + 160 + 163	C	4480	7.26 (S)	1.26	0.928
2,2',3,3',4,5'-HxCB	130		K	245	9.44 (S)	1.49	0.913
2,2',3,3',4,6-HxCB	131			45.3	8.61 (S)	1.41	1.160
2,2',3,3',4,6'-HxCB	132			1340	9.14 (S)	1.20	1.175
2,2',3,3',5,5'-HxCB	133			95.7	8.40 (S)	1.18	1.192
2,2',3,3',5,6-HxCB	134	134 + 143	C	233	8.56 (S)	1.29	1.141
2,2',3,3',5,6'-HxCB	135	135 + 151 + 154	C	1600	4.33 (Q)	1.33	1.104
2,2',3,3',6,6'-HxCB	136			547	4.33 (Q)	1.28	1.025
2,2',3,4,4',5-HxCB	137			175	9.25 (S)	1.20	0.918
2,2',3,4,4',5'-HxCB	138	129 + 138 + 160 + 163	C129				
2,2',3,4,4',6-HxCB	139	139 + 140	C	70.3	7.74 (S)	1.24	1.153
2,2',3,4,4',6'-HxCB	140	139 + 140	C139				
2,2',3,4,5,5'-HxCB	141			745	8.46 (S)	1.31	0.903
2,2',3,4,5,6-HxCB	142		U		8.68 (S)		
2,2',3,4,5,6'-HxCB	143	134 + 143	C134				
2,2',3,4,5',6-HxCB	144			183	4.33 (Q)	1.35	1.122
2,2',3,4,6,6'-HxCB	145		U		4.33 (Q)		
2,2',3,4',5,5'-HxCB	146			886	7.35 (S)	1.28	0.884
2,2',3,4',5,6-HxCB	147	147 + 149	C	4360	7.61 (S)	1.24	1.133
2,2',3,4',5,6'-HxCB	148		K J	22.8	4.33 (Q)	1.83	1.084
2,2',3,4',5,6-HxCB	149	147 + 149	C147				
2,2',3,4',6,6'-HxCB	150		J	23.2	4.33 (Q)	1.22	1.013
2,2',3,5,5',6-HxCB	151	135 + 151 + 154	C135				
2,2',3,5,6,6'-HxCB	152		J	9.96	4.33 (Q)	1.19	1.007
2,2',4,4',5,5'-HxCB	153	153 + 168	C	3770	6.51 (S)	1.24	0.898
2,2',4,4',5,6'-HxCB	154	135 + 151 + 154	C135				
2,2',4,4',6,6'-HxCB	155		K J	5.07	4.33 (Q)	0.94	1.001
2,3,3',4,4',5-HxCB	156	156 + 157	C	395	7.96 (S)	1.30	1.000
2,3,3',4,4',5'-HxCB	157	156 + 157	C156				
2,3,3',4,4',6-HxCB	158			341	5.57 (S)	1.25	0.937
2,3,3',4,5,5'-HxCB	159		U		6.33 (S)		
2,3,3',4,5,6-HxCB	160	129 + 138 + 160 + 163	C129				

This page is part of a total report that contains information necessary for accreditation compliance.  
This test is not NELAP accredited. Sample results relate only to the sample tested.

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG <sup>1</sup>	CONC. FOUND	REPORTING LIMIT (RL) <sup>2</sup>	ION ABUND. RATIO	RRT
2,3,3',4,5',6-HxCB	161		U		5.91 (S)		
2,3,3',4',5,5'-HxCB	162		U		5.78 (S)		
2,3,3',4,5,6-HxCB	163	129 + 138 + 160 + 163	C129				
2,3,3',4',5,6-HxCB	164			277	6.05 (S)	1.24	0.921
2,3,3',5,5',6-HxCB	165		U		7.03 (S)		
2,3,4,4',5,6-HxCB	166	128 + 166	C128				
2,3',4,4',5,5'-HxCB	167			140	6.11 (S)	1.23	1.000
2,3',4,4',5',6-HxCB	168	153 + 168	C153				
3,3',4,4',5,5'-HxCB	169		U		8.33 (S)		
2,2',3,3',4,4',5-HpCB	170			1040	4.33 (Q)	1.12	1.001
2,2',3,3',4,4',6-HpCB	171	171 + 173	C	320	4.33 (Q)	1.09	1.164
2,2',3,3',4,5,5'-HpCB	172			192	4.33 (Q)	1.01	0.897
2,2',3,3',4,5,6-HpCB	173	171 + 173	C171				
2,2',3,3',4,5,6'-HpCB	174			1100	4.33 (Q)	1.08	1.134
2,2',3,3',4,5',6-HpCB	175		K	48.6	4.33 (Q)	1.26	1.103
2,2',3,3',4,6,6'-HpCB	176			143	4.33 (Q)	1.06	1.034
2,2',3,3',4,5,6-HpCB	177			641	4.33 (Q)	1.09	1.146
2,2',3,3',5,5',6-HpCB	178			258	4.33 (Q)	1.07	1.086
2,2',3,3',5,6,6'-HpCB	179			519	4.33 (Q)	1.07	1.011
2,2',3,4,4',5,5'-HpCB	180	180 + 193	C	2920	4.33 (Q)	1.07	1.000
2,2',3,4,4',5,6-HpCB	181		K J	19.7	4.33 (Q)	0.87	1.157
2,2',3,4,4',5,6'-HpCB	182		J	12.8	4.33 (Q)	1.05	1.116
2,2',3,4,4',5',6-HpCB	183	183 + 185	C	759	4.33 (Q)	1.05	1.127
2,2',3,4,4',6,6'-HpCB	184		U		4.33 (Q)		
2,2',3,4,5,5',6-HpCB	185	183 + 185	C183				
2,2',3,4,5,6,6'-HpCB	186		U		4.33 (Q)		
2,2',3,4',5,5',6-HpCB	187			1920	4.33 (Q)	1.07	1.110
2,2',3,4',5,6,6'-HpCB	188		K J	8.45	4.33 (Q)	1.68	1.000
2,3,3',4,4',5,5'-HpCB	189		J	34.2	4.33 (Q)	0.96	1.001
2,3,3',4,4',5,6-HpCB	190			217	4.33 (Q)	1.07	0.947
2,3,3',4,4',5',6-HpCB	191			45.3	4.33 (Q)	1.14	0.917
2,3,3',4,5,5',6-HpCB	192		U		4.33 (Q)		
2,3,3',4',5,5',6-HpCB	193	180 + 193	C180				
2,2',3,3',4,4',5,5'-OcCB	194			579	4.33 (Q)	0.90	0.991
2,2',3,3',4,4',5,6-OcCB	195			244	4.34 (S)	0.94	0.945
2,2',3,3',4,4',5,6'-OcCB	196		K	304	4.33 (Q)	0.70	0.915
2,2',3,3',4,4',6,6'-OcCB	197	197 + 200	C	124	4.33 (Q)	0.92	1.046
2,2',3,3',4,5,5',6-OcCB	198	198 + 199	C	746	4.33 (Q)	0.84	1.115
2,2',3,3',4,5,5',6'-OcCB	199	198 + 199	C198				
2,2',3,3',4,5,6,6'-OcCB	200	197 + 200	C197				
2,2',3,3',4,5',6,6'-OcCB	201			86.5	4.33 (Q)	0.93	1.023
2,2',3,3',5,5',6,6'-OcCB	202			171	4.33 (Q)	1.01	1.000
2,2',3,4,4',5,5',6-OcCB	203			496	4.33 (Q)	0.92	0.919
2,2',3,4,4',5,6,6'-OcCB	204		U		4.33 (Q)		
2,3,3',4,4',5,5',6-OcCB	205		K J	32.3	4.33 (Q)	1.04	1.000
2,2',3,3',4,4',5,5',6-NoCB	206			397	4.33 (Q)	0.79	1.000
2,2',3,3',4,4',5,6,6'-NoCB	207			54.5	4.33 (Q)	0.87	1.020
2,2',3,3',4,5,5',6,6'-NoCB	208			140	4.33 (Q)	0.80	1.000
2,2',3,3',4,4',5,5',6,6'-DeCB	209			468	4.33 (Q)	1.23	1.000

(1) Where applicable, custom lab flags have been used on this report; U = not detected at RL; K = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration; J = concentration less than lowest calibration equivalent; G = lock mass interference present; C = co-eluting congener.

(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = minimum reporting level.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_ Jason MacKenzie \_\_\_\_\_

For Axys Internal Use Only [ XSL Template: Form16681A.xsl; Created: 16-Nov-2018 10:17:08; Application: XMLTransformer-1.16.51;  
Report Filename: 1668\_PCB1668\_PCBTF\_L29967-1\_Form1A\_PB8C\_366S6\_SJ2455490.html; Workgroup: WG65583; Design ID: 3360 ]

## SGS AXYS METHOD MLA-010 Rev 12

Form 2  
PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.

PDI-WS-T04-1808

Sample Collection:

23-Aug-2018 10:08

## SGS AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

**Contract No.:** 4972  
**Matrix:** FILTER  
**Sample Receipt Date:** 29-Aug-2018  
**Extraction Date:** 10-Oct-2018  
**Analysis Date:** 25-Oct-2018 **Time:** 00:55:09  
**Extract Volume (uL):** 20  
**Injection Volume (uL):** 1.0  
**Dilution Factor:** N/A  
**Concentration Units:** pg absolute

## Project No.

**Lab Sample I.D.:** L29967-1  
**Sample Size:** 0.2 sample  
**Initial Calibration Date:** 07-Jul-2018  
**Instrument ID:** HR GC/MS  
**GC Column ID:** SPB OCTYL  
**Sample Data Filename:** PB8C\_366 S: 6  
**Blank Data Filename:** PB8C\_366 S: 4  
**Cal. Ver. Data Filename:** PB8C\_366 S: 1

PORTLAND HARBOR PDI AND  
BASELINE WATER

This page is part of a total report that contains information necessary for accreditation compliance.  
This test is not NELAP accredited. Sample results relate only to the sample tested.

LABELED COMPOUND	IUPAC NO. <sup>1</sup>	CO-ELUTIONS	LAB FLAG <sup>2</sup>	SPIKE CONC.	CONC. FOUND	R(%) <sup>3</sup>	ION ABUND. RATIO	RRT
13C12-2-MoCB	1L		G	4000	1050	26.2	3.17	0.718
13C12-4-MoCB	3L			4000	1360	34.0	3.20	0.858
13C12-2,2'-DiCB	4L			4000	1600	40.1	1.56	0.873
13C12-4,4'-DiCB	15L			4000	1690	42.2	1.55	1.253
13C12-2,2',6-TriCB	19L			4000	2210	55.2	1.05	1.071
13C12-3,4,4'-TriCB	37L			4000	2330	58.2	1.03	1.092
13C12-2,2',6,6'-TeCB	54L			4000	2420	60.5	0.79	0.812
13C12-3,3',4,4'-TeCB	77L			4000	3350	83.7	0.75	1.398
13C12-3,4,4',5-TeCB	81L			4000	3230	80.8	0.76	1.374
13C12-2,2',4,6,6'-PeCB	104L			4000	2240	55.9	1.62	0.807
13C12-2,3,3',4,4'-PeCB	105L			4000	3690	92.2	1.57	1.200
13C12-2,3,4,4',5-PeCB	114L			4000	3030	75.7	1.57	1.180
13C12-2,3',4,4',5-PeCB	118L			4000	3160	79.0	1.56	1.162
13C12-2',3,4,4',5-PeCB	123L			4000	3360	83.9	1.53	1.151
13C12-3,3',4,4',5-PeCB	126L			4000	2910	72.7	1.57	1.302
13C12-2,2',4,4',6,6'-HxCB	155L			4000	2220	55.6	1.30	0.785
13C12-2,3,3',4,4',5-HxCB	156L	156L + 157L	C	8000	5830	72.9	1.21	1.108
13C12-2,3,3',4,4',5'-HxCB	157L	156L + 157L	C156L					
13C12-2,3',4,4',5,5'-HxCB	167L			4000	2990	74.7	1.28	1.078
13C12-3,3',4,4',5,5'-HxCB	169L			4000	2810	70.3	1.22	1.192
13C12-2,2',3,3',4,4',5-HpCB	170L			4000	4090	102	1.07	0.897
13C12-2,2',3,4,4',5,5'-HpCB	180L			4000	3900	97.6	1.06	0.873
13C12-2,2',3,4',5,6,6'-HpCB	188L			4000	3490	87.3	1.07	0.712
13C12-2,3,3',4,4',5,5'-HpCB	189L			4000	3880	97.0	1.02	0.959
13C12-2,2',3,3',5,5',6,6'-OcCB	202L			4000	2620	65.6	0.89	0.817
13C12-2,3,3',4,4',5,5',6-OcCB	205L			4000	3600	90.0	0.90	1.010
13C12-2,2',3,3',4,4',5,5',6-NoCB	206L			4000	3150	78.8	0.76	1.044
13C12-2,2',3,3',4,5,5',6,6'-NoCB	208L			4000	3540	88.6	0.75	0.949
13C12-2,2',3,3',4,4',5,5',6,6'-DeCB	209L			4000	2610	65.2	1.19	1.075

## CLEANUP STANDARD

13C12-2,4,4'-TriCB	28L		4000	2440	61.1	1.05	0.925
13C12-2,3,3',5,5'-PeCB	111L		4000	3250	81.4	1.63	1.088
13C12-2,2',3,3',5,5'-HpCB	178L		4000	2690	67.3	1.04	1.012

(1) Suffix "L" indicates labeled compound.

(2) Where applicable, custom lab flags have been used on this report; G = lock mass interference present; C = co-eluting congener.

(3) R% = percent recovery of labeled compounds.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_ Jason MacKenzie \_\_\_\_\_

## SGS AXYS METHOD MLA-010 Rev 12

Form 1A  
PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.

PDI-WS-T02-1808

Sample Collection:

24-Aug-2018 12:22

**SGS AXYS ANALYTICAL SERVICES**
 2045 MILLS RD., SIDNEY, B.C., CANADA  
 V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811
**Contract No.:** 4972**Matrix:** FILTER**Sample Receipt Date:** 29-Aug-2018**Extraction Date:** 10-Oct-2018**Analysis Date:** 25-Oct-2018 **Time:** 01:59:04**Extract Volume (uL):** 20**Injection Volume (uL):** 1.0**Dilution Factor:** N/A**Concentration Units:** pg/sample**Project No.**PORTLAND HARBOR PDI AND  
BASELINE WATER**Lab Sample I.D.:** L29967-2**Sample Size:** 0.2 sample**Initial Calibration Date:** 07-Jul-2018**Instrument ID:** HR GC/MS**GC Column ID:** SPB OCTYL**Sample Data Filename:** PB8C\_366 S: 7**Blank Data Filename:** PB8C\_366 S: 4**Cal. Ver. Data Filename:** PB8C\_366 S: 1

This page is part of a total report that contains information necessary for accreditation compliance.  
 This test is not NELAP accredited. Sample results relate only to the sample tested.

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG <sup>1</sup>	CONC. FOUND	REPORTING LIMIT (RL) <sup>2</sup>	ION ABUND. RATIO	RRT
2-MoCB	1		G	45.8	5.09 (S)	3.14	1.001
3-MoCB	2			61.3	5.45 (S)	3.07	0.988
4-MoCB	3			54.9	4.49 (S)	3.44	1.001
2,2'-DiCB	4			155	60.6 (S)	1.42	1.001
2,3-DiCB	5		U		49.3 (S)		
2,3'-DiCB	6		K	75.2	44.0 (S)	1.29	1.174
2,4-DiCB	7			64.7	44.7 (S)	1.56	1.156
2,4'-DiCB	8			251	39.9 (S)	1.55	1.206
2,5-DiCB	9		U		44.3 (S)		
2,6-DiCB	10		U		44.5 (S)		
3,3'-DiCB	11			1200	46.2 (S)	1.59	0.968
3,4-DiCB	12	12 + 13	C K	59.8	46.8 (S)	0.99	0.983
3,4'-DiCB	13	12 + 13	C12				
3,5-DiCB	14		U		45.1 (S)		
4,4'-DiCB	15			193	46.3 (S)	1.56	1.001
2,2',3-TrICB	16			157	5.77 (S)	1.08	1.166
2,2',4-TrICB	17		G	237	5.00 (S)	1.00	1.138
2,2',5-TrICB	18	18 + 30	C	357	4.34 (Q)	1.02	1.113
2,2',6-TrICB	19			213	6.15 (S)	1.15	1.001
2,3,3'-TrICB	20	20 + 28	C	748	5.07 (S)	1.02	0.847
2,3,4-TrICB	21	21 + 33	C	328	5.00 (S)	0.96	0.856
2,3,4'-TrICB	22			227	5.76 (S)	1.02	0.871
2,3,5-TrICB	23		U		5.40 (S)		
2,3,6-TrICB	24		J	4.90	4.34 (Q)	1.06	1.158
2,3',4-TrICB	25			151	4.36 (S)	1.03	0.824
2,3',5-TrICB	26	26 + 29	C	122	5.20 (S)	1.02	1.301
2,3',6-TrICB	27			54.0	4.34 (Q)	0.97	1.150
2,4,4'-TrICB	28	20 + 28	C20				
2,4,5-TrICB	29	26 + 29	C26				
2,4,6-TrICB	30	18 + 30	C18				
2,4',5-TrICB	31			522	4.78 (S)	0.99	0.836
2,4',6-TrICB	32		G	65.4	5.08 (S)	1.06	1.197
2',3,4-TrICB	33	21 + 33	C21				
2',3,5-TrICB	34		K J	6.28	5.36 (S)	1.61	1.273
3,3',4-TrICB	35		J	18.2	5.31 (S)	0.89	0.985
3,3',5-TrICB	36		J	16.0	4.89 (S)	1.15	0.931
3,4,4'-TrICB	37			199	4.93 (S)	1.02	1.001
3,4,5-TrICB	38		U		5.22 (S)		
3,4',5-TrICB	39		K J	12.8	5.20 (S)	0.78	0.945

This page is part of a total report that contains information necessary for accreditation compliance.  
 This test is not NELAP accredited. Sample results relate only to the sample tested.

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG <sup>1</sup>	CONC. FOUND	REPORTING LIMIT (RL) <sup>2</sup>	ION ABUND. RATIO	RRT
2,2',3,3'-TeCB	40	40 + 41 + 71	C	430	4.34 (Q)	0.81	1.335
2,2',3,4'-TeCB	41	40 + 41 + 71	C40				
2,2',3,4'-TeCB	42			206	4.34 (Q)	0.73	1.310
2,2',3,5'-TeCB	43		U		4.34 (Q)		
2,2',3,5'-TeCB	44	44 + 47 + 65	C	2800	4.34 (Q)	0.77	1.285
2,2',3,6'-TeCB	45	45 + 51	C	736	4.34 (Q)	0.78	1.147
2,2',3,6'-TeCB	46			49.5	4.34 (Q)	0.71	1.159
2,2',4,4'-TeCB	47	44 + 47 + 65	C44				
2,2',4,5'-TeCB	48			132	4.34 (Q)	0.84	1.272
2,2',4,5'-TeCB	49	49 + 69	C	684	4.34 (Q)	0.82	1.257
2,2',4,6'-TeCB	50	50 + 53	C	218	4.34 (Q)	0.86	1.109
2,2',4,6'-TeCB	51	45 + 51	C45				
2,2',5,5'-TeCB	52			1120	4.34 (Q)	0.79	1.232
2,2',5,6'-TeCB	53	50 + 53	C50				
2,2',6,6'-TeCB	54			60.7	4.34 (Q)	0.78	1.000
2,3,3',4'-TeCB	55		U		10.6 (S)		
2,3,3',4'-TeCB	56			371	10.6 (S)	0.74	0.904
2,3,3',5'-TeCB	57		U		9.58 (S)		
2,3,3',5'-TeCB	58		U		9.84 (S)		
2,3,3',6'-TeCB	59	59 + 62 + 75	C	82.4	4.34 (Q)	0.76	1.300
2,3,4,4'-TeCB	60			158	10.7 (S)	0.73	0.911
2,3,4,5'-TeCB	61	61 + 70 + 74 + 76	C	1380	9.61 (S)	0.74	0.874
2,3,4,6'-TeCB	62	59 + 62 + 75	C59				
2,3,4',5'-TeCB	63			37.7	9.64 (S)	0.75	0.864
2,3,4',6'-TeCB	64			342	4.34 (Q)	0.79	1.346
2,3,5,6'-TeCB	65	44 + 47 + 65	C44				
2,3',4,4'-TeCB	66		G	909	9.56 (S)	0.76	0.884
2,3',4,5'-TeCB	67		K J	21.3	8.32 (S)	0.89	0.855
2,3',4,5'-TeCB	68			371	9.57 (S)	0.74	0.831
2,3',4,6'-TeCB	69	49 + 69	C49				
2,3',4',5'-TeCB	70	61 + 70 + 74 + 76	C61				
2,3',4',6'-TeCB	71	40 + 41 + 71	C40				
2,3',5,5'-TeCB	72		J	27.4	9.32 (S)	0.83	0.822
2,3',5,6'-TeCB	73		U		4.34 (Q)		
2,4,4',5'-TeCB	74	61 + 70 + 74 + 76	C61				
2,4,4',6'-TeCB	75	59 + 62 + 75	C59				
2',3,4,5'-TeCB	76	61 + 70 + 74 + 76	C61				
3,3',4,4'-TeCB	77			105	9.22 (S)	0.83	1.000
3,3',4,5'-TeCB	78		U		10.4 (S)		
3,3',4,5'-TeCB	79		K J	19.7	8.58 (S)	0.60	0.969
3,3',5,5'-TeCB	80		U		9.64 (S)		
3,4,4',5'-TeCB	81		U		9.66 (S)		
2,2',3,3',4'-PeCB	82			182	9.39 (S)	1.44	0.934
2,2',3,3',5'-PeCB	83	83 + 99	C	1100	8.56 (S)	1.58	0.886
2,2',3,3',6'-PeCB	84			384	9.20 (S)	1.62	1.164
2,2',3,4,4'-PeCB	85	85 + 116 + 117	C	292	7.14 (S)	1.69	0.920
2,2',3,4,5'-PeCB	86	86 + 87 + 97 + 108 + 119 + 125	C G	1120	7.36 (S)	1.53	0.901
2,2',3,4,5'-PeCB	87	86 + 87 + 97 + 108 + 119 + 125	C86				
2,2',3,4,6'-PeCB	88	88 + 91	C	293	8.17 (S)	1.67	1.155
2,2',3,4,6'-PeCB	89		K J	17.6	8.69 (S)	1.29	1.183
2,2',3,4',5'-PeCB	90	90 + 101 + 113	C	1810	7.31 (S)	1.58	0.869
2,2',3,4',6'-PeCB	91	88 + 91	C88				
2,2',3,5,5'-PeCB	92			381	8.54 (S)	1.60	0.853
2,2',3,5,6'-PeCB	93	93 + 95 + 98 + 100 + 102	C	1400	7.91 (S)	1.60	1.122
2,2',3,5,6'-PeCB	94		J	19.6	8.78 (S)	1.70	1.103
2,2',3,5',6'-PeCB	95	93 + 95 + 98 + 100 + 102	C93				
2,2',3,6,6'-PeCB	96		J	19.8	4.34 (Q)	1.55	1.016
2,2',3',4,5'-PeCB	97	86 + 87 + 97 + 108 + 119 + 125	C86				
2,2',3',4,6'-PeCB	98	93 + 95 + 98 + 100 + 102	C93				
2,2',4,4',5'-PeCB	99	83 + 99	C83				

This page is part of a total report that contains information necessary for accreditation compliance.  
 This test is not NELAP accredited. Sample results relate only to the sample tested.

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG <sup>1</sup>	CONC. FOUND	REPORTING LIMIT (RL) <sup>2</sup>	ION ABUND. RATIO	RRT
2,2',4,4',6-PeCB	100	93 + 95 + 98 + 100 + 102	C93				
2,2',4,5,5'-PeCB	101	90 + 101 + 113	C90				
2,2',4,5,6'-PeCB	102	93 + 95 + 98 + 100 + 102	C93				
2,2',4,5',6-PeCB	103			49.8	7.21 (S)	1.32	1.094
2,2',4,6,6'-PeCB	104		K J	10.7	4.34 (Q)	1.06	1.001
2,3,3',4,4'-PeCB	105			546	4.34 (Q)	1.52	1.001
2,3,3',4,5-PeCB	106		U		5.18 (S)		
2,3,3',4,5'-PeCB	107	107 + 124	C K	62.1	5.50 (S)	1.91	0.991
2,3,3',4,5'-PeCB	108	86 + 87 + 97 + 108 + 119 + 125	C86				
2,3,3',4,6-PeCB	109			128	5.00 (S)	1.42	0.997
2,3,3',4',6-PeCB	110	110 + 115	C	1890	6.35 (S)	1.57	0.925
2,3,3',5,5'-PeCB	111		U		6.37 (S)		
2,3,3',5,6-PeCB	112		U		6.21 (S)		
2,3,3',5',6-PeCB	113	90 + 101 + 113	C90				
2,3,4,4',5-PeCB	114		J	33.4	5.36 (S)	1.41	1.000
2,3,4,4',6-PeCB	115	110 + 115	C110				
2,3,4,5,6-PeCB	116	85 + 116 + 117	C85				
2,3,4',5,6-PeCB	117	85 + 116 + 117	C85				
2,3',4,4',5-PeCB	118			1390	5.27 (S)	1.51	1.000
2,3',4,4',6-PeCB	119	86 + 87 + 97 + 108 + 119 + 125	C86				
2,3',4,5,5'-PeCB	120		K J	18.4	6.14 (S)	1.82	0.959
2,3',4,5',6-PeCB	121		U		6.49 (S)		
2',3,3',4,5-PeCB	122		K J	20.8	6.06 (S)	1.90	1.010
2',3,4,4',5-PeCB	123		K J	28.8	5.17 (S)	1.94	1.001
2',3,4,5,5'-PeCB	124	107 + 124	C107				
2',3,4,5,6'-PeCB	125	86 + 87 + 97 + 108 + 119 + 125	C86				
3,3',4,4',5-PeCB	126		K J	14.6	6.00 (S)	1.32	1.000
3,3',4,5,5'-PeCB	127		U		5.83 (S)		
2,2',3,3',4,4'-HxCB	128	128 + 166	C	492	8.31 (S)	1.17	0.959
2,2',3,3',4,5-HxCB	129	129 + 138 + 160 + 163	C	3080	8.38 (S)	1.28	0.928
2,2',3,3',4,5'-HxCB	130			187	10.9 (S)	1.16	0.913
2,2',3,3',4,6-HxCB	131		J	29.4	9.94 (S)	1.35	1.161
2,2',3,3',4,6'-HxCB	132			926	10.6 (S)	1.29	1.176
2,2',3,3',5,5'-HxCB	133			65.5	9.70 (S)	1.32	1.192
2,2',3,3',5,6-HxCB	134	134 + 143	C	159	9.88 (S)	1.30	1.141
2,2',3,3',5,6'-HxCB	135	135 + 151 + 154	C	1140	4.34 (Q)	1.34	1.105
2,2',3,3',6,6'-HxCB	136			388	4.34 (Q)	1.32	1.025
2,2',3,4,4',5-HxCB	137		K	100	10.7 (S)	1.57	0.918
2,2',3,4,4',5'-HxCB	138	129 + 138 + 160 + 163	C129				
2,2',3,4,4',6-HxCB	139	139 + 140	C	50.4	8.94 (S)	1.25	1.154
2,2',3,4,4',6'-HxCB	140	139 + 140	C139				
2,2',3,4,5,5'-HxCB	141			551	9.76 (S)	1.29	0.903
2,2',3,4,5,6-HxCB	142		U		10.0 (S)		
2,2',3,4,5,6'-HxCB	143	134 + 143	C134				
2,2',3,4,5',6-HxCB	144			112	4.34 (Q)	1.07	1.122
2,2',3,4,6,6'-HxCB	145		U		4.34 (Q)		
2,2',3,4',5,5'-HxCB	146			642	8.49 (S)	1.19	0.884
2,2',3,4',5,6-HxCB	147	147 + 149	C	2940	8.79 (S)	1.27	1.134
2,2',3,4',5,6'-HxCB	148		K J	17.9	4.34 (Q)	1.89	1.084
2,2',3,4',5,6-HxCB	149	147 + 149	C147				
2,2',3,4',6,6'-HxCB	150		K J	15.6	4.34 (Q)	1.46	1.013
2,2',3,5,5',6-HxCB	151	135 + 151 + 154	C135				
2,2',3,5,6,6'-HxCB	152		K J	6.00	4.34 (Q)	0.95	1.007
2,2',4,4',5,5'-HxCB	153	153 + 168	C	2730	7.52 (S)	1.31	0.898
2,2',4,4',5,6'-HxCB	154	135 + 151 + 154	C135				
2,2',4,4',6,6'-HxCB	155		K J	4.79	4.34 (Q)	1.80	1.001
2,3,3',4,4',5-HxCB	156	156 + 157	C	279	9.15 (S)	1.25	1.000
2,3,3',4,4',5'-HxCB	157	156 + 157	C156				
2,3,3',4,4',6-HxCB	158			250	6.44 (S)	1.26	0.938
2,3,3',4,5,5'-HxCB	159		K	47.2	7.30 (S)	1.43	0.981
2,3,3',4,5,6-HxCB	160	129 + 138 + 160 + 163	C129				

This page is part of a total report that contains information necessary for accreditation compliance.  
This test is not NELAP accredited. Sample results relate only to the sample tested.

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG <sup>1</sup>	CONC. FOUND	REPORTING LIMIT (RL) <sup>2</sup>	ION ABUND. RATIO	RRT
2,3,3',4,5',6-HxCB	161		U		6.83 (S)		
2,3,3',4',5,5'-HxCB	162		U		6.68 (S)		
2,3,3',4',5,6-HxCB	163	129 + 138 + 160 + 163	C129				
2,3,3',4',5',6-HxCB	164			217	6.98 (S)	1.25	0.921
2,3,3',5,5',6-HxCB	165		U		8.12 (S)		
2,3,4,4',5,6-HxCB	166	128 + 166	C128				
2,3',4,4',5,5'-HxCB	167			102	6.98 (S)	1.30	1.001
2,3',4,4',5',6-HxCB	168	153 + 168	C153				
3,3',4,4',5,5'-HxCB	169		U		11.1 (S)		
2,2',3,3',4,4',5-HpCB	170			754	4.34 (Q)	1.05	1.000
2,2',3,3',4,4',6-HpCB	171	171 + 173	C	240	4.34 (Q)	1.01	1.163
2,2',3,3',4,5,5'-HpCB	172		K	143	4.34 (Q)	0.87	0.897
2,2',3,3',4,5,6-HpCB	173	171 + 173	C171				
2,2',3,3',4,5,6'-HpCB	174			790	4.34 (Q)	1.04	1.134
2,2',3,3',4,5',6-HpCB	175		K J	31.4	4.34 (Q)	0.79	1.103
2,2',3,3',4,6,6'-HpCB	176			108	4.34 (Q)	0.92	1.034
2,2',3,3',4,5,6-HpCB	177			425	4.34 (Q)	1.16	1.146
2,2',3,3',5,5',6-HpCB	178			199	4.34 (Q)	0.91	1.085
2,2',3,3',5,6,6'-HpCB	179			404	4.34 (Q)	1.01	1.011
2,2',3,4,4',5,5'-HpCB	180	180 + 193	C	2070	4.34 (Q)	1.06	1.000
2,2',3,4,4',5,6-HpCB	181		J	9.18	4.34 (Q)	1.07	1.157
2,2',3,4,4',5,6'-HpCB	182		U		4.34 (Q)		
2,2',3,4,4',5',6-HpCB	183	183 + 185	C	580	4.34 (Q)	1.14	1.128
2,2',3,4,4',6,6'-HpCB	184		J	5.48	4.34 (Q)	1.02	1.025
2,2',3,4,5,5',6-HpCB	185	183 + 185	C183				
2,2',3,4,5,6,6'-HpCB	186		U		4.34 (Q)		
2,2',3,4',5,5',6-HpCB	187			1430	4.34 (Q)	1.08	1.110
2,2',3,4',5,6,6'-HpCB	188		U		4.34 (Q)		
2,3,3',4,4',5,5'-HpCB	189		K J	21.6	4.34 (Q)	0.81	1.000
2,3,3',4,4',5,6-HpCB	190			152	4.34 (Q)	1.09	0.947
2,3,3',4,4',5',6-HpCB	191		J	29.3	4.34 (Q)	1.08	0.917
2,3,3',4,5,5',6-HpCB	192		U		4.34 (Q)		
2,3,3',4',5,5',6-HpCB	193	180 + 193	C180				
2,2',3,3',4,4',5,5'-OcCB	194			411	4.34 (Q)	0.81	0.991
2,2',3,3',4,4',5,6-OcCB	195			183	4.34 (Q)	0.93	0.946
2,2',3,3',4,4',5,6'-OcCB	196			200	4.34 (Q)	0.92	0.916
2,2',3,3',4,4',6,6'-OcCB	197	197 + 200	C	82.5	4.34 (Q)	0.90	1.046
2,2',3,3',4,5,5',6-OcCB	198	198 + 199	C	549	4.34 (Q)	0.90	1.115
2,2',3,3',4,5,5',6'-OcCB	199	198 + 199	C198				
2,2',3,3',4,5,6,6'-OcCB	200	197 + 200	C197				
2,2',3,3',4,5',6,6'-OcCB	201			71.9	4.34 (Q)	0.94	1.023
2,2',3,3',5,5',6,6'-OcCB	202			147	4.34 (Q)	0.82	1.001
2,2',3,4,4',5,5',6-OcCB	203			398	4.34 (Q)	0.85	0.919
2,2',3,4,4',5,6,6'-OcCB	204		U		4.34 (Q)		
2,3,3',4,4',5,5',6-OcCB	205		J	24.9	4.34 (Q)	0.96	1.000
2,2',3,3',4,4',5,5',6-NoCB	206			357	4.34 (Q)	0.78	1.001
2,2',3,3',4,4',5,6,6'-NoCB	207			45.5	4.34 (Q)	0.83	1.020
2,2',3,3',4,5,5',6,6'-NoCB	208			147	4.34 (Q)	0.81	1.000
2,2',3,3',4,4',5,5',6,6'-DeCB	209			452	4.34 (Q)	1.13	1.000

(1) Where applicable, custom lab flags have been used on this report; U = not detected at RL; K = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration; J = concentration less than lowest calibration equivalent; G = lock mass interference present; C = co-eluting congener.

(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = minimum reporting level.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_ Jason MacKenzie \_\_\_\_\_

For Axys Internal Use Only [ XSL Template: Form16681A.xsl; Created: 16-Nov-2018 10:17:08; Application: XMLTransformer-1.16.51;  
Report Filename: 1668\_PCB1668\_PCBTF\_L29967-2\_Form1A\_PB8C\_366S7\_SJ2455492.html; Workgroup: WG65583; Design ID: 3360 ]

## SGS AXYS METHOD MLA-010 Rev 12

Form 2  
PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.

PDI-WS-T02-1808

Sample Collection:

24-Aug-2018 12:22

**SGS AXYS ANALYTICAL SERVICES**
 2045 MILLS RD., SIDNEY, B.C., CANADA  
 V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

**Contract No.:** 4972  
**Matrix:** FILTER  
**Sample Receipt Date:** 29-Aug-2018  
**Extraction Date:** 10-Oct-2018  
**Analysis Date:** 25-Oct-2018 **Time:** 01:59:04  
**Extract Volume (uL):** 20  
**Injection Volume (uL):** 1.0  
**Dilution Factor:** N/A  
**Concentration Units:** pg absolute

**Project No.**

**Lab Sample I.D.:** L29967-2  
**Sample Size:** 0.2 sample  
**Initial Calibration Date:** 07-Jul-2018  
**Instrument ID:** HR GC/MS  
**GC Column ID:** SPB OCTYL  
**Sample Data Filename:** PB8C\_366 S: 7  
**Blank Data Filename:** PB8C\_366 S: 4  
**Cal. Ver. Data Filename:** PB8C\_366 S: 1

 PORTLAND HARBOR PDI AND  
BASELINE WATER

This page is part of a total report that contains information necessary for accreditation compliance.  
 This test is not NELAP accredited. Sample results relate only to the sample tested.

LABELED COMPOUND	IUPAC NO. <sup>1</sup>	CO-ELUTIONS	LAB FLAG <sup>2</sup>	SPIKE CONC.	CONC. FOUND	R(%) <sup>3</sup>	ION ABUND. RATIO	RRT
13C12-2-MoCB	1L		G	4000	1130	28.3	3.17	0.718
13C12-4-MoCB	3L			4000	1430	35.8	3.11	0.858
13C12-2,2'-DiCB	4L			4000	1580	39.4	1.59	0.874
13C12-4,4'-DiCB	15L			4000	1820	45.6	1.53	1.252
13C12-2,2',6-TriCB	19L			4000	2130	53.2	1.06	1.071
13C12-3,4,4'-TriCB	37L			4000	2370	59.3	1.03	1.092
13C12-2,2',6,6'-TeCB	54L			4000	2290	57.1	0.78	0.812
13C12-3,3',4,4'-TeCB	77L			4000	3300	82.5	0.76	1.397
13C12-3,4,4',5-TeCB	81L			4000	3060	76.5	0.76	1.374
13C12-2,2',4,6,6'-PeCB	104L			4000	2160	53.9	1.62	0.808
13C12-2,3,3',4,4'-PeCB	105L			4000	3590	89.7	1.55	1.200
13C12-2,3,4,4',5-PeCB	114L			4000	2830	70.8	1.55	1.179
13C12-2,3',4,4',5-PeCB	118L			4000	2890	72.3	1.55	1.162
13C12-2',3,4,4',5-PeCB	123L			4000	2990	74.7	1.56	1.151
13C12-3,3',4,4',5-PeCB	126L			4000	2800	70.1	1.55	1.301
13C12-2,2',4,4',6,6'-HxCB	155L			4000	2220	55.5	1.29	0.785
13C12-2,3,3',4,4',5-HxCB	156L	156L + 157L	C	8000	5960	74.5	1.25	1.108
13C12-2,3,3',4,4',5'-HxCB	157L	156L + 157L	C156L					
13C12-2,3',4,4',5,5'-HxCB	167L			4000	3100	77.5	1.24	1.078
13C12-3,3',4,4',5,5'-HxCB	169L			4000	2900	72.5	1.25	1.192
13C12-2,2',3,3',4,4',5-HpCB	170L			4000	3710	92.8	1.08	0.897
13C12-2,2',3,4,4',5,5'-HpCB	180L			4000	3490	87.4	1.04	0.873
13C12-2,2',3,4',5,6,6'-HpCB	188L			4000	2920	73.1	1.05	0.712
13C12-2,3,3',4,4',5,5'-HpCB	189L			4000	3390	84.7	1.02	0.959
13C12-2,2',3,3',5,5',6,6'-OcCB	202L			4000	2210	55.2	0.92	0.817
13C12-2,3,3',4,4',5,5',6-OcCB	205L			4000	3540	88.6	0.88	1.009
13C12-2,2',3,3',4,4',5,5',6-NoCB	206L			4000	2970	74.2	0.77	1.043
13C12-2,2',3,3',4,5,5',6,6'-NoCB	208L			4000	3220	80.5	0.77	0.949
13C12-2,2',3,3',4,4',5,5',6,6'-DeCB	209L			4000	2290	57.2	1.19	1.075

**CLEANUP STANDARD**

13C12-2,4,4'-TriCB	28L		4000	2280	57.0	1.02	0.925
13C12-2,3,3',5,5'-PeCB	111L		4000	3040	76.1	1.63	1.088
13C12-2,2',3,3',5,5'-HpCB	178L		4000	2660	66.6	1.04	1.012

(1) Suffix "L" indicates labeled compound.

(2) Where applicable, custom lab flags have been used on this report; G = lock mass interference present; C = co-eluting congener.

(3) R% = percent recovery of labeled compounds.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_ Jason MacKenzie \_\_\_\_\_

## SGS AXYS METHOD MLA-010 Rev 12

Form 1A  
PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.

PDI-WS-T05-1808

Sample Collection:

21-Aug-2018 20:28

**SGS AXYS ANALYTICAL SERVICES**
 2045 MILLS RD., SIDNEY, B.C., CANADA  
 V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811
**Contract No.:** 4972**Matrix:** FILTER**Sample Receipt Date:** 29-Aug-2018**Extraction Date:** 10-Oct-2018**Analysis Date:** 25-Oct-2018 **Time:** 03:02:54**Extract Volume (uL):** 20**Injection Volume (uL):** 1.0**Dilution Factor:** N/A**Concentration Units:** pg/sample**Project No.**PORTLAND HARBOR PDI AND  
BASELINE WATER**Lab Sample I.D.:** L29967-3**Sample Size:** 0.2 sample**Initial Calibration Date:** 07-Jul-2018**Instrument ID:** HR GC/MS**GC Column ID:** SPB OCTYL**Sample Data Filename:** PB8C\_366 S: 8**Blank Data Filename:** PB8C\_366 S: 4**Cal. Ver. Data Filename:** PB8C\_366 S: 1

This page is part of a total report that contains information necessary for accreditation compliance.  
 This test is not NELAP accredited. Sample results relate only to the sample tested.

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG <sup>1</sup>	CONC. FOUND	REPORTING LIMIT (RL) <sup>2</sup>	ION ABUND. RATIO	RRT
2-MoCB	1		G	69.2	7.39 (S)	2.84	1.001
3-MoCB	2			63.5	6.14 (S)	3.07	0.988
4-MoCB	3			82.7	4.39 (Q)	3.33	1.001
2,2'-DiCB	4			380	35.4 (S)	1.52	1.000
2,3-DiCB	5		U		29.9 (S)		
2,3'-DiCB	6			113	26.7 (S)	1.49	1.174
2,4-DiCB	7			134	27.1 (S)	1.46	1.157
2,4'-DiCB	8			411	24.2 (S)	1.55	1.207
2,5-DiCB	9		K J	33.3	26.9 (S)	1.08	1.145
2,6-DiCB	10		U		27.0 (S)		
3,3'-DiCB	11			1230	28.0 (S)	1.56	0.968
3,4-DiCB	12	12 + 13	C	80.4	28.4 (S)	1.62	0.983
3,4'-DiCB	13	12 + 13	C12				
3,5-DiCB	14		U		27.4 (S)		
4,4'-DiCB	15			325	28.8 (S)	1.55	1.001
2,2',3-TricB	16			271	6.05 (S)	0.93	1.166
2,2',4-TricB	17		G	681	5.24 (S)	1.08	1.138
2,2',5-TricB	18	18 + 30	C	682	4.47 (S)	0.99	1.113
2,2',6-TricB	19			541	6.52 (S)	1.06	1.001
2,3,3'-TricB	20	20 + 28	C	1520	5.90 (S)	0.99	0.847
2,3,4-TricB	21	21 + 33	C	648	5.81 (S)	1.03	0.856
2,3,4'-TricB	22			419	6.69 (S)	0.98	0.872
2,3,5-TricB	23		U		6.28 (S)		
2,3,6-TricB	24		J	11.9	4.39 (Q)	0.93	1.159
2,3',4-TricB	25			307	5.07 (S)	1.02	0.824
2,3',5-TricB	26	26 + 29	C	248	6.04 (S)	1.05	1.301
2,3',6-TricB	27			95.0	4.39 (Q)	1.04	1.150
2,4,4'-TricB	28	20 + 28	C20				
2,4,5-TricB	29	26 + 29	C26				
2,4,6-TricB	30	18 + 30	C18				
2,4',5-TricB	31			1050	5.55 (S)	0.99	0.836
2,4',6-TricB	32		G	136	5.90 (S)	1.02	1.197
2',3,4-TricB	33	21 + 33	C21				
2',3,5-TricB	34		J	19.0	6.23 (S)	0.98	1.273
3,3',4-TricB	35		K J	30.2	6.17 (S)	0.84	0.985
3,3',5-TricB	36		J	26.1	5.68 (S)	1.09	0.931
3,4,4'-TricB	37			330	5.68 (S)	1.00	1.001
3,4,5-TricB	38		U		6.06 (S)		
3,4',5-TricB	39		J	24.8	6.05 (S)	0.95	0.945

This page is part of a total report that contains information necessary for accreditation compliance.  
 This test is not NELAP accredited. Sample results relate only to the sample tested.

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG <sup>1</sup>	CONC. FOUND	REPORTING LIMIT (RL) <sup>2</sup>	ION ABUND. RATIO	RRT
2,2',3,3'-TeCB	40	40 + 41 + 71	C	716	4.39 (Q)	0.79	1.335
2,2',3,4'-TeCB	41	40 + 41 + 71	C40				
2,2',3,4'-TeCB	42			370	4.39 (Q)	0.76	1.310
2,2',3,5'-TeCB	43			43.9	4.39 (Q)	0.79	1.245
2,2',3,5'-TeCB	44	44 + 47 + 65	C	4780	4.39 (Q)	0.78	1.285
2,2',3,6'-TeCB	45	45 + 51	C	1690	4.39 (Q)	0.79	1.147
2,2',3,6'-TeCB	46			87.9	4.39 (Q)	0.70	1.159
2,2',4,4'-TeCB	47	44 + 47 + 65	C44				
2,2',4,5'-TeCB	48			238	4.39 (Q)	0.83	1.271
2,2',4,5'-TeCB	49	49 + 69	C	1110	4.39 (Q)	0.84	1.257
2,2',4,6'-TeCB	50	50 + 53	C	375	4.39 (Q)	0.79	1.109
2,2',4,6'-TeCB	51	45 + 51	C45				
2,2',5,5'-TeCB	52			1780	4.39 (Q)	0.76	1.233
2,2',5,6'-TeCB	53	50 + 53	C50				
2,2',6,6'-TeCB	54			96.2	4.39 (Q)	0.73	1.000
2,3,3',4'-TeCB	55		U		18.1 (S)		
2,3,3',4'-TeCB	56			575	18.1 (S)	0.75	0.903
2,3,3',5'-TeCB	57		U		16.3 (S)		
2,3,3',5'-TeCB	58		U		16.8 (S)		
2,3,3',6'-TeCB	59	59 + 62 + 75	C	125	4.39 (Q)	0.76	1.300
2,3,4,4'-TeCB	60			257	18.3 (S)	0.74	0.911
2,3,4,5'-TeCB	61	61 + 70 + 74 + 76	C	2130	16.4 (S)	0.76	0.874
2,3,4,6'-TeCB	62	59 + 62 + 75	C59				
2,3,4',5'-TeCB	63			49.4	16.4 (S)	0.79	0.864
2,3,4',6'-TeCB	64			532	4.39 (Q)	0.79	1.347
2,3,5,6'-TeCB	65	44 + 47 + 65	C44				
2,3',4,4'-TeCB	66		G	1270	16.3 (S)	0.77	0.884
2,3',4,5'-TeCB	67		J	33.1	14.2 (S)	0.79	0.855
2,3',4,5'-TeCB	68			872	16.3 (S)	0.73	0.830
2,3',4,6'-TeCB	69	49 + 69	C49				
2,3',4',5'-TeCB	70	61 + 70 + 74 + 76	C61				
2,3',4',6'-TeCB	71	40 + 41 + 71	C40				
2,3',5,5'-TeCB	72		K J	25.3	15.9 (S)	0.65	0.822
2,3',5,6'-TeCB	73		U		4.39 (Q)		
2,4,4',5'-TeCB	74	61 + 70 + 74 + 76	C61				
2,4,4',6'-TeCB	75	59 + 62 + 75	C59				
2',3,4,5'-TeCB	76	61 + 70 + 74 + 76	C61				
3,3',4,4'-TeCB	77			141	15.7 (S)	0.82	1.001
3,3',4,5'-TeCB	78		U		17.7 (S)		
3,3',4,5'-TeCB	79		J	28.5	14.6 (S)	0.67	0.969
3,3',5,5'-TeCB	80		U		16.4 (S)		
3,4,4',5'-TeCB	81		U		16.5 (S)		
2,2',3,3',4'-PeCB	82			279	7.69 (S)	1.62	0.934
2,2',3,3',5'-PeCB	83	83 + 99	C	1590	7.02 (S)	1.55	0.885
2,2',3,3',6'-PeCB	84			546	7.54 (S)	1.72	1.164
2,2',3,4,4'-PeCB	85	85 + 116 + 117	C	452	5.86 (S)	1.54	0.920
2,2',3,4,5'-PeCB	86	86 + 87 + 97 + 108 + 119 + 125	C G	1770	6.03 (S)	1.54	0.901
2,2',3,4,5'-PeCB	87	86 + 87 + 97 + 108 + 119 + 125	C86				
2,2',3,4,6'-PeCB	88	88 + 91	C	434	6.70 (S)	1.55	1.156
2,2',3,4,6'-PeCB	89		K J	26.6	7.12 (S)	2.06	1.183
2,2',3,4',5'-PeCB	90	90 + 101 + 113	C	2640	5.99 (S)	1.53	0.869
2,2',3,4',6'-PeCB	91	88 + 91	C88				
2,2',3,5,5'-PeCB	92			538	7.00 (S)	1.59	0.853
2,2',3,5,6'-PeCB	93	93 + 95 + 98 + 100 + 102	C	2080	6.49 (S)	1.54	1.122
2,2',3,5,6'-PeCB	94		K	36.9	7.20 (S)	2.17	1.103
2,2',3,5',6'-PeCB	95	93 + 95 + 98 + 100 + 102	C93				
2,2',3,6,6'-PeCB	96		J	31.3	4.39 (Q)	1.70	1.017
2,2',3',4,5'-PeCB	97	86 + 87 + 97 + 108 + 119 + 125	C86				
2,2',3',4,6'-PeCB	98	93 + 95 + 98 + 100 + 102	C93				
2,2',4,4',5'-PeCB	99	83 + 99	C83				

This page is part of a total report that contains information necessary for accreditation compliance.  
 This test is not NELAP accredited. Sample results relate only to the sample tested.

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG <sup>1</sup>	CONC. FOUND	REPORTING LIMIT (RL) <sup>2</sup>	ION ABUND. RATIO	RRT
2,2',4,4',6-PeCB	100	93 + 95 + 98 + 100 + 102	C93				
2,2',4,5,5'-PeCB	101	90 + 101 + 113	C90				
2,2',4,5,6'-PeCB	102	93 + 95 + 98 + 100 + 102	C93				
2,2',4,5',6-PeCB	103			59.7	5.91 (S)	1.45	1.094
2,2',4,6,6'-PeCB	104		J	13.9	4.39 (Q)	1.57	1.001
2,3,3',4,4'-PeCB	105			716	13.2 (S)	1.49	1.000
2,3,3',4,5-PeCB	106		U		15.6 (S)		
2,3,3',4,5'-PeCB	107	107 + 124	C	83.9	16.5 (S)	1.77	0.991
2,3,3',4,5'-PeCB	108	86 + 87 + 97 + 108 + 119 + 125	C86				
2,3,3',4,6-PeCB	109			180	15.0 (S)	1.53	0.998
2,3,3',4',6-PeCB	110	110 + 115	C	2760	5.20 (S)	1.57	0.925
2,3,3',5,5'-PeCB	111		U		5.22 (S)		
2,3,3',5,6-PeCB	112		U		5.09 (S)		
2,3,3',5',6-PeCB	113	90 + 101 + 113	C90				
2,3,4,4',5-PeCB	114		K	40.5	15.6 (S)	1.30	1.001
2,3,4,4',6-PeCB	115	110 + 115	C110				
2,3,4,5,6-PeCB	116	85 + 116 + 117	C85				
2,3,4',5,6-PeCB	117	85 + 116 + 117	C85				
2,3',4,4',5-PeCB	118			1890	15.3 (S)	1.53	1.000
2,3',4,4',6-PeCB	119	86 + 87 + 97 + 108 + 119 + 125	C86				
2,3',4,5,5'-PeCB	120		J	16.8	5.04 (S)	1.44	0.959
2,3',4,5',6-PeCB	121		U		5.32 (S)		
2',3,3',4,5-PeCB	122		J	24.2	18.2 (S)	1.43	1.010
2',3,4,4',5-PeCB	123		J	31.5	15.2 (S)	1.34	1.001
2',3,4,5,5'-PeCB	124	107 + 124	C107				
2',3,4,5,6'-PeCB	125	86 + 87 + 97 + 108 + 119 + 125	C86				
3,3',4,4',5-PeCB	126		K J	18.9	17.9 (S)	1.65	1.001
3,3',4,5,5'-PeCB	127		U		17.6 (S)		
2,2',3,3',4,4'-HxCB	128	128 + 166	C G	614	13.0 (S)	1.20	0.959
2,2',3,3',4,5-HxCB	129	129 + 138 + 160 + 163	C	3900	13.1 (S)	1.27	0.928
2,2',3,3',4,5'-HxCB	130			233	17.1 (S)	1.39	0.913
2,2',3,3',4,6-HxCB	131			44.3	15.6 (S)	1.08	1.160
2,2',3,3',4,6'-HxCB	132			1320	16.6 (S)	1.25	1.175
2,2',3,3',5,5'-HxCB	133		K	76.6	15.2 (S)	1.51	1.192
2,2',3,3',5,6-HxCB	134	134 + 143	C	219	15.5 (S)	1.30	1.141
2,2',3,3',5,6'-HxCB	135	135 + 151 + 154	C	1450	4.39 (Q)	1.21	1.105
2,2',3,3',6,6'-HxCB	136			510	4.39 (Q)	1.41	1.025
2,2',3,4,4',5-HxCB	137			162	16.8 (S)	1.11	0.918
2,2',3,4,4',5'-HxCB	138	129 + 138 + 160 + 163	C129				
2,2',3,4,4',6-HxCB	139	139 + 140	C	73.9	14.0 (S)	1.27	1.154
2,2',3,4,4',6'-HxCB	140	139 + 140	C139				
2,2',3,4,5,5'-HxCB	141			731	15.3 (S)	1.24	0.903
2,2',3,4,5,6-HxCB	142		U		15.7 (S)		
2,2',3,4,5,6'-HxCB	143	134 + 143	C134				
2,2',3,4,5',6-HxCB	144			180	4.39 (Q)	1.19	1.123
2,2',3,4,6,6'-HxCB	145		U		4.39 (Q)		
2,2',3,4',5,5'-HxCB	146			830	13.3 (S)	1.24	0.884
2,2',3,4',5,6-HxCB	147	147 + 149	C	4000	13.8 (S)	1.26	1.134
2,2',3,4',5,6'-HxCB	148		J	21.2	4.39 (Q)	1.24	1.084
2,2',3,4',5,6-HxCB	149	147 + 149	C147				
2,2',3,4',6,6'-HxCB	150		J	25.4	4.39 (Q)	1.06	1.013
2,2',3,5,5',6-HxCB	151	135 + 151 + 154	C135				
2,2',3,5,6,6'-HxCB	152		J	8.75	4.39 (Q)	1.20	1.007
2,2',4,4',5,5'-HxCB	153	153 + 168	C	3490	11.8 (S)	1.27	0.898
2,2',4,4',5,6'-HxCB	154	135 + 151 + 154	C135				
2,2',4,4',6,6'-HxCB	155		K J	5.88	4.39 (Q)	1.73	1.001
2,3,3',4,4',5-HxCB	156	156 + 157	C	364	14.0 (S)	1.28	1.000
2,3,3',4,4',5'-HxCB	157	156 + 157	C156				
2,3,3',4,4',6-HxCB	158			336	10.1 (S)	1.23	0.937
2,3,3',4,5,5'-HxCB	159		U		11.5 (S)		
2,3,3',4,5,6-HxCB	160	129 + 138 + 160 + 163	C129				

This page is part of a total report that contains information necessary for accreditation compliance.  
This test is not NELAP accredited. Sample results relate only to the sample tested.

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG <sup>1</sup>	CONC. FOUND	REPORTING LIMIT (RL) <sup>2</sup>	ION ABUND. RATIO	RRT
2,3,3',4,5',6-HxCB	161		U		10.7 (S)		
2,3,3',4',5,5'-HxCB	162		U		10.5 (S)		
2,3,3',4,5,6-HxCB	163	129 + 138 + 160 + 163	C129				
2,3,3',4',5,6-HxCB	164			275	11.0 (S)	1.34	0.921
2,3,3',5,5',6-HxCB	165		U		12.7 (S)		
2,3,4,4',5,6-HxCB	166	128 + 166	C128				
2,3',4,4',5,5'-HxCB	167			140	11.4 (S)	1.18	1.000
2,3',4,4',5',6-HxCB	168	153 + 168	C153				
3,3',4,4',5,5'-HxCB	169		U		11.9 (S)		
2,2',3,3',4,4',5-HpCB	170			877	4.39 (Q)	1.06	1.001
2,2',3,3',4,4',6-HpCB	171	171 + 173	C	314	4.39 (Q)	1.01	1.164
2,2',3,3',4,5,5'-HpCB	172			173	4.39 (Q)	1.06	0.897
2,2',3,3',4,5,6-HpCB	173	171 + 173	C171				
2,2',3,3',4,5,6'-HpCB	174			988	4.39 (Q)	1.10	1.134
2,2',3,3',4,5',6-HpCB	175			46.7	4.39 (Q)	0.95	1.103
2,2',3,3',4,6,6'-HpCB	176		K	134	4.39 (Q)	1.39	1.034
2,2',3,3',4,5,6-HpCB	177			536	4.39 (Q)	1.08	1.146
2,2',3,3',5,5',6-HpCB	178			260	4.39 (Q)	0.93	1.086
2,2',3,3',5,6,6'-HpCB	179			465	4.39 (Q)	1.19	1.010
2,2',3,4,4',5,5'-HpCB	180	180 + 193	C	2630	4.39 (Q)	1.00	1.000
2,2',3,4,4',5,6-HpCB	181		K J	11.2	4.39 (Q)	2.09	1.157
2,2',3,4,4',5,6'-HpCB	182		U		4.39 (Q)		
2,2',3,4,4',5',6-HpCB	183	183 + 185	C	715	4.39 (Q)	0.99	1.127
2,2',3,4,4',6,6'-HpCB	184		U		4.39 (Q)		
2,2',3,4,5,5',6-HpCB	185	183 + 185	C183				
2,2',3,4,5,6,6'-HpCB	186		U		4.39 (Q)		
2,2',3,4',5,5',6-HpCB	187		G	1700	4.39 (Q)	1.07	1.110
2,2',3,4',5,6,6'-HpCB	188		J	6.45	4.39 (Q)	1.06	1.000
2,3,3',4,4',5,5'-HpCB	189		J	23.3	4.39 (Q)	1.19	1.001
2,3,3',4,4',5,6-HpCB	190			191	4.39 (Q)	1.00	0.947
2,3,3',4,4',5',6-HpCB	191		K	37.1	4.39 (Q)	1.35	0.917
2,3,3',4,5,5',6-HpCB	192		U		4.39 (Q)		
2,3,3',4',5,5',6-HpCB	193	180 + 193	C180				
2,2',3,3',4,4',5,5'-OcCB	194			519	4.39 (Q)	0.90	0.991
2,2',3,3',4,4',5,6-OcCB	195			221	4.39 (Q)	0.83	0.945
2,2',3,3',4,4',5,6'-OcCB	196			266	4.39 (Q)	0.90	0.915
2,2',3,3',4,4',6,6'-OcCB	197	197 + 200	C K G	107	4.39 (Q)	1.04	1.046
2,2',3,3',4,5,5',6-OcCB	198	198 + 199	C	697	4.39 (Q)	0.88	1.115
2,2',3,3',4,5,5',6'-OcCB	199	198 + 199	C198				
2,2',3,3',4,5,6,6'-OcCB	200	197 + 200	C197				
2,2',3,3',4,5',6,6'-OcCB	201			88.2	4.39 (Q)	0.87	1.023
2,2',3,3',5,5',6,6'-OcCB	202		K	182	4.39 (Q)	0.75	1.000
2,2',3,4,4',5,5',6-OcCB	203			436	4.39 (Q)	0.89	0.919
2,2',3,4,4',5,6,6'-OcCB	204		U		4.39 (Q)		
2,3,3',4,4',5,5',6-OcCB	205		K J	27.1	4.39 (Q)	0.53	1.000
2,2',3,3',4,4',5,5',6-NoCB	206			387	4.39 (Q)	0.78	1.001
2,2',3,3',4,4',5,6,6'-NoCB	207			49.5	4.39 (Q)	0.80	1.020
2,2',3,3',4,5,5',6,6'-NoCB	208			142	4.39 (Q)	0.83	1.001
2,2',3,3',4,4',5,5',6,6'-DeCB	209			446	4.39 (Q)	1.11	1.000

(1) Where applicable, custom lab flags have been used on this report; U = not detected at RL; K = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration; J = concentration less than lowest calibration equivalent; G = lock mass interference present; C = co-eluting congener.

(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = minimum reporting level.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_ Jason MacKenzie \_\_\_\_\_

For Axys Internal Use Only [ XSL Template: Form16681A.xsl; Created: 16-Nov-2018 10:17:08; Application: XMLTransformer-1.16.51;  
Report Filename: 1668\_PCB1668\_PCBTF\_L29967-3\_Form1A\_PB8C\_366S8\_SJ2455494.html; Workgroup: WG65583; Design ID: 3360 ]

## SGS AXYS METHOD MLA-010 Rev 12

Form 2  
PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.

PDI-WS-T05-1808

Sample Collection:

21-Aug-2018 20:28

## SGS AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

**Contract No.:** 4972  
**Matrix:** FILTER  
**Sample Receipt Date:** 29-Aug-2018  
**Extraction Date:** 10-Oct-2018  
**Analysis Date:** 25-Oct-2018 **Time:** 03:02:54  
**Extract Volume (uL):** 20  
**Injection Volume (uL):** 1.0  
**Dilution Factor:** N/A  
**Concentration Units:** pg absolute

## Project No.

**Lab Sample I.D.:** L29967-3  
**Sample Size:** 0.2 sample  
**Initial Calibration Date:** 07-Jul-2018  
**Instrument ID:** HR GC/MS  
**GC Column ID:** SPB OCTYL  
**Sample Data Filename:** PB8C\_366 S: 8  
**Blank Data Filename:** PB8C\_366 S: 4  
**Cal. Ver. Data Filename:** PB8C\_366 S: 1

PORTLAND HARBOR PDI AND  
BASELINE WATER

This page is part of a total report that contains information necessary for accreditation compliance.  
This test is not NELAP accredited. Sample results relate only to the sample tested.

LABELED COMPOUND	IUPAC NO. <sup>1</sup>	CO-ELUTIONS	LAB FLAG <sup>2</sup>	SPIKE CONC.	CONC. FOUND	R(%) <sup>3</sup>	ION ABUND. RATIO	RRT
13C12-2-MoCB	1L		G	4000	1200	30.1	3.21	0.720
13C12-4-MoCB	3L			4000	1730	43.3	3.15	0.859
13C12-2,2'-DiCB	4L			4000	1870	46.8	1.56	0.874
13C12-4,4'-DiCB	15L			4000	2060	51.4	1.54	1.253
13C12-2,2',6-TriCB	19L			4000	2240	55.9	1.08	1.071
13C12-3,4,4'-TriCB	37L			4000	2570	64.2	1.01	1.092
13C12-2,2',6,6'-TeCB	54L			4000	2480	62.0	0.80	0.812
13C12-3,3',4,4'-TeCB	77L			4000	3600	90.1	0.75	1.398
13C12-3,4,4',5-TeCB	81L			4000	3360	84.0	0.75	1.374
13C12-2,2',4,6,6'-PeCB	104L			4000	2230	55.7	1.62	0.807
13C12-2,3,3',4,4'-PeCB	105L			4000	3630	90.8	1.54	1.200
13C12-2,3,4,4',5-PeCB	114L			4000	3080	77.1	1.59	1.179
13C12-2,3',4,4',5-PeCB	118L			4000	3150	78.8	1.57	1.162
13C12-2',3,4,4',5-PeCB	123L			4000	3230	80.8	1.55	1.151
13C12-3,3',4,4',5-PeCB	126L			4000	2990	74.8	1.51	1.302
13C12-2,2',4,4',6,6'-HxCB	155L			4000	2420	60.4	1.26	0.785
13C12-2,3,3',4,4',5-HxCB	156L	156L + 157L	C	8000	6640	83.0	1.28	1.108
13C12-2,3,3',4,4',5'-HxCB	157L	156L + 157L	C156L					
13C12-2,3',4,4',5,5'-HxCB	167L			4000	3210	80.3	1.25	1.078
13C12-3,3',4,4',5,5'-HxCB	169L			4000	3210	80.2	1.23	1.192
13C12-2,2',3,3',4,4',5-HpCB	170L			4000	4010	100	1.09	0.897
13C12-2,2',3,4,4',5,5'-HpCB	180L			4000	3570	89.2	1.04	0.873
13C12-2,2',3,4',5,6,6'-HpCB	188L			4000	3030	75.8	1.06	0.712
13C12-2,3,3',4,4',5,5'-HpCB	189L			4000	3510	87.8	1.01	0.959
13C12-2,2',3,3',5,5',6,6'-OcCB	202L			4000	2280	57.0	0.87	0.817
13C12-2,3,3',4,4',5,5',6-OcCB	205L			4000	3730	93.2	0.89	1.009
13C12-2,2',3,3',4,4',5,5',6-NoCB	206L			4000	3040	76.0	0.80	1.043
13C12-2,2',3,3',4,5,5',6,6'-NoCB	208L			4000	3400	84.9	0.78	0.949
13C12-2,2',3,3',4,4',5,5',6,6'-DeCB	209L			4000	2370	59.3	1.20	1.075

## CLEANUP STANDARD

13C12-2,4,4'-TriCB	28L		4000	2520	63.0	1.04	0.925
13C12-2,3,3',5,5'-PeCB	111L		4000	3360	84.0	1.59	1.088
13C12-2,2',3,3',5,5'-HpCB	178L		4000	2990	74.8	1.05	1.012

(1) Suffix "L" indicates labeled compound.

(2) Where applicable, custom lab flags have been used on this report; G = lock mass interference present; C = co-eluting congener.

(3) R% = percent recovery of labeled compounds.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_ Jason MacKenzie \_\_\_\_\_

## SGS AXYS METHOD MLA-010 Rev 12

Form 1A  
PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.

PDI-WS-T07-1808

Sample Collection:

23-Aug-2018 18:20

**SGS AXYS ANALYTICAL SERVICES**2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811**Contract No.:** 4972**Matrix:** FILTER**Sample Receipt Date:** 29-Aug-2018**Extraction Date:** 10-Oct-2018**Analysis Date:** 25-Oct-2018 **Time:** 04:06:42**Extract Volume (uL):** 20**Injection Volume (uL):** 1.0**Dilution Factor:** N/A**Concentration Units:** pg/sample**Project No.**PORTLAND HARBOR PDI AND  
BASELINE WATER**Lab Sample I.D.:** L29967-4**Sample Size:** 0.2 sample**Initial Calibration Date:** 07-Jul-2018**Instrument ID:** HR GC/MS**GC Column ID:** SPB OCTYL**Sample Data Filename:** PB8C\_366 S: 9**Blank Data Filename:** PB8C\_366 S: 4**Cal. Ver. Data Filename:** PB8C\_366 S: 1

This page is part of a total report that contains information necessary for accreditation compliance.  
This test is not NELAP accredited. Sample results relate only to the sample tested.

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG <sup>1</sup>	CONC. FOUND	REPORTING LIMIT (RL) <sup>2</sup>	ION ABUND. RATIO	RRT
2-MoCB	1			40.8	7.41 (S)	3.27	1.001
3-MoCB	2		K	45.2	9.28 (S)	2.32	0.989
4-MoCB	3		K	59.5	8.86 (S)	4.42	1.001
2,2'-DiCB	4		K	82.8	74.2 (S)	0.77	1.000
2,3-DiCB	5		U		66.3 (S)		
2,3'-DiCB	6		U		59.2 (S)		
2,4-DiCB	7		K	124	60.1 (S)	0.98	1.157
2,4'-DiCB	8		K	204	53.7 (S)	1.30	1.207
2,5-DiCB	9		U		59.6 (S)		
2,6-DiCB	10		U		59.8 (S)		
3,3'-DiCB	11			1150	62.2 (S)	1.54	0.968
3,4-DiCB	12	12 + 13	C U		63.0 (S)		
3,4'-DiCB	13	12 + 13	C12				
3,5-DiCB	14		U		60.7 (S)		
4,4'-DiCB	15		K	111	66.2 (S)	1.11	1.001
2,2',3-TrICB	16			102	12.9 (S)	1.09	1.165
2,2',4-TrICB	17			172	11.2 (S)	0.96	1.137
2,2',5-TrICB	18	18 + 30	C K	260	9.53 (S)	1.27	1.113
2,2',6-TrICB	19		J	27.0	12.8 (S)	0.90	1.001
2,3,3'-TrICB	20	20 + 28	C	397	10.3 (S)	0.96	0.847
2,3,4-TrICB	21	21 + 33	C	193	10.1 (S)	0.99	0.856
2,3,4'-TrICB	22			116	11.7 (S)	0.93	0.872
2,3,5-TrICB	23		U		10.9 (S)		
2,3,6-TrICB	24		U		8.64 (S)		
2,3',4-TrICB	25			122	8.82 (S)	1.06	0.824
2,3',5-TrICB	26	26 + 29	C	65.4	10.5 (S)	1.00	1.301
2,3',6-TrICB	27		K J	23.6	7.74 (S)	2.12	1.150
2,4,4'-TrICB	28	20 + 28	C20				
2,4,5-TrICB	29	26 + 29	C26				
2,4,6-TrICB	30	18 + 30	C18				
2,4',5-TrICB	31			292	9.67 (S)	0.91	0.836
2,4',6-TrICB	32		K G	72.1	10.3 (S)	0.82	1.197
2',3,4-TrICB	33	21 + 33	C21				
2',3,5-TrICB	34		U		10.8 (S)		
3,3',4-TrICB	35		K J	12.4	10.7 (S)	0.47	0.984
3,3',5-TrICB	36		U		9.89 (S)		
3,4,4'-TrICB	37		K	64.4	10.5 (S)	1.20	1.001
3,4,5-TrICB	38		U		10.6 (S)		
3,4',5-TrICB	39		U		10.5 (S)		

This page is part of a total report that contains information necessary for accreditation compliance.  
 This test is not NELAP accredited. Sample results relate only to the sample tested.

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG <sup>1</sup>	CONC. FOUND	REPORTING LIMIT (RL) <sup>2</sup>	ION ABUND. RATIO	RRT		
2,2',3,3'-TeCB	40	40 + 41 + 71	C	132	6.35 (S)	0.74	1.336		
2,2',3,4'-TeCB	41	40 + 41 + 71	C40						
2,2',3,4'-TeCB	42			64.4	6.56 (S)	0.77	1.312		
2,2',3,5'-TeCB	43			K J	10.1	6.92 (S)	0.59	1.245	
2,2',3,5'-TeCB	44	44 + 47 + 65		C	2110	5.74 (S)	0.73	1.286	
2,2',3,6'-TeCB	45	45 + 51		C	689	6.21 (S)	0.74	1.148	
2,2',3,6'-TeCB	46			K J	26.5	7.12 (S)	0.93	1.160	
2,2',4,4'-TeCB	47	44 + 47 + 65		C44					
2,2',4,5'-TeCB	48				62.3	6.37 (S)	0.66	1.273	
2,2',4,5'-TeCB	49	49 + 69		C	220	5.38 (S)	0.79	1.258	
2,2',4,6'-TeCB	50	50 + 53		C	52.1	6.03 (S)	0.67	1.110	
2,2',4,6'-TeCB	51	45 + 51		C45					
2,2',5,5'-TeCB	52				493	5.95 (S)	0.82	1.234	
2,2',5,6'-TeCB	53	50 + 53		C50					
2,2',6,6'-TeCB	54			U		4.62 (S)			
2,3,3',4'-TeCB	55			U		12.1 (S)			
2,3,3',4'-TeCB	56				97.5	12.1 (S)	0.71	0.904	
2,3,3',5'-TeCB	57			U		10.9 (S)			
2,3,3',5'-TeCB	58			U		11.2 (S)			
2,3,3',6'-TeCB	59	59 + 62 + 75		C K	36.2	4.69 (S)	0.61	1.301	
2,3,4,4'-TeCB	60				46.4	12.2 (S)	0.73	0.911	
2,3,4,5'-TeCB	61	61 + 70 + 74 + 76		C	468	10.9 (S)	0.72	0.874	
2,3,4,6'-TeCB	62	59 + 62 + 75		C59					
2,3,4',5'-TeCB	63			U		11.0 (S)			
2,3,4',6'-TeCB	64				115	4.58 (S)	0.71	1.348	
2,3,5,6'-TeCB	65	44 + 47 + 65		C44					
2,3',4,4'-TeCB	66				270	10.9 (S)	0.77	0.883	
2,3',4,5'-TeCB	67			U		9.46 (S)			
2,3',4,5'-TeCB	68				377	10.9 (S)	0.78	0.830	
2,3',4,6'-TeCB	69	49 + 69		C49					
2,3',4',5'-TeCB	70	61 + 70 + 74 + 76		C61					
2,3',4',6'-TeCB	71	40 + 41 + 71		C40					
2,3',5,5'-TeCB	72				K J	12.6	10.6 (S)	1.01	0.822
2,3',5,6'-TeCB	73			U		5.06 (S)			
2,4,4',5'-TeCB	74	61 + 70 + 74 + 76		C61					
2,4,4',6'-TeCB	75	59 + 62 + 75		C59					
2',3,4,5'-TeCB	76	61 + 70 + 74 + 76		C61					
3,3',4,4'-TeCB	77			K	47.1	11.1 (S)	1.11	1.000	
3,3',4,5'-TeCB	78			U		11.9 (S)			
3,3',4,5'-TeCB	79			K J	9.78	9.76 (S)	0.42	0.969	
3,3',5,5'-TeCB	80			U		11.0 (S)			
3,4,4',5'-TeCB	81			U		11.5 (S)			
2,2',3,3',4'-PeCB	82			K	60.0	15.0 (S)	1.86	0.934	
2,2',3,3',5'-PeCB	83	83 + 99		C	370	13.7 (S)	1.55	0.885	
2,2',3,3',6'-PeCB	84				123	14.7 (S)	1.52	1.164	
2,2',3,4,4'-PeCB	85	85 + 116 + 117		C K	107	11.4 (S)	1.86	0.920	
2,2',3,4,5'-PeCB	86	86 + 87 + 97 + 108 + 119 + 125		C K G	423	11.8 (S)	1.27	0.902	
2,2',3,4,5'-PeCB	87	86 + 87 + 97 + 108 + 119 + 125		C86					
2,2',3,4,6'-PeCB	88	88 + 91		C	83.1	13.1 (S)	1.47	1.156	
2,2',3,4,6'-PeCB	89			U		13.9 (S)			
2,2',3,4',5'-PeCB	90	90 + 101 + 113		C	585	11.7 (S)	1.47	0.869	
2,2',3,4',6'-PeCB	91	88 + 91		C88					
2,2',3,5,5'-PeCB	92				115	13.7 (S)	1.73	0.853	
2,2',3,5,6'-PeCB	93	93 + 95 + 98 + 100 + 102		C	455	12.7 (S)	1.64	1.123	
2,2',3,5,6'-PeCB	94			U		14.1 (S)			
2,2',3,5',6'-PeCB	95	93 + 95 + 98 + 100 + 102		C93					
2,2',3,6,6'-PeCB	96			K J	7.05	5.02 (S)	2.31	1.017	
2,2',3',4,5'-PeCB	97	86 + 87 + 97 + 108 + 119 + 125		C86					
2,2',3',4,6'-PeCB	98	93 + 95 + 98 + 100 + 102		C93					
2,2',4,4',5'-PeCB	99	83 + 99		C83					

This page is part of a total report that contains information necessary for accreditation compliance.  
 This test is not NELAP accredited. Sample results relate only to the sample tested.

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG <sup>1</sup>	CONC. FOUND	REPORTING LIMIT (RL) <sup>2</sup>	ION ABUND. RATIO	RRT	
2,2',4,4',6-PeCB	100	93 + 95 + 98 + 100 + 102	C93					
2,2',4,5,5'-PeCB	101	90 + 101 + 113	C90					
2,2',4,5,6'-PeCB	102	93 + 95 + 98 + 100 + 102	C93					
2,2',4,5',6-PeCB	103		U		11.5 (S)			
2,2',4,6,6'-PeCB	104		K J	7.36	5.67 (S)	1.32	1.001	
2,3,3',4,4'-PeCB	105			230	8.62 (S)	1.38	1.000	
2,3,3',4,5-PeCB	106		U		11.0 (S)			
2,3,3',4,5'-PeCB	107	107 + 124	C K J	23.2	11.7 (S)	0.87	0.991	
2,3,3',4,5'-PeCB	108	86 + 87 + 97 + 108 + 119 + 125	C86					
2,3,3',4,6-PeCB	109		K	54.5	10.6 (S)	2.01	0.997	
2,3,3',4',6-PeCB	110	110 + 115	C	653	10.2 (S)	1.56	0.925	
2,3,3',5,5'-PeCB	111		U		10.2 (S)			
2,3,3',5,6-PeCB	112		U		9.93 (S)			
2,3,3',5',6-PeCB	113	90 + 101 + 113	C90					
2,3,4,4',5-PeCB	114		K J	22.1	11.6 (S)	2.01	1.000	
2,3,4,4',6-PeCB	115	110 + 115	C110					
2,3,4,5,6-PeCB	116	85 + 116 + 117	C85					
2,3,4',5,6-PeCB	117	85 + 116 + 117	C85					
2,3',4,4',5-PeCB	118		K	565	11.6 (S)	1.30	1.001	
2,3',4,4',6-PeCB	119	86 + 87 + 97 + 108 + 119 + 125	C86					
2,3',4,5,5'-PeCB	120		U		9.83 (S)			
2,3',4,5',6-PeCB	121		U		10.4 (S)			
2',3,3',4,5-PeCB	122		U		12.9 (S)			
2',3,4,4',5-PeCB	123		K J	23.8	11.1 (S)	1.32	1.000	
2',3,4,5,5'-PeCB	124	107 + 124	C107					
2',3,4,5,6'-PeCB	125	86 + 87 + 97 + 108 + 119 + 125	C86					
3,3',4,4',5-PeCB	126		U		14.1 (S)			
3,3',4,5,5'-PeCB	127		U		12.4 (S)			
2,2',3,3',4,4'-HxCB	128	128 + 166	C G	176	9.43 (S)	1.25	0.959	
2,2',3,3',4,5-HxCB	129	129 + 138 + 160 + 163	C	1030	9.51 (S)	1.21	0.928	
2,2',3,3',4,5'-HxCB	130		K	66.2	12.4 (S)	2.43	0.913	
2,2',3,3',4,6-HxCB	131		K J	20.5	11.3 (S)	1.83	1.160	
2,2',3,3',4,6'-HxCB	132		K	300	12.0 (S)	1.47	1.175	
2,2',3,3',5,5'-HxCB	133		J	16.8	11.0 (S)	1.29	1.193	
2,2',3,3',5,6-HxCB	134	134 + 143	C	59.1	11.2 (S)	1.17	1.141	
2,2',3,3',5,6'-HxCB	135	135 + 151 + 154	C	307	7.78 (S)	1.10	1.105	
2,2',3,3',6,6'-HxCB	136		K	84.7	5.87 (S)	1.56	1.025	
2,2',3,4,4',5-HxCB	137			41.2	12.1 (S)	1.23	0.918	
2,2',3,4,4',5'-HxCB	138	129 + 138 + 160 + 163	C129					
2,2',3,4,4',6-HxCB	139	139 + 140	C U		10.1 (S)			
2,2',3,4,4',6'-HxCB	140	139 + 140	C139					
2,2',3,4,5,5'-HxCB	141		K	128	11.1 (S)	1.59	0.903	
2,2',3,4,5,6-HxCB	142		U		11.4 (S)			
2,2',3,4,5,6'-HxCB	143	134 + 143	C134					
2,2',3,4,5',6-HxCB	144		K J	29.9	8.07 (S)	1.00	1.123	
2,2',3,4,6,6'-HxCB	145		U		6.28 (S)			
2,2',3,4',5,5'-HxCB	146				197	9.63 (S)	1.35	0.884
2,2',3,4',5,6-HxCB	147	147 + 149	C	850	9.97 (S)	1.23	1.134	
2,2',3,4',5,6'-HxCB	148		U		8.06 (S)			
2,2',3,4',5,6-HxCB	149	147 + 149	C147					
2,2',3,4',6,6'-HxCB	150		U		6.09 (S)			
2,2',3,5,5',6-HxCB	151	135 + 151 + 154	C135					
2,2',3,5,6,6'-HxCB	152		U		5.62 (S)			
2,2',4,4',5,5'-HxCB	153	153 + 168	C	862	8.53 (S)	1.40	0.898	
2,2',4,4',5,6'-HxCB	154	135 + 151 + 154	C135					
2,2',4,4',6,6'-HxCB	155		K J	5.87	5.68 (S)	0.99	1.001	
2,3,3',4,4',5-HxCB	156	156 + 157	C	119	10.3 (S)	1.30	1.000	
2,3,3',4,4',5'-HxCB	157	156 + 157	C156					
2,3,3',4,4',6-HxCB	158		K	75.8	7.30 (S)	1.52	0.937	
2,3,3',4,5,5'-HxCB	159		U		8.29 (S)			
2,3,3',4,5,6-HxCB	160	129 + 138 + 160 + 163	C129					

This page is part of a total report that contains information necessary for accreditation compliance.  
This test is not NELAP accredited. Sample results relate only to the sample tested.

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG <sup>1</sup>	CONC. FOUND	REPORTING LIMIT (RL) <sup>2</sup>	ION ABUND. RATIO	RRT
2,3,3',4,5',6-HxCB	161		U		7.74 (S)		
2,3,3',4',5,5'-HxCB	162		U		7.58 (S)		
2,3,3',4',5,6-HxCB	163	129 + 138 + 160 + 163	C129				
2,3,3',4',5',6-HxCB	164		K	65.1	7.92 (S)	1.03	0.921
2,3,3',5,5',6-HxCB	165		U		9.21 (S)		
2,3,4,4',5,6-HxCB	166	128 + 166	C128				
2,3',4,4',5,5'-HxCB	167		K	50.7	8.03 (S)	0.92	1.000
2,3',4,4',5',6-HxCB	168	153 + 168	C153				
3,3',4,4',5,5'-HxCB	169		U		9.31 (S)		
2,2',3,3',4,4',5-HpCB	170			222	9.61 (S)	0.94	1.000
2,2',3,3',4,4',6-HpCB	171	171 + 173	C	65.5	9.20 (S)	0.92	1.163
2,2',3,3',4,5,5'-HpCB	172			55.1	9.67 (S)	1.13	0.897
2,2',3,3',4,5,6-HpCB	173	171 + 173	C171				
2,2',3,3',4,5,6'-HpCB	174			182	8.63 (S)	1.03	1.134
2,2',3,3',4,5',6-HpCB	175		U		8.33 (S)		
2,2',3,3',4,6,6'-HpCB	176		J	33.2	6.21 (S)	1.13	1.034
2,2',3,3',4,5,6-HpCB	177			119	6.62 (S)	1.02	1.146
2,2',3,3',5,5',6-HpCB	178			60.1	8.52 (S)	1.16	1.086
2,2',3,3',5,6,6'-HpCB	179		K	99.6	5.93 (S)	0.82	1.010
2,2',3,4,4',5,5'-HpCB	180	180 + 193	C	542	9.84 (S)	1.11	1.000
2,2',3,4,4',5,6-HpCB	181		U		8.80 (S)		
2,2',3,4,4',5,6'-HpCB	182		K J	9.13	8.11 (S)	1.21	1.116
2,2',3,4,4',5',6-HpCB	183	183 + 185	C K	134	8.31 (S)	0.87	1.127
2,2',3,4,4',6,6'-HpCB	184		U		5.90 (S)		
2,2',3,4,5,5',6-HpCB	185	183 + 185	C183				
2,2',3,4,5,6,6'-HpCB	186		U		6.56 (S)		
2,2',3,4',5,5',6-HpCB	187		G	468	7.78 (S)	0.94	1.110
2,2',3,4',5,6,6'-HpCB	188		J	7.86	6.53 (S)	1.17	1.000
2,3,3',4,4',5,5'-HpCB	189		K J	9.46	7.63 (S)	2.19	1.001
2,3,3',4,4',5,6-HpCB	190		K	38.9	7.07 (S)	0.70	0.947
2,3,3',4,4',5',6-HpCB	191		U		7.33 (S)		
2,3,3',4,5,5',6-HpCB	192		U		8.03 (S)		
2,3,3',4',5,5',6-HpCB	193	180 + 193	C180				
2,2',3,3',4,4',5,5'-Occb	194			132	8.25 (S)	1.00	0.991
2,2',3,3',4,4',5,6-Occb	195		K	38.1	8.85 (S)	1.07	0.945
2,2',3,3',4,4',5,6'-Occb	196			63.6	9.49 (S)	0.78	0.916
2,2',3,3',4,4',6,6'-Occb	197	197 + 200	C K J G	31.9	6.59 (S)	0.69	1.046
2,2',3,3',4,5,5',6-Occb	198	198 + 199	C	154	9.71 (S)	0.94	1.115
2,2',3,3',4,5,5',6'-Occb	199	198 + 199	C198				
2,2',3,3',4,5,6,6'-Occb	200	197 + 200	C197				
2,2',3,3',4,5',6,6'-Occb	201		K J	16.3	6.46 (S)	0.60	1.022
2,2',3,3',5,5',6,6'-Occb	202		K	58.3	8.72 (S)	0.48	1.000
2,2',3,4,4',5,5',6-Occb	203			97.2	9.05 (S)	0.89	0.919
2,2',3,4,4',5,6,6'-Occb	204		U		6.71 (S)		
2,3,3',4,4',5,5',6-Occb	205		U		6.44 (S)		
2,2',3,3',4,4',5,5',6-NoCB	206		K	111	11.5 (S)	1.06	1.000
2,2',3,3',4,4',5,6,6'-NoCB	207		K J	12.2	7.70 (S)	1.67	1.020
2,2',3,3',4,5,5',6,6'-NoCB	208		K	43.7	8.84 (S)	0.93	1.001
2,2',3,3',4,4',5,5',6,6'-DeCB	209			201	9.62 (S)	1.32	1.000

(1) Where applicable, custom lab flags have been used on this report; U = not detected at RL; K = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration; J = concentration less than lowest calibration equivalent; G = lock mass interference present; C = co-eluting congener.

(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = minimum reporting level.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_ Jason MacKenzie \_\_\_\_\_

For Axys Internal Use Only [ XSL Template: Form16681A.xsl; Created: 16-Nov-2018 10:17:08; Application: XMLTransformer-1.16.51;  
Report Filename: 1668\_PCB1668\_PCBTF\_L29967-4\_Form1A\_PB8C\_366S9\_SJ2455496.html; Workgroup: WG65583; Design ID: 3360 ]

## SGS AXYS METHOD MLA-010 Rev 12

Form 2  
PCB CONGENER ANALYSIS REPORT

**CLIENT SAMPLE NO.**  
**PDI-WS-T07-1808**  
**Sample Collection:**  
**23-Aug-2018 18:20**

**SGS AXYS ANALYTICAL SERVICES**

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

**Contract No.:** 4972  
**Matrix:** FILTER  
**Sample Receipt Date:** 29-Aug-2018  
**Extraction Date:** 10-Oct-2018  
**Analysis Date:** 25-Oct-2018 **Time:** 04:06:42  
**Extract Volume (uL):** 20  
**Injection Volume (uL):** 1.0  
**Dilution Factor:** N/A  
**Concentration Units:** pg absolute

<b>Project No.</b>	PORTRLAND HARBOR PDI AND BASELINE WATER
<b>Lab Sample I.D.:</b>	L29967-4
<b>Sample Size:</b>	0.2 sample
<b>Initial Calibration Date:</b>	07-Jul-2018
<b>Instrument ID:</b>	HR GC/MS
<b>GC Column ID:</b>	SPB OCTYL
<b>Sample Data Filename:</b>	PB8C_366 S: 9
<b>Blank Data Filename:</b>	PB8C_366 S: 4
<b>Cal. Ver. Data Filename:</b>	PB8C_366 S: 1

This page is part of a total report that contains information necessary for accreditation compliance.  
This test is not NELAP accredited. Sample results relate only to the sample tested.

LABELED COMPOUND	IUPAC NO. <sup>1</sup>	CO-ELUTIONS	LAB FLAG <sup>2</sup>	SPIKE CONC.	CONC. FOUND	R(%) <sup>3</sup>	ION ABUND. RATIO	RRT	
13C12-2-MoCB	1L		V	4000	597	14.9	3.17	0.719	
13C12-4-MoCB	3L		V	4000	598	14.9	3.22	0.858	
13C12-2,2'-DiCB	4L		V	4000	631	15.8	1.58	0.874	
13C12-4,4'-DiCB	15L		V	4000	644	16.1	1.59	1.254	
13C12-2,2',6-TriCB	19L		V	4000	738	18.5	1.07	1.072	
13C12-3,4,4'-TriCB	37L		V	4000	832	20.8	1.02	1.092	
13C12-2,2',6,6'-TeCB	54L		V	4000	845	21.1	0.76	0.811	
13C12-3,3',4,4'-TeCB	77L			4000	1110	27.8	0.77	1.398	
13C12-3,4,4',5-TeCB	81L			4000	1010	25.3	0.76	1.374	
13C12-2,2',4,6,6'-PeCB	104L		V	4000	792	19.8	1.67	0.807	
13C12-2,3,3',4,4'-PeCB	105L			4000	1260	31.4	1.58	1.200	
13C12-2,3,4,4',5-PeCB	114L		V	4000	948	23.7	1.59	1.180	
13C12-2,3',4,4',5-PeCB	118L		V	4000	982	24.5	1.52	1.162	
13C12-2',3,4,4',5-PeCB	123L			4000	1050	26.3	1.61	1.151	
13C12-3,3',4,4',5-PeCB	126L		V	4000	912	22.8	1.61	1.302	
13C12-2,2',4,4',6,6'-HxCB	155L			V	4000	864	21.6	1.32	0.785
13C12-2,3,3',4,4',5-HxCB	156L	156L + 157L	C	8000	2240	28.0	1.24	1.108	
13C12-2,3,3',4,4',5'-HxCB	157L	156L + 157L	C156L						
13C12-2,3',4,4',5,5'-HxCB	167L			4000	1120	28.0	1.27	1.078	
13C12-3,3',4,4',5,5'-HxCB	169L			4000	1050	26.2	1.20	1.192	
13C12-2,2',3,3',4,4',5-HpCB	170L			4000	1230	30.8	1.04	0.897	
13C12-2,2',3,4,4',5,5'-HpCB	180L			4000	1130	28.2	1.06	0.872	
13C12-2,2',3,4',5,6,6'-HpCB	188L			4000	1020	25.6	1.08	0.712	
13C12-2,3,3',4,4',5,5'-HpCB	189L			4000	1160	28.9	1.06	0.959	
13C12-2,2',3,3',5,5',6,6'-OcCB	202L		V	4000	778	19.4	0.86	0.817	
13C12-2,3,3',4,4',5,5',6-OcCB	205L			4000	1250	31.2	0.90	1.009	
13C12-2,2',3,3',4,4',5,5',6-NoCB	206L			4000	1010	25.4	0.78	1.043	
13C12-2,2',3,3',4,5,5',6,6'-NoCB	208L			4000	1080	26.9	0.78	0.949	
13C12-2,2',3,3',4,4',5,5',6,6'-DeCB	209L		V	4000	842	21.0	1.19	1.074	

**CLEANUP STANDARD**

13C12-2,4,4'-TriCB	28L		V	4000	839	21.0	1.02	0.925
13C12-2,3,3',5,5'-PeCB	111L		V	4000	1090	27.1	1.60	1.088
13C12-2,2',3,3',5,5'-HpCB	178L		V	4000	926	23.1	1.01	1.012

(1) Suffix "L" indicates labeled compound.

(2) Where applicable, custom lab flags have been used on this report; V = surrogate recovery is not within method/contract control limits; C = co-eluting congener.

(3) R% = percent recovery of labeled compounds.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_ Jason MacKenzie \_\_\_\_\_

## SGS AXYS METHOD MLA-010 Rev 12

Form 1A  
PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.

PDI-WS-T03-1808

Sample Collection:

22-Aug-2018 17:55

**SGS AXYS ANALYTICAL SERVICES**
 2045 MILLS RD., SIDNEY, B.C., CANADA  
 V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

<b>Contract No.:</b>	4972	<b>Project No.</b>	PORTRLAND HARBOR PDI AND BASELINE WATER
<b>Matrix:</b>	FILTER	<b>Lab Sample I.D.:</b>	L29967-5 (A)
<b>Sample Receipt Date:</b>	29-Aug-2018	<b>Sample Size:</b>	0.2 sample
<b>Extraction Date:</b>	10-Oct-2018	<b>Initial Calibration Date:</b>	07-Jul-2018
<b>Analysis Date:</b>	25-Oct-2018 Time: 11:49:13	<b>Instrument ID:</b>	HR GC/MS
<b>Extract Volume (uL):</b>	20	<b>GC Column ID:</b>	SPB OCTYL
<b>Injection Volume (uL):</b>	1.0	<b>Sample Data Filename:</b>	PB8C_367 S: 5
<b>Dilution Factor:</b>	N/A	<b>Blank Data Filename:</b>	PB8C_366 S: 4
<b>Concentration Units:</b>	pg/sample	<b>Cal. Ver. Data Filename:</b>	PB8C_367 S: 1

This page is part of a total report that contains information necessary for accreditation compliance.  
 This test is not NELAP accredited. Sample results relate only to the sample tested.

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG <sup>1</sup>	CONC. FOUND	REPORTING LIMIT (RL) <sup>2</sup>	ION ABUND. RATIO	RRT
2-MoCB	1			62.6	7.71 (S)	2.88	1.001
3-MoCB	2			80.0	8.19 (S)	2.99	0.989
4-MoCB	3			81.1	6.25 (S)	2.95	1.001
2,2'-DiCB	4			272	51.2 (S)	1.43	1.000
2,3-DiCB	5		U		54.4 (S)		
2,3'-DiCB	6			159	48.4 (S)	1.57	1.174
2,4-DiCB	7		K	115	48.5 (S)	1.16	1.157
2,4'-DiCB	8		G	636	44.1 (S)	1.50	1.205
2,5-DiCB	9		K	59.0	48.6 (S)	1.13	1.145
2,6-DiCB	10		U		50.1 (S)		
3,3'-DiCB	11			1830	50.3 (S)	1.51	0.968
3,4-DiCB	12	12 + 13	C	143	50.7 (S)	1.38	0.983
3,4'-DiCB	13	12 + 13	C12				
3,5-DiCB	14		U		50.5 (S)		
4,4'-DiCB	15			531	56.9 (S)	1.65	1.000
2,2',3-TrICB	16			406	5.58 (S)	1.17	1.164
2,2',4-TrICB	17		G	595	4.90 (S)	1.08	1.137
2,2',5-TrICB	18	18 + 30	C G	792	4.35 (Q)	1.07	1.113
2,2',6-TrICB	19			354	5.03 (S)	1.13	1.000
2,3,3'-TrICB	20	20 + 28	C	2300	9.35 (S)	0.96	0.848
2,3,4-TrICB	21	21 + 33	C	913	8.89 (S)	1.02	0.857
2,3,4'-TrICB	22			637	10.1 (S)	1.03	0.872
2,3,5-TrICB	23		U		9.61 (S)		
2,3,6-TrICB	24		J	14.3	4.35 (Q)	1.11	1.157
2,3',4-TrICB	25			311	7.97 (S)	0.97	0.825
2,3',5-TrICB	26	26 + 29	C	305	9.44 (S)	1.03	1.300
2,3',6-TrICB	27			127	4.35 (Q)	1.07	1.150
2,4,4'-TrICB	28	20 + 28	C20				
2,4,5-TrICB	29	26 + 29	C26				
2,4,6-TrICB	30	18 + 30	C18				
2,4',5-TrICB	31			1480	8.70 (S)	0.98	0.837
2,4',6-TrICB	32		G	207	8.94 (S)	0.95	1.196
2',3,4-TrICB	33	21 + 33	C21				
2',3,5-TrICB	34		J	14.8	10.1 (S)	1.17	1.271
3,3',4-TrICB	35			53.4	9.54 (S)	0.94	0.986
3,3',5-TrICB	36			52.2	8.74 (S)	0.99	0.931
3,4,4'-TrICB	37			574	10.0 (S)	1.02	1.001
3,4,5-TrICB	38		U		9.47 (S)		
3,4',5-TrICB	39		J	28.1	9.28 (S)	1.05	0.945

This page is part of a total report that contains information necessary for accreditation compliance.  
 This test is not NELAP accredited. Sample results relate only to the sample tested.

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG <sup>1</sup>	CONC. FOUND	REPORTING LIMIT (RL) <sup>2</sup>	ION ABUND. RATIO	RRT
2,2',3,3'-TeCB	40	40 + 41 + 71	C	1050	4.35 (Q)	0.74	1.336
2,2',3,4'-TeCB	41	40 + 41 + 71	C40				
2,2',3,4'-TeCB	42			535	4.35 (Q)	0.83	1.311
2,2',3,5'-TeCB	43			70.6	4.35 (Q)	0.82	1.246
2,2',3,5'-TeCB	44	44 + 47 + 65	C	5630	4.35 (Q)	0.79	1.286
2,2',3,6'-TeCB	45	45 + 51	C	1530	4.35 (Q)	0.76	1.148
2,2',3,6'-TeCB	46			108	4.35 (Q)	0.75	1.160
2,2',4,4'-TeCB	47	44 + 47 + 65	C44				
2,2',4,5'-TeCB	48			341	4.35 (Q)	0.77	1.273
2,2',4,5'-TeCB	49	49 + 69	C	1500	4.35 (Q)	0.79	1.259
2,2',4,6'-TeCB	50	50 + 53	C	448	4.35 (Q)	0.79	1.111
2,2',4,6'-TeCB	51	45 + 51	C45				
2,2',5,5'-TeCB	52			2390	4.35 (Q)	0.78	1.233
2,2',5,6'-TeCB	53	50 + 53	C50				
2,2',6,6'-TeCB	54			82.3	4.35 (Q)	0.78	1.001
2,3,3',4'-TeCB	55		U		21.7 (S)		
2,3,3',4'-TeCB	56			786	22.1 (S)	0.72	0.904
2,3,3',5'-TeCB	57		U		19.8 (S)		
2,3,3',5'-TeCB	58		U		21.1 (S)		
2,3,3',6'-TeCB	59	59 + 62 + 75	C	191	4.35 (Q)	0.79	1.302
2,3,4,4'-TeCB	60			370	22.3 (S)	0.75	0.911
2,3,4,5'-TeCB	61	61 + 70 + 74 + 76	C	2850	20.0 (S)	0.76	0.874
2,3,4,6'-TeCB	62	59 + 62 + 75	C59				
2,3,4',5'-TeCB	63			68.4	19.8 (S)	0.66	0.863
2,3,4',6'-TeCB	64			812	4.35 (Q)	0.80	1.348
2,3,5,6'-TeCB	65	44 + 47 + 65	C44				
2,3',4,4'-TeCB	66		G	1800	20.4 (S)	0.77	0.884
2,3',4,5'-TeCB	67		K	44.3	17.3 (S)	0.53	0.855
2,3',4,5'-TeCB	68			597	18.9 (S)	0.76	0.831
2,3',4,6'-TeCB	69	49 + 69	C49				
2,3',4',5'-TeCB	70	61 + 70 + 74 + 76	C61				
2,3',4',6'-TeCB	71	40 + 41 + 71	C40				
2,3',5,5'-TeCB	72		J	28.3	18.7 (S)	0.75	0.822
2,3',5,6'-TeCB	73		U		4.35 (Q)		
2,4,4',5'-TeCB	74	61 + 70 + 74 + 76	C61				
2,4,4',6'-TeCB	75	59 + 62 + 75	C59				
2',3,4,5'-TeCB	76	61 + 70 + 74 + 76	C61				
3,3',4,4'-TeCB	77			190	20.2 (S)	0.74	1.000
3,3',4,5'-TeCB	78		U		21.3 (S)		
3,3',4,5'-TeCB	79			49.1	17.7 (S)	0.77	0.968
3,3',5,5'-TeCB	80		U		19.2 (S)		
3,4,4',5'-TeCB	81		U		20.1 (S)		
2,2',3,3',4'-PeCB	82			420	7.06 (S)	1.53	0.934
2,2',3,3',5'-PeCB	83	83 + 99	C	1920	6.32 (S)	1.57	0.886
2,2',3,3',6'-PeCB	84			691	7.02 (S)	1.56	1.164
2,2',3,4,4'-PeCB	85	85 + 116 + 117	C	571	5.38 (S)	1.64	0.919
2,2',3,4,5'-PeCB	86	86 + 87 + 97 + 108 + 119 + 125	C G	2120	5.39 (S)	1.54	0.902
2,2',3,4,5'-PeCB	87	86 + 87 + 97 + 108 + 119 + 125	C86				
2,2',3,4,6'-PeCB	88	88 + 91	C	534	6.06 (S)	1.50	1.155
2,2',3,4,6'-PeCB	89		K	36.1	6.53 (S)	1.94	1.182
2,2',3,4',5'-PeCB	90	90 + 101 + 113	C	3240	5.43 (S)	1.56	0.869
2,2',3,4',6'-PeCB	91	88 + 91	C88				
2,2',3,5,5'-PeCB	92			670	6.33 (S)	1.55	0.853
2,2',3,5,6'-PeCB	93	93 + 95 + 98 + 100 + 102	C	2540	5.84 (S)	1.55	1.121
2,2',3,5,6'-PeCB	94		K	38.7	6.54 (S)	2.25	1.103
2,2',3,5',6'-PeCB	95	93 + 95 + 98 + 100 + 102	C93				
2,2',3,6,6'-PeCB	96		J	33.5	4.35 (Q)	1.56	1.016
2,2',3',4,5'-PeCB	97	86 + 87 + 97 + 108 + 119 + 125	C86				
2,2',3',4,6'-PeCB	98	93 + 95 + 98 + 100 + 102	C93				
2,2',4,4',5'-PeCB	99	83 + 99	C83				

This page is part of a total report that contains information necessary for accreditation compliance.  
 This test is not NELAP accredited. Sample results relate only to the sample tested.

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG <sup>1</sup>	CONC. FOUND	REPORTING LIMIT (RL) <sup>2</sup>	ION ABUND. RATIO	RRT	
2,2',4,4',6-PeCB	100	93 + 95 + 98 + 100 + 102	C93					
2,2',4,5,5'-PeCB	101	90 + 101 + 113	C90					
2,2',4,5,6'-PeCB	102	93 + 95 + 98 + 100 + 102	C93					
2,2',4,5',6-PeCB	103		K	86.8	5.31 (S)	1.24	1.094	
2,2',4,6,6'-PeCB	104		K J	13.3	4.35 (Q)	1.19	1.001	
2,3,3',4,4'-PeCB	105			1080	7.27 (S)	1.50	1.000	
2,3,3',4,5-PeCB	106		U		8.59 (S)			
2,3,3',4,5'-PeCB	107	107 + 124	C	124	9.45 (S)	1.47	0.991	
2,3,3',4,5'-PeCB	108	86 + 87 + 97 + 108 + 119 + 125	C86					
2,3,3',4,6-PeCB	109			248	8.94 (S)	1.59	0.998	
2,3,3',4',6-PeCB	110	110 + 115	C	3560	4.72 (S)	1.57	0.925	
2,3,3',5,5'-PeCB	111		U		4.74 (S)			
2,3,3',5,6-PeCB	112		U		4.60 (S)			
2,3,3',5',6-PeCB	113	90 + 101 + 113	C90					
2,3,4,4',5-PeCB	114		K	62.4	9.32 (S)	1.27	1.001	
2,3,4,4',6-PeCB	115	110 + 115	C110					
2,3,4,5,6-PeCB	116	85 + 116 + 117	C85					
2,3,4',5,6-PeCB	117	85 + 116 + 117	C85					
2,3',4,4',5-PeCB	118			2760	8.82 (S)	1.54	1.000	
2,3',4,4',6-PeCB	119	86 + 87 + 97 + 108 + 119 + 125	C86					
2,3',4,5,5'-PeCB	120		J	22.1	4.62 (S)	1.64	0.958	
2,3',4,5',6-PeCB	121		K J	8.19	4.79 (S)	2.83	1.200	
2',3,3',4,5-PeCB	122		K	42.7	10.4 (S)	1.28	1.010	
2',3,4,4',5-PeCB	123		K	51.6	8.46 (S)	1.86	1.001	
2',3,4,5,5'-PeCB	124	107 + 124	C107					
2',3,4,5,6'-PeCB	125	86 + 87 + 97 + 108 + 119 + 125	C86					
3,3',4,4',5-PeCB	126		K J	18.2	10.7 (S)	1.49	1.000	
3,3',4,5,5'-PeCB	127		U		9.67 (S)			
2,2',3,3',4,4'-HxCB	128	128 + 166	C	938	15.0 (S)	1.17	0.959	
2,2',3,3',4,5-HxCB	129	129 + 138 + 160 + 163	C	5830	14.9 (S)	1.27	0.928	
2,2',3,3',4,5'-HxCB	130			344	19.0 (S)	1.20	0.913	
2,2',3,3',4,6-HxCB	131			65.2	17.1 (S)	1.25	1.161	
2,2',3,3',4,6'-HxCB	132			1780	18.6 (S)	1.31	1.175	
2,2',3,3',5,5'-HxCB	133			108	17.2 (S)	1.13	1.192	
2,2',3,3',5,6-HxCB	134	134 + 143	C	278	17.5 (S)	1.37	1.141	
2,2',3,3',5,6'-HxCB	135	135 + 151 + 154	C	1890	4.35 (Q)	1.25	1.105	
2,2',3,3',6,6'-HxCB	136			621	4.35 (Q)	1.28	1.025	
2,2',3,4,4',5-HxCB	137			232	17.4 (S)	1.31	0.918	
2,2',3,4,4',5'-HxCB	138	129 + 138 + 160 + 163	C129					
2,2',3,4,4',6-HxCB	139	139 + 140	C	95.9	15.8 (S)	1.40	1.153	
2,2',3,4,4',6'-HxCB	140	139 + 140	C139					
2,2',3,4,5,5'-HxCB	141			920	16.6 (S)	1.26	0.903	
2,2',3,4,5,6-HxCB	142		U		17.7 (S)			
2,2',3,4,5,6'-HxCB	143	134 + 143	C134					
2,2',3,4,5',6-HxCB	144			234	4.35 (Q)	1.20	1.122	
2,2',3,4,6,6'-HxCB	145		U		4.35 (Q)			
2,2',3,4',5,5'-HxCB	146			1040	14.8 (S)	1.30	0.884	
2,2',3,4',5,6-HxCB	147	147 + 149	C	5210	15.4 (S)	1.27	1.134	
2,2',3,4',5,6'-HxCB	148		K J	30.2	4.35 (Q)	1.03	1.084	
2,2',3,4',5,6-HxCB	149	147 + 149	C147					
2,2',3,4',6,6'-HxCB	150		J	29.3	4.35 (Q)	1.17	1.013	
2,2',3,5,5',6-HxCB	151	135 + 151 + 154	C135					
2,2',3,5,6,6'-HxCB	152			K J	7.71	4.35 (Q)	2.02	1.008
2,2',4,4',5,5'-HxCB	153	153 + 168	C	4840	13.2 (S)	1.26	0.898	
2,2',4,4',5,6'-HxCB	154	135 + 151 + 154	C135					
2,2',4,4',6,6'-HxCB	155		K J	8.46	4.35 (Q)	1.64	1.000	
2,3,3',4,4',5-HxCB	156	156 + 157	C	564	16.0 (S)	1.32	1.000	
2,3,3',4,4',5'-HxCB	157	156 + 157	C156					
2,3,3',4,4',6-HxCB	158			495	11.8 (S)	1.29	0.938	
2,3,3',4,5,5'-HxCB	159		U		12.6 (S)			
2,3,3',4,5,6-HxCB	160	129 + 138 + 160 + 163	C129					

This page is part of a total report that contains information necessary for accreditation compliance.  
 This test is not NELAP accredited. Sample results relate only to the sample tested.

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG <sup>1</sup>	CONC. FOUND	REPORTING LIMIT (RL) <sup>2</sup>	ION ABUND. RATIO	RRT
2,3,3',4,5',6-HxCB	161		U		12.4 (S)		
2,3,3',4',5,5'-HxCB	162		K J	25.4	11.3 (S)	1.71	0.989
2,3,3',4',5,6-HxCB	163	129 + 138 + 160 + 163	C129				
2,3,3',4',5',6-HxCB	164			398	12.9 (S)	1.31	0.921
2,3,3',5,5',6-HxCB	165		U		14.0 (S)		
2,3,4,4',5,6-HxCB	166	128 + 166	C128				
2,3',4,4',5,5'-HxCB	167			209	12.5 (S)	1.23	1.000
2,3',4,4',5',6-HxCB	168	153 + 168	C153				
3,3',4,4',5,5'-HxCB	169		U		14.0 (S)		
2,2',3,3',4,4',5-HpCB	170			1240	4.59 (S)	0.99	1.000
2,2',3,3',4,4',6-HpCB	171	171 + 173	C	372	4.35 (Q)	1.11	1.163
2,2',3,3',4,5,5'-HpCB	172			204	4.37 (S)	1.13	0.897
2,2',3,3',4,5,6-HpCB	173	171 + 173	C171				
2,2',3,3',4,5,6'-HpCB	174			1210	4.35 (Q)	1.03	1.133
2,2',3,3',4,5',6-HpCB	175			49.0	4.35 (Q)	1.16	1.103
2,2',3,3',4,6,6'-HpCB	176			176	4.35 (Q)	0.98	1.034
2,2',3,3',4,5,6-HpCB	177			610	4.35 (Q)	1.04	1.146
2,2',3,3',5,5',6-HpCB	178			309	4.35 (Q)	1.08	1.085
2,2',3,3',5,6,6'-HpCB	179			620	4.35 (Q)	1.10	1.010
2,2',3,4,4',5,5'-HpCB	180	180 + 193	C	3330	4.45 (S)	1.02	1.001
2,2',3,4,4',5,6-HpCB	181		K J	16.6	4.35 (Q)	1.92	1.156
2,2',3,4,4',5,6'-HpCB	182		J	11.2	4.35 (Q)	1.11	1.116
2,2',3,4,4',5',6-HpCB	183	183 + 185	C	914	4.35 (Q)	1.10	1.127
2,2',3,4,4',6,6'-HpCB	184		K J	5.72	4.35 (Q)	3.11	1.025
2,2',3,4,5,5',6-HpCB	185	183 + 185	C183				
2,2',3,4,5,6,6'-HpCB	186		U		4.35 (Q)		
2,2',3,4',5,5',6-HpCB	187			2220	4.35 (Q)	1.12	1.110
2,2',3,4',5,6,6'-HpCB	188		J	7.36	4.35 (Q)	1.19	1.001
2,3,3',4,4',5,5'-HpCB	189		K	41.3	4.35 (Q)	0.63	1.001
2,3,3',4,4',5,6-HpCB	190			236	4.35 (Q)	1.04	0.947
2,3,3',4,4',5',6-HpCB	191			48.6	4.35 (Q)	1.13	0.917
2,3,3',4,5,5',6-HpCB	192		U		4.35 (Q)		
2,3,3',4',5,5',6-HpCB	193	180 + 193	C180				
2,2',3,3',4,4',5,5'-OcCB	194			688	4.70 (S)	0.88	0.991
2,2',3,3',4,4',5,6-OcCB	195			282	5.07 (S)	0.87	0.946
2,2',3,3',4,4',5,6'-OcCB	196			378	4.59 (S)	0.88	0.916
2,2',3,3',4,4',6,6'-OcCB	197	197 + 200	C	140	4.35 (Q)	0.89	1.046
2,2',3,3',4,5,5',6-OcCB	198	198 + 199	C	979	4.67 (S)	0.89	1.115
2,2',3,3',4,5,5',6'-OcCB	199	198 + 199	C198				
2,2',3,3',4,5,6,6'-OcCB	200	197 + 200	C197				
2,2',3,3',4,5',6,6'-OcCB	201			115	4.35 (Q)	0.96	1.023
2,2',3,3',5,5',6,6'-OcCB	202			234	4.35 (Q)	0.82	1.000
2,2',3,4,4',5,5',6-OcCB	203			647	4.50 (S)	0.89	0.919
2,2',3,4,4',5,6,6'-OcCB	204		U		4.35 (Q)		
2,3,3',4,4',5,5',6-OcCB	205		K	37.2	4.35 (Q)	1.10	1.001
2,2',3,3',4,4',5,5',6-NoCB	206			638	5.78 (S)	0.77	1.001
2,2',3,3',4,4',5,6,6'-NoCB	207			69.1	4.35 (Q)	0.84	1.020
2,2',3,3',4,5,5',6,6'-NoCB	208			250	4.55 (S)	0.81	1.001
2,2',3,3',4,4',5,5',6,6'-DeCB	209		K	575	4.35 (Q)	1.41	1.000

(1) Where applicable, custom lab flags have been used on this report; U = not detected at RL; K = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration; J = concentration less than lowest calibration equivalent; G = lock mass interference present; C = co-eluting congener.

(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = minimum reporting level.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_ Jason MacKenzie \_\_\_\_\_

For Axys Internal Use Only [ XSL Template: Form16681A.xsl; Created: 16-Nov-2018 10:17:08; Application: XMLTransformer-1.16.51;  
 Report Filename: 1668\_PCB1668\_PCBTF\_L29967-5\_Form1A\_PB8C\_367S5\_SJ2455507.html; Workgroup: WG65583; Design ID: 3360 ]

## SGS AXYS METHOD MLA-010 Rev 12

Form 2  
PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.

PDI-WS-T03-1808

Sample Collection:

22-Aug-2018 17:55

## SGS AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

**Contract No.:** 4972  
**Matrix:** FILTER  
**Sample Receipt Date:** 29-Aug-2018  
**Extraction Date:** 10-Oct-2018  
**Analysis Date:** 25-Oct-2018 **Time:** 11:49:13  
**Extract Volume (uL):** 20  
**Injection Volume (uL):** 1.0  
**Dilution Factor:** N/A  
**Concentration Units:** pg absolute

## Project No.

**Lab Sample I.D.:** L29967-5 (A)  
**Sample Size:** 0.2 sample  
**Initial Calibration Date:** 07-Jul-2018  
**Instrument ID:** HR GC/MS  
**GC Column ID:** SPB OCTYL  
**Sample Data Filename:** PB8C\_367 S: 5  
**Blank Data Filename:** PB8C\_366 S: 4  
**Cal. Ver. Data Filename:** PB8C\_367 S: 1

PORTLAND HARBOR PDI AND  
BASELINE WATER

This page is part of a total report that contains information necessary for accreditation compliance.  
This test is not NELAP accredited. Sample results relate only to the sample tested.

LABELED COMPOUND	IUPAC NO. <sup>1</sup>	CO-ELUTIONS	LAB FLAG <sup>2</sup>	SPIKE CONC.	CONC. FOUND	R(%) <sup>3</sup>	ION ABUND. RATIO	RRT
13C12-2-MoCB	1L			4000	1270	31.8	3.19	0.719
13C12-4-MoCB	3L			4000	1210	30.3	3.17	0.858
13C12-2,2'-DiCB	4L			4000	1700	42.5	1.56	0.874
13C12-4,4'-DiCB	15L			4000	1380	34.4	1.59	1.252
13C12-2,2',6-TriCB	19L			4000	2170	54.2	1.09	1.071
13C12-3,4,4'-TriCB	37L			4000	1840	45.9	1.01	1.092
13C12-2,2',6,6'-TeCB	54L			4000	2330	58.3	0.80	0.811
13C12-3,3',4,4'-TeCB	77L			4000	2740	68.5	0.74	1.397
13C12-3,4,4',5-TeCB	81L			4000	2740	68.6	0.73	1.374
13C12-2,2',4,6,6'-PeCB	104L			4000	2100	52.4	1.59	0.808
13C12-2,3,3',4,4'-PeCB	105L			4000	3280	82.1	1.57	1.200
13C12-2,3,4,4',5-PeCB	114L			4000	2670	66.8	1.57	1.179
13C12-2,3',4,4',5-PeCB	118L			4000	2890	72.3	1.55	1.162
13C12-2',3,4,4',5-PeCB	123L			4000	3060	76.6	1.59	1.151
13C12-3,3',4,4',5-PeCB	126L			4000	2630	65.8	1.58	1.302
13C12-2,2',4,4',6,6'-HxCB	155L			4000	2170	54.2	1.28	0.785
13C12-2,3,3',4,4',5-HxCB	156L	156L + 157L	C	8000	5260	65.7	1.26	1.108
13C12-2,3,3',4,4',5'-HxCB	157L	156L + 157L	C156L					
13C12-2,3',4,4',5,5'-HxCB	167L			4000	2700	67.5	1.27	1.078
13C12-3,3',4,4',5,5'-HxCB	169L			4000	2520	63.0	1.27	1.192
13C12-2,2',3,3',4,4',5-HpCB	170L			4000	3530	88.3	1.05	0.897
13C12-2,2',3,4,4',5,5'-HpCB	180L			4000	3360	84.1	1.04	0.872
13C12-2,2',3,4',5,6,6'-HpCB	188L			4000	3140	78.6	1.07	0.712
13C12-2,3,3',4,4',5,5'-HpCB	189L			4000	3340	83.4	1.03	0.959
13C12-2,2',3,3',5,5',6,6'-OcCB	202L			4000	2370	59.4	0.91	0.817
13C12-2,3,3',4,4',5,5',6-OcCB	205L			4000	3260	81.6	0.87	1.009
13C12-2,2',3,3',4,4',5,5',6-NoCB	206L			4000	2890	72.2	0.78	1.043
13C12-2,2',3,3',4,5,5',6,6'-NoCB	208L			4000	3210	80.3	0.75	0.949
13C12-2,2',3,3',4,4',5,5',6,6'-DeCB	209L			4000	2330	58.2	1.20	1.075

## CLEANUP STANDARD

13C12-2,4,4'-TriCB	28L		4000	2320	58.0	1.03	0.925
13C12-2,3,3',5,5'-PeCB	111L		4000	2900	72.4	1.61	1.088
13C12-2,2',3,3',5,5'-HpCB	178L		4000	2410	60.3	1.06	1.012

(1) Suffix "L" indicates labeled compound.

(2) Where applicable, custom lab flags have been used on this report; C = co-eluting congener.

(3) R% = percent recovery of labeled compounds.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_ Jason MacKenzie \_\_\_\_\_

## SGS AXYS METHOD MLA-010 Rev 12

Form 1A  
PCB CONGENER ANALYSIS REPORT

**CLIENT SAMPLE NO.**  
**PDI-WS-T03-1808 (Duplicate)**  
**Sample Collection:**  
**22-Aug-2018 17:55**

**SGS AXYS ANALYTICAL SERVICES**

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

<b>Contract No.:</b>	4972	<b>Project No.</b>	PORLTAND HARBOR PDI AND BASELINE WATER
<b>Matrix:</b>	FILTER	<b>Lab Sample I.D.:</b>	WG65583-103 (DUP L29967-5)
<b>Sample Receipt Date:</b>	29-Aug-2018	<b>Sample Size:</b>	0.2 sample
<b>Extraction Date:</b>	10-Oct-2018	<b>Initial Calibration Date:</b>	07-Jul-2018
<b>Analysis Date:</b>	25-Oct-2018 <b>Time:</b> 12:53:02	<b>Instrument ID:</b>	HR GC/MS
<b>Extract Volume (uL):</b>	20	<b>GC Column ID:</b>	SPB OCTYL
<b>Injection Volume (uL):</b>	1.0	<b>Sample Data Filename:</b>	PB8C_367 S: 6
<b>Dilution Factor:</b>	N/A	<b>Blank Data Filename:</b>	PB8C_366 S: 4
<b>Concentration Units:</b>	pg/sample	<b>Cal. Ver. Data Filename:</b>	PB8C_367 S: 1

This page is part of a total report that contains information necessary for accreditation compliance.  
This test is not NELAP accredited. Sample results relate only to the sample tested.

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG <sup>1</sup>	CONC. FOUND	REPORTING LIMIT (RL) <sup>2</sup>	ION ABUND. RATIO	RRT
2-MoCB	1		X				
3-MoCB	2		X				
4-MoCB	3		X				
2,2'-DiCB	4			235	29.3 (S)	1.59	1.001
2,3-DiCB	5		U		25.2 (S)		
2,3'-DiCB	6			105	22.4 (S)	1.41	1.171
2,4-DiCB	7			86.9	22.4 (S)	1.35	1.156
2,4'-DiCB	8			441	20.4 (S)	1.47	1.203
2,5-DiCB	9		K	44.4	22.5 (S)	1.29	1.144
2,6-DiCB	10		U		23.1 (S)		
3,3'-DiCB	11			1360	23.3 (S)	1.46	0.968
3,4-DiCB	12	12 + 13	C K	94.1	23.4 (S)	1.29	0.983
3,4'-DiCB	13	12 + 13	C12				
3,5-DiCB	14		U		23.3 (S)		
4,4'-DiCB	15			477	23.0 (S)	1.43	1.001
2,2',3-TrICB	16			302	4.25 (Q)	1.06	1.163
2,2',4-TrICB	17		X				
2,2',5-TrICB	18	18 + 30	C	708	4.25 (Q)	1.08	1.111
2,2',6-TrICB	19			348	4.25 (Q)	1.10	1.000
2,3,3'-TrICB	20	20 + 28	C	1720	4.25 (Q)	1.01	0.847
2,3,4-TrICB	21	21 + 33	C	704	4.25 (Q)	0.99	0.857
2,3,4'-TrICB	22			462	4.34 (S)	0.96	0.872
2,3,5-TrICB	23		U		4.25 (Q)		
2,3,6-TrICB	24		J	11.7	4.25 (Q)	1.03	1.156
2,3',4-TrICB	25			234	4.25 (Q)	1.00	0.824
2,3',5-TrICB	26	26 + 29	C	259	4.25 (Q)	0.97	1.298
2,3',6-TrICB	27			97.5	4.25 (Q)	1.02	1.150
2,4,4'-TrICB	28	20 + 28	C20				
2,4,5-TrICB	29	26 + 29	C26				
2,4,6-TrICB	30	18 + 30	C18				
2,4',5-TrICB	31			1140	4.25 (Q)	1.00	0.836
2,4',6-TrICB	32		X				
2',3,4-TrICB	33	21 + 33	C21				
2',3,5-TrICB	34		K J	10.3	4.31 (S)	1.26	1.270
3,3',4-TrICB	35		J	31.6	4.25 (Q)	0.99	0.985
3,3',5-TrICB	36		J	32.9	4.25 (Q)	0.89	0.930
3,4,4'-TrICB	37			493	4.25 (Q)	0.97	1.001
3,4,5-TrICB	38		J	4.43	4.25 (Q)	1.13	0.967
3,4',5-TrICB	39		K J	21.4	4.25 (Q)	0.72	0.946

This page is part of a total report that contains information necessary for accreditation compliance.  
 This test is not NELAP accredited. Sample results relate only to the sample tested.

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG <sup>1</sup>	CONC. FOUND	REPORTING LIMIT (RL) <sup>2</sup>	ION ABUND. RATIO	RRT
2,2',3,3'-TeCB	40	40 + 41 + 71	C	874	4.25 (Q)	0.79	1.333
2,2',3,4'-TeCB	41	40 + 41 + 71	C40				
2,2',3,4'-TeCB	42			448	4.25 (Q)	0.83	1.309
2,2',3,5'-TeCB	43		K	59.0	4.25 (Q)	0.52	1.243
2,2',3,5'-TeCB	44	44 + 47 + 65	C	4660	4.25 (Q)	0.78	1.284
2,2',3,6'-TeCB	45	45 + 51	C	1290	4.25 (Q)	0.79	1.146
2,2',3,6'-TeCB	46			95.6	4.25 (Q)	0.80	1.159
2,2',4,4'-TeCB	47	44 + 47 + 65	C44				
2,2',4,5'-TeCB	48			294	4.25 (Q)	0.75	1.271
2,2',4,5'-TeCB	49	49 + 69	C	1290	4.25 (Q)	0.78	1.257
2,2',4,6'-TeCB	50	50 + 53	C	369	4.25 (Q)	0.83	1.108
2,2',4,6'-TeCB	51	45 + 51	C45				
2,2',5,5'-TeCB	52			2140	4.25 (Q)	0.77	1.231
2,2',5,6'-TeCB	53	50 + 53	C50				
2,2',6,6'-TeCB	54			78.8	4.25 (Q)	0.80	1.001
2,3,3',4'-TeCB	55		U		18.9 (S)		
2,3,3',4'-TeCB	56			708	19.3 (S)	0.73	0.904
2,3,3',5'-TeCB	57		U		17.3 (S)		
2,3,3',5'-TeCB	58		U		18.4 (S)		
2,3,3',6'-TeCB	59	59 + 62 + 75	C	157	4.25 (Q)	0.79	1.299
2,3,4,4'-TeCB	60			310	19.5 (S)	0.80	0.911
2,3,4,5'-TeCB	61	61 + 70 + 74 + 76	C	2520	17.5 (S)	0.75	0.875
2,3,4,6'-TeCB	62	59 + 62 + 75	C59				
2,3,4',5'-TeCB	63			56.8	17.3 (S)	0.74	0.864
2,3,4',6'-TeCB	64			709	4.25 (Q)	0.79	1.346
2,3,5,6'-TeCB	65	44 + 47 + 65	C44				
2,3',4,4'-TeCB	66		X				
2,3',4,5'-TeCB	67			44.6	15.1 (S)	0.77	0.856
2,3',4,5'-TeCB	68			480	16.6 (S)	0.76	0.831
2,3',4,6'-TeCB	69	49 + 69	C49				
2,3',4',5'-TeCB	70	61 + 70 + 74 + 76	C61				
2,3',4',6'-TeCB	71	40 + 41 + 71	C40				
2,3',5,5'-TeCB	72		K J	28.8	16.3 (S)	0.95	0.822
2,3',5,6'-TeCB	73		U		4.25 (Q)		
2,4,4',5'-TeCB	74	61 + 70 + 74 + 76	C61				
2,4,4',6'-TeCB	75	59 + 62 + 75	C59				
2',3,4,5'-TeCB	76	61 + 70 + 74 + 76	C61				
3,3',4,4'-TeCB	77			188	17.0 (S)	0.86	1.000
3,3',4,5'-TeCB	78		U		18.6 (S)		
3,3',4,5'-TeCB	79		J	33.8	15.5 (S)	0.79	0.969
3,3',5,5'-TeCB	80		U		16.8 (S)		
3,4,4',5'-TeCB	81		U		17.6 (S)		
2,2',3,3',4'-PeCB	82		X				
2,2',3,3',5'-PeCB	83	83 + 99	C X				
2,2',3,3',6'-PeCB	84		X				
2,2',3,4,4'-PeCB	85	85 + 116 + 117	C X				
2,2',3,4,5'-PeCB	86	86 + 87 + 97 + 108 + 119 + 125	C X				
2,2',3,4,5'-PeCB	87	86 + 87 + 97 + 108 + 119 + 125	C86				
2,2',3,4,6'-PeCB	88	88 + 91	C X				
2,2',3,4,6'-PeCB	89		X				
2,2',3,4',5'-PeCB	90	90 + 101 + 113	C X				
2,2',3,4',6'-PeCB	91	88 + 91	C88				
2,2',3,5,5'-PeCB	92		X				
2,2',3,5,6'-PeCB	93	93 + 95 + 98 + 100 + 102	C X				
2,2',3,5,6'-PeCB	94		X				
2,2',3,5',6'-PeCB	95	93 + 95 + 98 + 100 + 102	C93				
2,2',3,6,6'-PeCB	96		X				
2,2',3',4,5'-PeCB	97	86 + 87 + 97 + 108 + 119 + 125	C86				
2,2',3',4,6'-PeCB	98	93 + 95 + 98 + 100 + 102	C93				
2,2',4,4',5'-PeCB	99	83 + 99	C83				

This page is part of a total report that contains information necessary for accreditation compliance.  
 This test is not NELAP accredited. Sample results relate only to the sample tested.

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG <sup>1</sup>	CONC. FOUND	REPORTING LIMIT (RL) <sup>2</sup>	ION ABUND. RATIO	RRT
2,2',4,4',6-PeCB	100	93 + 95 + 98 + 100 + 102	C93				
2,2',4,5,5'-PeCB	101	90 + 101 + 113	C90				
2,2',4,5,6'-PeCB	102	93 + 95 + 98 + 100 + 102	C93				
2,2',4,5',6-PeCB	103		X				
2,2',4,6,6'-PeCB	104		J	15.4	4.25 (Q)	1.57	1.001
2,3,3',4,4'-PeCB	105		X				
2,3,3',4,5-PeCB	106		X				
2,3,3',4',5-PeCB	107	107 + 124	C X				
2,3,3',4,5'-PeCB	108	86 + 87 + 97 + 108 + 119 + 125	C86				
2,3,3',4,6-PeCB	109		X				
2,3,3',4',6-PeCB	110	110 + 115	C X				
2,3,3',5,5'-PeCB	111		X				
2,3,3',5,6-PeCB	112		X				
2,3,3',5',6-PeCB	113	90 + 101 + 113	C90				
2,3,4,4',5-PeCB	114			60.0	10.3 (S)	1.47	1.000
2,3,4,4',6-PeCB	115	110 + 115	C110				
2,3,4,5,6-PeCB	116	85 + 116 + 117	C85				
2,3,4',5,6-PeCB	117	85 + 116 + 117	C85				
2,3',4,4',5-PeCB	118			2670	10.2 (S)	1.50	1.000
2,3',4,4',6-PeCB	119	86 + 87 + 97 + 108 + 119 + 125	C86				
2,3',4,5,5'-PeCB	120		X				
2,3',4,5',6-PeCB	121		X				
2',3,3',4,5-PeCB	122		X				
2',3,4,4',5-PeCB	123			49.0	9.80 (S)	1.42	1.001
2',3,4,5,5'-PeCB	124	107 + 124	C107				
2',3,4,5,6'-PeCB	125	86 + 87 + 97 + 108 + 119 + 125	C86				
3,3',4,4',5-PeCB	126		K J	15.7	12.1 (S)	1.30	1.001
3,3',4,5,5'-PeCB	127		X				
2,2',3,3',4,4'-HxCB	128	128 + 166	C X				
2,2',3,3',4,5-HxCB	129	129 + 138 + 160 + 163	C	5550	11.6 (S)	1.27	0.928
2,2',3,3',4,5'-HxCB	130			336	14.8 (S)	1.19	0.913
2,2',3,3',4,6-HxCB	131			65.3	13.4 (S)	1.17	1.161
2,2',3,3',4,6'-HxCB	132			1690	14.5 (S)	1.26	1.175
2,2',3,3',5,5'-HxCB	133			97.6	13.4 (S)	1.34	1.192
2,2',3,3',5,6-HxCB	134	134 + 143	C	274	13.7 (S)	1.22	1.141
2,2',3,3',5,6'-HxCB	135	135 + 151 + 154	C	1800	4.25 (Q)	1.20	1.105
2,2',3,3',6,6'-HxCB	136			606	4.25 (Q)	1.32	1.025
2,2',3,4,4',5-HxCB	137			232	13.5 (S)	1.14	0.918
2,2',3,4,4',5'-HxCB	138	129 + 138 + 160 + 163	C129				
2,2',3,4,4',6-HxCB	139	139 + 140	C	97.1	12.3 (S)	1.38	1.153
2,2',3,4,4',6'-HxCB	140	139 + 140	C139				
2,2',3,4,5,5'-HxCB	141			905	12.9 (S)	1.29	0.903
2,2',3,4,5,6-HxCB	142		U		13.8 (S)		
2,2',3,4,5,6'-HxCB	143	134 + 143	C134				
2,2',3,4,5',6-HxCB	144			224	4.25 (Q)	1.19	1.122
2,2',3,4,6,6'-HxCB	145		U		4.25 (Q)		
2,2',3,4',5,5'-HxCB	146		X				
2,2',3,4',5,6-HxCB	147	147 + 149	C	4820	12.0 (S)	1.24	1.134
2,2',3,4',5,6'-HxCB	148		K J	24.1	4.25 (Q)	1.52	1.084
2,2',3,4',5,6-HxCB	149	147 + 149	C147				
2,2',3,4',6,6'-HxCB	150		K J	23.2	4.25 (Q)	0.99	1.013
2,2',3,5,5',6-HxCB	151	135 + 151 + 154	C135				
2,2',3,5,6,6'-HxCB	152		K J	13.4	4.25 (Q)	1.67	1.007
2,2',4,4',5,5'-HxCB	153	153 + 168	C	4450	10.3 (S)	1.25	0.898
2,2',4,4',5,6'-HxCB	154	135 + 151 + 154	C135				
2,2',4,4',6,6'-HxCB	155		J	7.71	4.25 (Q)	1.13	1.000
2,3,3',4,4',5-HxCB	156	156 + 157	C	559	12.3 (S)	1.25	1.000
2,3,3',4,4',5'-HxCB	157	156 + 157	C156				
2,3,3',4,4',6-HxCB	158			484	9.21 (S)	1.30	0.938
2,3,3',4,5,5'-HxCB	159		U		9.82 (S)		
2,3,3',4,5,6-HxCB	160	129 + 138 + 160 + 163	C129				

This page is part of a total report that contains information necessary for accreditation compliance.  
This test is not NELAP accredited. Sample results relate only to the sample tested.

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG <sup>1</sup>	CONC. FOUND	REPORTING LIMIT (RL) <sup>2</sup>	ION ABUND. RATIO	RRT
2,3,3',4,5',6-HxCB	161		U		9.69 (S)		
2,3,3',4',5,5'-HxCB	162		J	12.6	8.79 (S)	1.11	0.988
2,3,3',4',5,6-HxCB	163	129 + 138 + 160 + 163	C129				
2,3,3',4',5',6-HxCB	164			367	10.1 (S)	1.24	0.921
2,3,3',5,5',6-HxCB	165		U		10.9 (S)		
2,3,4,4',5,6-HxCB	166	128 + 166	C128				
2,3',4,4',5,5'-HxCB	167			207	9.96 (S)	1.31	1.000
2,3',4,4',5',6-HxCB	168	153 + 168	C153				
3,3',4,4',5,5'-HxCB	169		U		10.5 (S)		
2,2',3,3',4,4',5-HpCB	170			1240	4.25 (Q)	1.06	1.000
2,2',3,3',4,4',6-HpCB	171	171 + 173	C	360	4.25 (Q)	0.93	1.164
2,2',3,3',4,5,5'-HpCB	172			220	4.25 (Q)	1.08	0.897
2,2',3,3',4,5,6-HpCB	173	171 + 173	C171				
2,2',3,3',4,5,6'-HpCB	174			1130	4.25 (Q)	1.09	1.134
2,2',3,3',4,5',6-HpCB	175			58.4	4.25 (Q)	1.18	1.103
2,2',3,3',4,6,6'-HpCB	176			165	4.25 (Q)	1.04	1.035
2,2',3,3',4,5,6-HpCB	177			615	4.25 (Q)	1.03	1.146
2,2',3,3',5,5',6-HpCB	178			279	4.25 (Q)	1.07	1.086
2,2',3,3',5,6,6'-HpCB	179			544	4.25 (Q)	1.09	1.010
2,2',3,4,4',5,5'-HpCB	180	180 + 193	C	3220	4.25 (Q)	1.05	1.000
2,2',3,4,4',5,6-HpCB	181		J	15.7	4.25 (Q)	1.17	1.157
2,2',3,4,4',5,6'-HpCB	182		U		4.25 (Q)		
2,2',3,4,4',5',6-HpCB	183	183 + 185	C	866	4.25 (Q)	1.06	1.127
2,2',3,4,4',6,6'-HpCB	184		K J	5.47	4.25 (Q)	1.59	1.024
2,2',3,4,5,5',6-HpCB	185	183 + 185	C183				
2,2',3,4,5,6,6'-HpCB	186		U		4.25 (Q)		
2,2',3,4',5,5',6-HpCB	187		X				
2,2',3,4',5,6,6'-HpCB	188		K J	5.80	4.25 (Q)	0.77	1.000
2,3,3',4,4',5,5'-HpCB	189		K	41.8	4.25 (Q)	1.33	1.000
2,3,3',4,4',5,6-HpCB	190			258	4.25 (Q)	0.99	0.947
2,3,3',4,4',5',6-HpCB	191		K	50.9	4.25 (Q)	1.32	0.917
2,3,3',4,5,5',6-HpCB	192		U		4.25 (Q)		
2,3,3',4',5,5',6-HpCB	193	180 + 193	C180				
2,2',3,3',4,4',5,5'-OcCB	194			678	4.32 (S)	0.88	0.991
2,2',3,3',4,4',5,6-OcCB	195			264	4.66 (S)	0.82	0.945
2,2',3,3',4,4',5,6'-OcCB	196			335	4.25 (Q)	0.79	0.915
2,2',3,3',4,4',6,6'-OcCB	197	197 + 200	C X				
2,2',3,3',4,5,5',6-OcCB	198	198 + 199	C	847	4.25 (Q)	0.89	1.115
2,2',3,3',4,5,5',6'-OcCB	199	198 + 199	C198				
2,2',3,3',4,5,6,6'-OcCB	200	197 + 200	C197				
2,2',3,3',4,5',6,6'-OcCB	201		K	95.4	4.25 (Q)	1.03	1.023
2,2',3,3',5,5',6,6'-OcCB	202			245	4.25 (Q)	0.86	1.001
2,2',3,4,4',5,5',6-OcCB	203			542	4.25 (Q)	0.89	0.919
2,2',3,4,4',5,6,6'-OcCB	204		U		4.25 (Q)		
2,3,3',4,4',5,5',6-OcCB	205		K J	32.5	4.25 (Q)	1.06	1.001
2,2',3,3',4,4',5,5',6-NoCB	206			681	4.25 (Q)	0.76	1.001
2,2',3,3',4,4',5,6,6'-NoCB	207			65.2	4.25 (Q)	0.75	1.019
2,2',3,3',4,5,5',6,6'-NoCB	208			256	4.25 (Q)	0.81	1.000
2,2',3,3',4,4',5,5',6,6'-DeCB	209			742	4.25 (Q)	1.17	1.000

(1) Where applicable, custom lab flags have been used on this report; U = not detected at RL; K = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration; J = concentration less than lowest calibration equivalent; C = co-eluting congener; X = result reported separately.

(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = minimum reporting level.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_ Jason MacKenzie \_\_\_\_\_

## SGS AXYS METHOD MLA-010 Rev 12

Form 2  
PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.  
PDI-WS-T03-1808 (Duplicate)  
Sample Collection:  
22-Aug-2018 17:55

**SGS AXYS ANALYTICAL SERVICES**

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

**Contract No.:** 4972  
**Matrix:** FILTER  
**Sample Receipt Date:** 29-Aug-2018  
**Extraction Date:** 10-Oct-2018  
**Analysis Date:** 25-Oct-2018 **Time:** 12:53:02  
**Extract Volume (uL):** 20  
**Injection Volume (uL):** 1.0  
**Dilution Factor:** N/A  
**Concentration Units:** pg absolute

**Project No.**

PORTRLAND HARBOR PDI AND  
BASELINE WATER  
WG65583-103 (DUP L29967-5)  
0.2 sample  
07-Jul-2018  
HR GC/MS  
SPB OCTYL  
**Sample Data Filename:** PB8C\_367 S: 6  
**Blank Data Filename:** PB8C\_366 S: 4  
**Cal. Ver. Data Filename:** PB8C\_367 S: 1

This page is part of a total report that contains information necessary for accreditation compliance.  
This test is not NELAP accredited. Sample results relate only to the sample tested.

LABELED COMPOUND	IUPAC NO. <sup>1</sup>	CO-ELUTIONS	LAB FLAG <sup>2</sup>	SPIKE CONC.	CONC. FOUND	R(%) <sup>3</sup>	ION ABUND. RATIO	RRT
13C12-2-MoCB	1L		X					
13C12-4-MoCB	3L		X					
13C12-2,2'-DiCB	4L			4000	1440	35.9	1.54	0.874
13C12-4,4'-DiCB	15L			4000	1760	44.0	1.56	1.249
13C12-2,2',6-TriCB	19L			4000	1790	44.7	1.06	1.070
13C12-3,4,4'-TriCB	37L			4000	1870	46.8	1.03	1.092
13C12-2,2',6,6'-TeCB	54L			4000	1910	47.8	0.79	0.813
13C12-3,3',4,4'-TeCB	77L			4000	2280	57.0	0.75	1.397
13C12-3,4,4',5-TeCB	81L			4000	2160	54.1	0.76	1.373
13C12-2,2',4,6,6'-PeCB	104L			4000	1620	40.5	1.57	0.808
13C12-2,3,3',4,4'-PeCB	105L		X					
13C12-2,3,4,4',5-PeCB	114L			4000	2000	50.1	1.55	1.180
13C12-2,3',4,4',5-PeCB	118L			4000	2090	52.1	1.55	1.162
13C12-2',3,4,4',5-PeCB	123L			4000	2200	54.9	1.54	1.152
13C12-3,3',4,4',5-PeCB	126L			4000	2000	49.9	1.54	1.302
13C12-2,2',4,4',6,6'-HxCB	155L			4000	1550	38.7	1.25	0.785
13C12-2,3,3',4,4',5-HxCB	156L	156L + 157L	C	8000	4040	50.6	1.26	1.108
13C12-2,3,3',4,4',5'-HxCB	157L	156L + 157L	C156L					
13C12-2,3',4,4',5,5'-HxCB	167L			4000	1990	49.7	1.26	1.078
13C12-3,3',4,4',5,5'-HxCB	169L			4000	1990	49.8	1.26	1.192
13C12-2,2',3,3',4,4',5-HpCB	170L			4000	2450	61.2	1.05	0.897
13C12-2,2',3,4,4',5,5'-HpCB	180L			4000	2150	53.7	1.05	0.872
13C12-2,2',3,4',5,6,6'-HpCB	188L			4000	1940	48.5	1.08	0.712
13C12-2,3,3',4,4',5,5'-HpCB	189L			4000	2140	53.4	1.02	0.959
13C12-2,2',3,3',5,5',6,6'-OcCB	202L			4000	1450	36.3	0.93	0.817
13C12-2,3,3',4,4',5,5',6-OcCB	205L			4000	2440	61.0	0.87	1.009
13C12-2,2',3,3',4,4',5,5',6-NoCB	206L			4000	2050	51.4	0.76	1.043
13C12-2,2',3,3',4,5,5',6,6'-NoCB	208L			4000	2230	55.8	0.76	0.949
13C12-2,2',3,3',4,4',5,5',6,6'-DeCB	209L			4000	1730	43.3	1.20	1.075
<b>CLEANUP STANDARD</b>								
13C12-2,4,4'-TriCB	28L			4000	1880	46.9	1.03	0.925
13C12-2,3,3',5,5'-PeCB	111L			4000	2270	56.7	1.61	1.088
13C12-2,2',3,3',5,5'-HpCB	178L			4000	1760	44.1	1.05	1.012

(1) Suffix "L" indicates labeled compound.

(2) Where applicable, custom lab flags have been used on this report; C = co-eluting congener; X = result reported separately.

(3) R% = percent recovery of labeled compounds.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_ Jason MacKenzie \_\_\_\_\_

## SGS AXYS METHOD MLA-010 Rev 12

Form 1A  
PCB CONGENER ANALYSIS REPORT

**CLIENT SAMPLE NO.**  
**PDI-WS-T03-1808 (Duplicate)**  
**Sample Collection:**  
**22-Aug-2018 17:55**

**SGS AXYS ANALYTICAL SERVICES**

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

<b>Contract No.:</b>	4972	<b>Project No.</b>	PORLTAND HARBOR PDI AND BASELINE WATER
<b>Matrix:</b>	FILTER	<b>Lab Sample I.D.:</b>	WG65583-103 W (DUP L29967-5)
<b>Sample Receipt Date:</b>	29-Aug-2018	<b>Sample Size:</b>	0.2 sample
<b>Extraction Date:</b>	10-Oct-2018	<b>Initial Calibration Date:</b>	07-Jul-2018
<b>Analysis Date:</b>	31-Oct-2018 <b>Time:</b> 03:44:46	<b>Instrument ID:</b>	HR GC/MS
<b>Extract Volume (uL):</b>	100	<b>GC Column ID:</b>	SPB OCTYL
<b>Injection Volume (uL):</b>	1.0	<b>Sample Data Filename:</b>	PB8C_374 S: 8
<b>Dilution Factor:</b>	5	<b>Blank Data Filename:</b>	PB8C_366 S: 4
<b>Concentration Units:</b>	pg/sample	<b>Cal. Ver. Data Filename:</b>	PB8C_374 S: 1

This page is part of a total report that contains information necessary for accreditation compliance.  
This test is not NELAP accredited. Sample results relate only to the sample tested.

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG <sup>1</sup>	CONC. FOUND	REPORTING LIMIT (RL) <sup>2</sup>	ION ABUND. RATIO	RRT
2-MoCB	1		D J	60.8	21.1 (S)	2.81	1.001
3-MoCB	2		K D J	53.7	27.6 (S)	2.29	0.987
4-MoCB	3		K D J	75.1	21.0 (S)	4.88	1.000
2,2'-DiCB	4		X				
2,3-DiCB	5		X				
2,3'-DiCB	6		X				
2,4-DiCB	7		X				
2,4'-DiCB	8		X				
2,5-DiCB	9		X				
2,6-DiCB	10		X				
3,3'-DiCB	11		X				
3,4-DiCB	12	12 + 13	C X				
3,4'-DiCB	13	12 + 13	C12				
3,5-DiCB	14		X				
4,4'-DiCB	15		X				
2,2',3-TrICB	16		X				
2,2',4-TrICB	17		D	603	26.5 (S)	1.08	1.137
2,2',5-TrICB	18	18 + 30	C X				
2,2',6-TrICB	19		X				
2,3,3'-TrICB	20	20 + 28	C X				
2,3,4-TrICB	21	21 + 33	C X				
2,3,4'-TrICB	22		X				
2,3,5-TrICB	23		X				
2,3,6-TrICB	24		X				
2,3',4-TrICB	25		X				
2,3',5-TrICB	26	26 + 29	C X				
2,3',6-TrICB	27		X				
2,4,4'-TrICB	28	20 + 28	C20				
2,4,5-TrICB	29	26 + 29	C26				
2,4,6-TrICB	30	18 + 30	C18				
2,4',5-TrICB	31		X				
2,4',6-TrICB	32		D	242	26.2 (S)	0.92	1.196
2',3,4-TrICB	33	21 + 33	C21				
2',3,5-TrICB	34		X				
3,3',4-TrICB	35		X				
3,3',5-TrICB	36		X				
3,4,4'-TrICB	37		X				
3,4,5-TrICB	38		X				
3,4',5-TrICB	39		X				

This page is part of a total report that contains information necessary for accreditation compliance.  
 This test is not NELAP accredited. Sample results relate only to the sample tested.

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG <sup>1</sup>	CONC. FOUND	REPORTING LIMIT (RL) <sup>2</sup>	ION ABUND. RATIO	RRT
2,2',3,3'-TeCB	40	40 + 41 + 71	C X				
2,2',3,4-TeCB	41	40 + 41 + 71	C40				
2,2',3,4'-TeCB	42		X				
2,2',3,5-TeCB	43		X				
2,2',3,5'-TeCB	44	44 + 47 + 65	C X				
2,2',3,6-TeCB	45	45 + 51	C X				
2,2',3,6'-TeCB	46		X				
2,2',4,4'-TeCB	47	44 + 47 + 65	C44				
2,2',4,5-TeCB	48		X				
2,2',4,5'-TeCB	49	49 + 69	C X				
2,2',4,6-TeCB	50	50 + 53	C X				
2,2',4,6'-TeCB	51	45 + 51	C45				
2,2',5,5'-TeCB	52		X				
2,2',5,6'-TeCB	53	50 + 53	C50				
2,2',6,6'-TeCB	54		X				
2,3,3',4-TeCB	55		X				
2,3,3',4'-TeCB	56		X				
2,3,3',5-TeCB	57		X				
2,3,3',5'-TeCB	58		X				
2,3,3',6-TeCB	59	59 + 62 + 75	C X				
2,3,4,4'-TeCB	60		X				
2,3,4,5-TeCB	61	61 + 70 + 74 + 76	C X				
2,3,4,6-TeCB	62	59 + 62 + 75	C59				
2,3,4',5-TeCB	63		X				
2,3,4',6-TeCB	64		X				
2,3,5,6-TeCB	65	44 + 47 + 65	C44				
2,3',4,4'-TeCB	66		D	1410	48.2 (S)	0.80	0.884
2,3',4,5-TeCB	67		X				
2,3',4,5'-TeCB	68		X				
2,3',4,6-TeCB	69	49 + 69	C49				
2,3',4',5-TeCB	70	61 + 70 + 74 + 76	C61				
2,3',4',6-TeCB	71	40 + 41 + 71	C40				
2,3',5,5'-TeCB	72		X				
2,3',5',6-TeCB	73		X				
2,4,4',5-TeCB	74	61 + 70 + 74 + 76	C61				
2,4,4',6-TeCB	75	59 + 62 + 75	C59				
2',3,4,5-TeCB	76	61 + 70 + 74 + 76	C61				
3,3',4,4'-TeCB	77		X				
3,3',4,5-TeCB	78		X				
3,3',4,5'-TeCB	79		X				
3,3',5,5'-TeCB	80		X				
3,4,4',5-TeCB	81		X				
2,2',3,3',4-PeCB	82		D	375	25.9 (S)	1.78	0.934
2,2',3,3',5-PeCB	83	83 + 99	C D	1680	23.8 (S)	1.67	0.885
2,2',3,3',6-PeCB	84		D	662	25.5 (S)	1.40	1.164
2,2',3,4,4'-PeCB	85	85 + 116 + 117	C K D	511	19.3 (S)	1.27	0.919
2,2',3,4,5-PeCB	86	86 + 87 + 97 + 108 + 119 + 125	C D	1980	19.8 (S)	1.62	0.901
2,2',3,4,5'-PeCB	87	86 + 87 + 97 + 108 + 119 + 125	C86				
2,2',3,4,6-PeCB	88	88 + 91	C D	564	22.5 (S)	1.33	1.155
2,2',3,4,6'-PeCB	89		U D		24.2 (S)		
2,2',3,4',5-PeCB	90	90 + 101 + 113	C D	2820	19.6 (S)	1.60	0.869
2,2',3,4',6-PeCB	91	88 + 91	C88				
2,2',3,5,5'-PeCB	92		D	569	22.8 (S)	1.40	0.852
2,2',3,5,6-PeCB	93	93 + 95 + 98 + 100 + 102	C D	2570	21.9 (S)	1.47	1.122
2,2',3,5,6'-PeCB	94		K D J	41.5	24.6 (S)	4.42	1.102
2,2',3,5',6-PeCB	95	93 + 95 + 98 + 100 + 102	C93				
2,2',3,6,6'-PeCB	96		K D J	51.6	14.4 (S)	3.67	1.017
2,2',3',4,5-PeCB	97	86 + 87 + 97 + 108 + 119 + 125	C86				
2,2',3',4,6-PeCB	98	93 + 95 + 98 + 100 + 102	C93				
2,2',4,4',5-PeCB	99	83 + 99	C83				

This page is part of a total report that contains information necessary for accreditation compliance.  
 This test is not NELAP accredited. Sample results relate only to the sample tested.

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG <sup>1</sup>	CONC. FOUND	REPORTING LIMIT (RL) <sup>2</sup>	ION ABUND. RATIO	RRT
2,2',4,4',6-PeCB	100	93 + 95 + 98 + 100 + 102	C93				
2,2',4,5,5'-PeCB	101	90 + 101 + 113	C90				
2,2',4,5,6'-PeCB	102	93 + 95 + 98 + 100 + 102	C93				
2,2',4,5',6-PeCB	103		K D J	87.8	19.8 (S)	2.56	1.094
2,2',4,6,6'-PeCB	104		X				
2,3,3',4,4'-PeCB	105		D	1030	43.7 (S)	1.54	1.000
2,3,3',4,5-PeCB	106		UD		53.4 (S)		
2,3,3',4',5-PeCB	107	107 + 124	C D J	133	60.4 (S)	1.50	0.991
2,3,3',4,5'-PeCB	108	86 + 87 + 97 + 108 + 119 + 125	C86				
2,3,3',4,6-PeCB	109		K D	230	57.7 (S)	1.18	0.997
2,3,3',4',6-PeCB	110	110 + 115	C D	3280	17.2 (S)	1.65	0.925
2,3,3',5,5'-PeCB	111		UD		17.3 (S)		
2,3,3',5,6-PeCB	112		UD		16.5 (S)		
2,3,3',5',6-PeCB	113	90 + 101 + 113	C90				
2,3,4,4',5-PeCB	114		X				
2,3,4,4',6-PeCB	115	110 + 115	C110				
2,3,4,5,6-PeCB	116	85 + 116 + 117	C85				
2,3,4',5,6-PeCB	117	85 + 116 + 117	C85				
2,3',4,4',5-PeCB	118		X				
2,3',4,4',6-PeCB	119	86 + 87 + 97 + 108 + 119 + 125	C86				
2,3',4,5,5'-PeCB	120		K D J	24.8	16.2 (S)	4.41	0.959
2,3',4,5',6-PeCB	121		UD		17.2 (S)		
2',3,3',4,5-PeCB	122		UD		64.9 (S)		
2',3,4,4',5-PeCB	123		X				
2',3,4,5,5'-PeCB	124	107 + 124	C107				
2',3,4,5,6'-PeCB	125	86 + 87 + 97 + 108 + 119 + 125	C86				
3,3',4,4',5-PeCB	126		X				
3,3',4,5,5'-PeCB	127		UD		62.0 (S)		
2,2',3,3',4,4'-HxCB	128	128 + 166	C D	917	28.5 (S)	1.30	0.959
2,2',3,3',4,5-HxCB	129	129 + 138 + 160 + 163	C X				
2,2',3,3',4,5'-HxCB	130		X				
2,2',3,3',4,6-HxCB	131		X				
2,2',3,3',4,6'-HxCB	132		X				
2,2',3,3',5,5'-HxCB	133		X				
2,2',3,3',5,6-HxCB	134	134 + 143	C X				
2,2',3,3',5,6'-HxCB	135	135 + 151 + 154	C X				
2,2',3,3',6,6'-HxCB	136		X				
2,2',3,4,4',5-HxCB	137		X				
2,2',3,4,4',5'-HxCB	138	129 + 138 + 160 + 163	C129				
2,2',3,4,4',6-HxCB	139	139 + 140	C X				
2,2',3,4,4',6'-HxCB	140	139 + 140	C139				
2,2',3,4,5,5'-HxCB	141		X				
2,2',3,4,5,6-HxCB	142		X				
2,2',3,4,5,6'-HxCB	143	134 + 143	C134				
2,2',3,4,5',6-HxCB	144		X				
2,2',3,4,6,6'-HxCB	145		X				
2,2',3,4',5,5'-HxCB	146		D	889	28.9 (S)	1.24	0.884
2,2',3,4',5,6-HxCB	147	147 + 149	C X				
2,2',3,4',5,6'-HxCB	148		X				
2,2',3,4',5',6-HxCB	149	147 + 149	C147				
2,2',3,4',6,6'-HxCB	150		X				
2,2',3,5,5',6-HxCB	151	135 + 151 + 154	C135				
2,2',3,5,6,6'-HxCB	152		X				
2,2',4,4',5,5'-HxCB	153	153 + 168	C X				
2,2',4,4',5,6'-HxCB	154	135 + 151 + 154	C135				
2,2',4,4',6,6'-HxCB	155		X				
2,3,3',4,4',5-HxCB	156	156 + 157	C X				
2,3,3',4,4',5'-HxCB	157	156 + 157	C156				
2,3,3',4,4',6-HxCB	158		X				
2,3,3',4,5,5'-HxCB	159		X				
2,3,3',4,5,6-HxCB	160	129 + 138 + 160 + 163	C129				

This page is part of a total report that contains information necessary for accreditation compliance.  
This test is not NELAP accredited. Sample results relate only to the sample tested.

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG <sup>1</sup>	CONC. FOUND	REPORTING LIMIT (RL) <sup>2</sup>	ION ABUND. RATIO	RRT
2,3,3',4,5',6-HxCB	161		X				
2,3,3',4',5,5'-HxCB	162		X				
2,3,3',4',5,6-HxCB	163	129 + 138 + 160 + 163	C129				
2,3,3',4',5',6-HxCB	164		X				
2,3,3',5,5',6-HxCB	165		X				
2,3,4,4',5,6-HxCB	166	128 + 166	C128				
2,3',4,4',5,5'-HxCB	167		X				
2,3',4,4',5',6-HxCB	168	153 + 168	C153				
3,3',4,4',5,5'-HxCB	169		X				
2,2',3,3',4,4',5-HpCB	170		X				
2,2',3,3',4,4',6-HpCB	171	171 + 173	C X				
2,2',3,3',4,5,5'-HpCB	172		X				
2,2',3,3',4,5,6-HpCB	173	171 + 173	C171				
2,2',3,3',4,5,6'-HpCB	174		X				
2,2',3,3',4,5',6-HpCB	175		X				
2,2',3,3',4,6,6'-HpCB	176		X				
2,2',3,3',4',5,6-HpCB	177		X				
2,2',3,3',5,5',6-HpCB	178		X				
2,2',3,3',5,6,6'-HpCB	179		X				
2,2',3,4,4',5,5'-HpCB	180	180 + 193	C X				
2,2',3,4,4',5,6-HpCB	181		X				
2,2',3,4,4',5,6'-HpCB	182		X				
2,2',3,4,4',5',6-HpCB	183	183 + 185	C X				
2,2',3,4,4',6,6'-HpCB	184		X				
2,2',3,4,5,5',6-HpCB	185	183 + 185	C183				
2,2',3,4,5,6,6'-HpCB	186		X				
2,2',3,4',5,5',6-HpCB	187		D	2460	21.9 (S)	0.96	1.111
2,2',3,4',5,6,6'-HpCB	188		X				
2,3,3',4,4',5,5'-HpCB	189		X				
2,3,3',4,4',5,6-HpCB	190		X				
2,3,3',4,4',5',6-HpCB	191		X				
2,3,3',4,5,5',6-HpCB	192		X				
2,3,3',4',5,5',6-HpCB	193	180 + 193	C180				
2,2',3,3',4,4',5,5'-Occb	194		X				
2,2',3,3',4,4',5,6-Occb	195		X				
2,2',3,3',4,4',5,6'-Occb	196		X				
2,2',3,3',4,4',6,6'-Occb	197	197 + 200	C K D J	144	17.2 (S)	0.63	1.046
2,2',3,3',4,5,5',6-Occb	198	198 + 199	C X				
2,2',3,3',4,5,5',6'-Occb	199	198 + 199	C198				
2,2',3,3',4,5,6,6'-Occb	200	197 + 200	C197				
2,2',3,3',4,5',6,6'-Occb	201		X				
2,2',3,3',5,5',6,6'-Occb	202		X				
2,2',3,4,4',5,5',6-Occb	203		X				
2,2',3,4,4',5,6,6'-Occb	204		X				
2,3,3',4,4',5,5',6-Occb	205		X				
2,2',3,3',4,4',5,5',6-NoCB	206		X				
2,2',3,3',4,4',5,6,6'-NoCB	207		X				
2,2',3,3',4,5,5',6,6'-NoCB	208		X				
2,2',3,3',4,4',5,5',6,6'-DeCB	209		X				

(1) Where applicable, custom lab flags have been used on this report; U = not detected at RL; K = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration; D = dilution data; J = concentration less than lowest calibration equivalent; C = co-eluting congener; X = result reported separately.

(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = minimum reporting level.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_ Jason MacKenzie \_\_\_\_\_

## SGS AXYS METHOD MLA-010 Rev 12

Form 2  
PCB CONGENER ANALYSIS REPORT

**CLIENT SAMPLE NO.**  
**PDI-WS-T03-1808 (Duplicate)**  
**Sample Collection:**  
**22-Aug-2018 17:55**

**SGS AXYS ANALYTICAL SERVICES**

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

**Contract No.:** 4972  
**Matrix:** FILTER  
**Sample Receipt Date:** 29-Aug-2018  
**Extraction Date:** 10-Oct-2018  
**Analysis Date:** 31-Oct-2018 **Time:** 03:44:46  
**Extract Volume (uL):** 100  
**Injection Volume (uL):** 1.0  
**Dilution Factor:** 5  
**Concentration Units:** pg absolute

**Project No.**

**Lab Sample I.D.:** WG65583-103 W (DUP L29967-5)  
**Sample Size:** 0.2 sample  
**Initial Calibration Date:** 07-Jul-2018  
**Instrument ID:** HR GC/MS  
**GC Column ID:** SPB OCTYL  
**Sample Data Filename:** PB8C\_374 S: 8  
**Blank Data Filename:** PB8C\_366 S: 4  
**Cal. Ver. Data Filename:** PB8C\_374 S: 1

This page is part of a total report that contains information necessary for accreditation compliance.  
This test is not NELAP accredited. Sample results relate only to the sample tested.

LABELED COMPOUND	IUPAC NO. <sup>1</sup>	CO-ELUTIONS	LAB FLAG <sup>2</sup>	SPIKE CONC.	CONC. FOUND	R(%) <sup>3</sup>	ION ABUND. RATIO	RRT
13C12-2-MoCB	1L		D	4000	1570	39.2	3.24	0.718
13C12-4-MoCB	3L		D	4000	1770	44.2	3.33	0.859
13C12-2,2'-DiCB	4L		X					
13C12-4,4'-DiCB	15L		X					
13C12-2,2',6-TriCB	19L		D	4000	2430	60.8	1.06	1.072
13C12-3,4,4'-TriCB	37L		D	4000	1590	39.9	1.03	1.093
13C12-2,2',6,6'-TeCB	54L		D	4000	2190	54.8	0.80	0.811
13C12-3,3',4,4'-TeCB	77L		D	4000	1920	48.1	0.78	1.398
13C12-3,4,4',5-TeCB	81L		D	4000	1780	44.5	0.75	1.374
13C12-2,2',4,6,6'-PeCB	104L		D	4000	2540	63.6	1.54	0.808
13C12-2,3,3',4,4'-PeCB	105L		D	4000	2470	61.8	1.50	1.201
13C12-2,3,4,4',5-PeCB	114L		D	4000	1920	47.9	1.56	1.179
13C12-2,3',4,4',5-PeCB	118L		D	4000	2010	50.3	1.46	1.162
13C12-2',3,4,4',5-PeCB	123L		D	4000	2140	53.4	1.51	1.151
13C12-3,3',4,4',5-PeCB	126L		D	4000	2110	52.8	1.57	1.302
13C12-2,2',4,4',6,6'-HxCB	155L		D	4000	1990	49.7	1.26	0.785
13C12-2,3,3',4,4',5-HxCB	156L	156L + 157L	C D	8000	5100	63.7	1.25	1.108
13C12-2,3,3',4,4',5'-HxCB	157L	156L + 157L	C156L					
13C12-2,3',4,4',5,5'-HxCB	167L		D	4000	2540	63.6	1.26	1.078
13C12-3,3',4,4',5,5'-HxCB	169L		D	4000	2530	63.3	1.28	1.192
13C12-2,2',3,3',4,4',5-HpCB	170L		D	4000	2470	61.9	1.08	0.897
13C12-2,2',3,3',4,4',5,5'-HpCB	180L		D	4000	2240	55.9	1.10	0.872
13C12-2,2',3,3',4,4',5,6,6'-HpCB	188L		D	4000	2000	50.1	1.08	0.712
13C12-2,3,3',4,4',5,5'-HpCB	189L		D	4000	1820	45.6	0.96	0.959
13C12-2,2',3,3',5,5',6,6'-OcCB	202L		D	4000	1800	44.9	0.88	0.817
13C12-2,3,3',4,4',5,5',6-OcCB	205L		D	4000	2500	62.5	0.87	1.009
13C12-2,2',3,3',4,4',5,5',6-NoCB	206L		X					
13C12-2,2',3,3',4,4',5,5',6-NoCB	208L		X					
13C12-2,2',3,3',4,4',5,5',6-DeCB	209L		X					

**CLEANUP STANDARD**

13C12-2,4,4'-TriCB	28L	X
13C12-2,3,3',5,5'-PeCB	111L	X
13C12-2,2',3,3',5,5'-HpCB	178L	X

(1) Suffix "L" indicates labeled compound.

(2) Where applicable, custom lab flags have been used on this report; D = dilution data; C = co-eluting congener; X = result reported separately.

(3) R% = percent recovery of labeled compounds.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_ Jason MacKenzie \_\_\_\_\_

**SGS AXYS METHOD MLA-010 Rev 12****PCB CONGENER ANALYSIS REPORT  
RELATIVE PERCENT DIFFERENCE****SGS AXYS ANALYTICAL SERVICES**

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

**Contract No.:** 4972  
**Client ID:** PDI-WS-T03-1808

**Project No.**

PORTRLAND HARBOR PDI AND  
BASELINE WATER

**Concentration Units:** pg/sample

COMPOUND	IUPAC NO.	L29967-5 (A)		WG65583-103		MEAN	RELATIVE PERCENT DIFFERENCE
		LAB FLAG <sup>1</sup>	CONC. FOUND	LAB FLAG <sup>1</sup>	CONC. FOUND		
2-MoCB	1		62.6	D J	60.8	61.7	2.79
3-MoCB	2		80.0	K D J	53.7		
4-MoCB	3		81.1	K D J	75.1		
2,2'-DiCB	4		272		235	253	14.9
2,3-DiCB	5	U		U			
2,3'-DiCB	6		159		105	132	40.8
2,4-DiCB	7	K	115		86.9		
2,4'-DiCB	8	G	636		441	538	36.3
2,5-DiCB	9	K	59.0	K	44.4		
2,6-DiCB	10	U		U			
3,3'-DiCB	11		1830		1360	1600	29.5
3,4-DiCB	12	C	143	C K	94.1		
3,4'-DiCB	13	C12		C12			
3,5-DiCB	14	U		U			
4,4'-DiCB	15		531		477	504	10.7
2,2',3-TriCB	16		406		302	354	29.3
2,2',4-TriCB	17	G	595	D	603	599	1.41
2,2',5-TriCB	18	C G	792	C	708	750	11.2
2,2',6-TriCB	19		354		348	351	1.75
2,3,3'-TriCB	20	C	2300	C	1720	2010	28.9
2,3,4-TriCB	21	C	913	C	704	809	25.9
2,3,4'-TriCB	22		637		462	550	31.8
2,3,5-TriCB	23	U		U			
2,3,6-TriCB	24	J	14.3	J	11.7	13.0	20.2
2,3',4-TriCB	25		311		234	272	28.2
2,3',5-TriCB	26	C	305	C	259	282	16.3
2,3',6-TriCB	27		127		97.5	112	26.4
2,4,4'-TriCB	28	C20		C20			
2,4,5-TriCB	29	C26		C26			
2,4,6-TriCB	30	C18		C18			
2,4',5-TriCB	31		1480		1140	1310	26.0
2,4',6-TriCB	32	G	207	D	242	224	15.5
2',3,4-TriCB	33	C21		C21			
2',3,5-TriCB	34	J	14.8	K J	10.3		
3,3',4-TriCB	35		53.4	J	31.6	42.5	51.3
3,3',5-TriCB	36		52.2	J	32.9	42.5	45.4
3,4,4'-TriCB	37		574		493	533	15.2
3,4,5-TriCB	38	U		J	4.43		
3,4',5-TriCB	39	J	28.1	K J	21.4		
2,2',3,3'-TeCB	40	C	1050	C	874	962	18.2
2,2',3,4-TeCB	41	C40		C40			
2,2',3,4'-TeCB	42		535		448	491	17.7
2,2',3,5-TeCB	43		70.6	K	59.0		
2,2',3,5'-TeCB	44	C	5630	C	4660	5150	18.8
2,2',3,6-TeCB	45	C	1530	C	1290	1410	16.8
2,2',3,6'-TeCB	46		108		95.6	102	12.6
2,2',4,4'-TeCB	47	C44		C44			
2,2',4,5-TeCB	48		341		294	317	14.7
2,2',4,5'-TeCB	49	C	1500	C	1290	1390	15.0
2,2',4,6-TeCB	50	C	448	C	369	408	19.2
2,2',4,6'-TeCB	51	C45		C45			
2,2',5,5'-TeCB	52		2390		2140	2260	10.7
2,2',5,6'-TeCB	53	C50		C50			
2,2',6,6'-TeCB	54		82.3		78.8	80.5	4.29
2,3,3',4-TeCB	55	U		U			

COMPOUND	IUPAC NO.	L29967-5 (A)		WG65583-103		MEAN	RELATIVE PERCENT DIFFERENCE
		LAB FLAG <sup>1</sup>	CONC. FOUND	LAB FLAG <sup>1</sup>	CONC. FOUND		
2,3,3',4'-TeCB	56		786		708	747	10.3
2,3,3',5'-TeCB	57	U		U			
2,3,3',5'-TeCB	58	U		U			
2,3,3',6'-TeCB	59	C	191	C	157	174	19.8
2,3,4,4'-TeCB	60		370		310	340	17.7
2,3,4,5-TeCB	61	C	2850	C	2520	2690	12.5
2,3,4,6-TeCB	62	C59		C59			
2,3,4',5-TeCB	63		68.4		56.8	62.6	18.4
2,3,4',6-TeCB	64		812		709	761	13.6
2,3,5,6-TeCB	65	C44		C44			
2,3',4,4'-TeCB	66	G	1800	D	1410	1610	24.7
2,3',4,5-TeCB	67	K	44.3		44.6		
2,3',4,5'-TeCB	68		597		480	538	21.7
2,3',4,6-TeCB	69	C49		C49			
2,3',4',5-TeCB	70	C61		C61			
2,3',4',6-TeCB	71	C40		C40			
2,3',5,5'-TeCB	72	J	28.3	K J	28.8		
2,3',5',6-TeCB	73	U		U			
2,4,4',5-TeCB	74	C61		C61			
2,4,4',6-TeCB	75	C59		C59			
2',3,4,5-TeCB	76	C61		C61			
3,3',4,4'-TeCB	77		190		188	189	1.16
3,3',4,5-TeCB	78	U		U			
3,3',4,5'-TeCB	79		49.1	J	33.8	41.4	37.0
3,3',5,5'-TeCB	80	U		U			
3,4,4',5-TeCB	81	U		U			
2,2',3,3',4-PeCB	82		420	D	375	398	11.2
2,2',3,3',5-PeCB	83	C	1920	C D	1680	1800	13.8
2,2',3,3',6-PeCB	84		691	D	662	677	4.20
2,2',3,4,4'-PeCB	85	C	571	C K D	511		
2,2',3,4,5-PeCB	86	C G	2120	C D	1980	2050	6.60
2,2',3,4,5'-PeCB	87	C86		C86			
2,2',3,4,6-PeCB	88	C	534	C D	564	549	5.49
2,2',3,4,6'-PeCB	89	K	36.1	U D			
2,2',3,4',5-PeCB	90	C	3240	C D	2820	3030	13.7
2,2',3,4',6-PeCB	91	C88		C88			
2,2',3,5,5'-PeCB	92		670	D	569	619	16.3
2,2',3,5,6-PeCB	93	C	2540	C D	2570	2560	0.991
2,2',3,5,6'-PeCB	94	K	38.7	K D J	41.5		
2,2',3,5',6-PeCB	95	C93		C93			
2,2',3,6,6'-PeCB	96	J	33.5	K D J	51.6		
2,2',3',4,5-PeCB	97	C86		C86			
2,2',3',4,6-PeCB	98	C93		C93			
2,2',4,4',5-PeCB	99	C83		C83			
2,2',4,4',6-PeCB	100	C93		C93			
2,2',4,5,5'-PeCB	101	C90		C90			
2,2',4,5,6'-PeCB	102	C93		C93			
2,2',4,5',6-PeCB	103	K	86.8	K D J	87.8		
2,2',4,6,6'-PeCB	104	K J	13.3	J	15.4		
2,3,3',4,4'-PeCB	105		1080	D	1030	1050	4.95
2,3,3',4,5-PeCB	106	U		U D			
2,3,3',4',5-PeCB	107	C	124	C D J	133	128	7.08
2,3,3',4,5'-PeCB	108	C86		C86			
2,3,3',4,6-PeCB	109		248	K D	230		
2,3,3',4',6-PeCB	110	C	3560	C D	3280	3420	8.29
2,3,3',5,5'-PeCB	111	U		U D			
2,3,3',5,6-PeCB	112	U		U D			
2,3,3',5',6-PeCB	113	C90		C90			
2,3,4,4',5-PeCB	114	K	62.4		60.0		
2,3,4,4',6-PeCB	115	C110		C110			
2,3,4,5,6-PeCB	116	C85		C85			
2,3,4',5,6-PeCB	117	C85		C85			
2,3',4,4',5-PeCB	118		2760		2670	2720	3.02
2,3',4,4',6-PeCB	119	C86		C86			

COMPOUND	IUPAC NO.	L29967-5 (A)		WG65583-103		MEAN	RELATIVE PERCENT DIFFERENCE
		LAB FLAG <sup>1</sup>	CONC. FOUND	LAB FLAG <sup>1</sup>	CONC. FOUND		
2,3',4,5,5'-PeCB	120	J	22.1	K D J	24.8		
2,3',4,5',6-PeCB	121	K J	8.19	U D			
2',3,3',4,5-PeCB	122	K	42.7	U D			
2',3,4,4',5-PeCB	123	K	51.6		49.0		
2',3,4,5,5'-PeCB	124	C107		C107			
2',3,4,5,6'-PeCB	125	C86		C86			
3,3',4,4',5-PeCB	126	K J	18.2	K J	15.7		
3,3',4,5,5'-PeCB	127	U		U D			
2,2',3,3',4,4'-HxCB	128	C	938	C D	917	927	2.26
2,2',3,3',4,5-HxCB	129	C	5830	C	5550	5690	4.90
2,2',3,3',4,5'-HxCB	130		344		336	340	2.43
2,2',3,3',4,6-HxCB	131		65.2		65.3	65.2	0.111
2,2',3,3',4,6'-HxCB	132		1780		1690	1730	5.28
2,2',3,3',5,5'-HxCB	133		108		97.6	103	10.0
2,2',3,3',5,6-HxCB	134	C	278	C	274	276	1.29
2,2',3,3',5,6'-HxCB	135	C	1890	C	1800	1840	4.90
2,2',3,3',6,6'-HxCB	136		621		606	614	2.47
2,2',3,4,4',5-HxCB	137		232		232	232	0.003
2,2',3,4,4',5'-HxCB	138	C129		C129			
2,2',3,4,4',6-HxCB	139	C	95.9	C	97.1	96.5	1.18
2,2',3,4,4',6'-HxCB	140	C139		C139			
2,2',3,4,5,5'-HxCB	141		920		905	913	1.64
2,2',3,4,5,6-HxCB	142	U		U			
2,2',3,4,5,6'-HxCB	143	C134		C134			
2,2',3,4,5',6-HxCB	144		234		224	229	4.58
2,2',3,4,6,6'-HxCB	145	U		U			
2,2',3,4',5,5'-HxCB	146		1040	D	889	966	15.9
2,2',3,4',5,6-HxCB	147	C	5210	C	4820	5010	7.69
2,2',3,4',5,6'-HxCB	148	K J	30.2	K J	24.1		
2,2',3,4',5',6-HxCB	149	C147		C147			
2,2',3,4',6,6'-HxCB	150	J	29.3	K J	23.2		
2,2',3,5,5',6-HxCB	151	C135		C135			
2,2',3,5,6,6'-HxCB	152	K J	7.71	K J	13.4		
2,2',4,4',5,5'-HxCB	153	C	4840	C	4450	4640	8.45
2,2',4,4',5,6-HxCB	154	C135		C135			
2,2',4,4',6,6'-HxCB	155	K J	8.46	J	7.71		
2,3,3',4,4',5-HxCB	156	C	564	C	559	561	1.02
2,3,3',4,4',5'-HxCB	157	C156		C156			
2,3,3',4,4',6-HxCB	158		495		484	489	2.27
2,3,3',4,5,5'-HxCB	159	U		U			
2,3,3',4,5,6-HxCB	160	C129		C129			
2,3,3',4,5',6-HxCB	161	U		U			
2,3,3',4',5,5'-HxCB	162	K J	25.4	J	12.6		
2,3,3',4',5,6-HxCB	163	C129		C129			
2,3,3',4',5',6-HxCB	164		398		367	382	8.05
2,3,3',5,5',6-HxCB	165	U		U			
2,3,4,4',5,6-HxCB	166	C128		C128			
2,3',4,4',5,5'-HxCB	167		209		207	208	0.919
2,3',4,4',5',6-HxCB	168	C153		C153			
3,3',4,4',5,5'-HxCB	169	U		U			
2,2',3,3',4,4',5-HpCB	170		1240		1240	1240	0.291
2,2',3,3',4,4',6-HpCB	171	C	372	C	360	366	3.41
2,2',3,3',4,5,5'-HpCB	172		204		220	212	7.72
2,2',3,3',4,5,6-HpCB	173	C171		C171			
2,2',3,3',4,5,6'-HpCB	174		1210		1130	1170	6.51
2,2',3,3',4,5',6-HpCB	175		49.0		58.4	53.7	17.7
2,2',3,3',4,6,6'-HpCB	176		176		165	171	6.29
2,2',3,3',4',5,6-HpCB	177		610		615	612	0.865
2,2',3,3',5,5',6-HpCB	178		309		279	294	10.1
2,2',3,3',5,6,6'-HpCB	179		620		544	582	13.1
2,2',3,4,4',5,5'-HpCB	180	C	3330	C	3220	3280	3.29
2,2',3,4,4',5,6-HpCB	181	K J	16.6	J	15.7		
2,2',3,4,4',5,6'-HpCB	182	J	11.2	U			
2,2',3,4,4',5',6-HpCB	183	C	914	C	866	890	5.36

COMPOUND	IUPAC NO.	L29967-5 (A)		WG65583-103		MEAN	RELATIVE PERCENT DIFFERENCE
		LAB FLAG <sup>1</sup>	CONC. FOUND	LAB FLAG <sup>1</sup>	CONC. FOUND		
2,2',3,4,4',6,6'-HpCB	184	K J	5.72	K J	5.47		
2,2',3,4,5,5',6-HpCB	185	C183		C183			
2,2',3,4,5,6,6'-HpCB	186	U		U			
2,2',3,4',5,5',6-HpCB	187		2220	D	2460	2340	10.2
2,2',3,4',5,6,6'-HpCB	188	J	7.36	K J	5.80		
2,3,3',4,4',5,5'-HpCB	189	K	41.3	K	41.8		
2,3,3',4,4',5,6-HpCB	190		236		258	247	8.92
2,3,3',4,4',5,6'-HpCB	191		48.6	K	50.9		
2,3,3',4,5,5',6-HpCB	192	U		U			
2,3,3',4,5,5',6-HpCB	193	C180		C180			
2,2',3,3',4,4',5,5'-OcCB	194		688		678	683	1.50
2,2',3,3',4,4',5,6-OcCB	195		282		264	273	6.61
2,2',3,3',4,4',5,6'-OcCB	196		378		335	357	11.8
2,2',3,3',4,4',6,6'-OcCB	197	C	140	C K D J	144		
2,2',3,3',4,5,5',6-OcCB	198	C	979	C	847	913	14.5
2,2',3,3',4,5,5',6'-OcCB	199	C198		C198			
2,2',3,3',4,5,6,6'-OcCB	200	C197		C197			
2,2',3,3',4,5',6,6'-OcCB	201		115	K	95.4		
2,2',3,3',5,5',6,6'-OcCB	202		234		245	239	4.91
2,2',3,4,4',5,5',6-OcCB	203		647		542	595	17.8
2,2',3,4,4',5,6,6'-OcCB	204	U		U			
2,3,3',4,4',5,5',6-OcCB	205	K	37.2	K J	32.5		
2,2',3,3',4,4',5,5',6-NoCB	206		638		681	659	6.49
2,2',3,3',4,4',5,6,6'-NoCB	207		69.1		65.2	67.2	5.72
2,2',3,3',4,5,5',6,6'-NoCB	208		250		256	253	2.13
2,2',3,3',4,4',5,5',6,6'-DeCB	209	K	575		742		

(1) Where applicable, custom lab flags have been used on this report; U = not detected at RL; K = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration; D = dilution data; J = concentration less than lowest calibration equivalent; G = lock mass interference present; C = co-eluting congener.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_ Jason MacKenzie \_\_\_\_\_

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested.

For Axys Internal Use Only [ XSL Template: RPD.xsl; Created: 16-Nov-2018 10:19:06; Application: XMLTransformer-1.16.51; Report Filename: RPD\_PCB1668\_RPD\_WG65583-103\_L29967-5\_.html; Workgroup: WG65583; Design ID: 3360 ]

## SGS AXYS METHOD MLA-010 Rev 12

Form 1A  
PCB CONGENER ANALYSIS REPORT

**CLIENT SAMPLE NO.**  
**PDI-WS-T01-1808**  
**Sample Collection:**  
**25-Aug-2018 12:02**

**SGS AXYS ANALYTICAL SERVICES**

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

<b>Contract No.:</b>	4972	<b>Project No.</b>	PORTRLAND HARBOR PDI AND BASELINE WATER
<b>Matrix:</b>	FILTER	<b>Lab Sample I.D.:</b>	L29967-6
<b>Sample Receipt Date:</b>	29-Aug-2018	<b>Initial Calibration Date:</b>	07-Jul-2018
<b>Extraction Date:</b>	10-Oct-2018	<b>Instrument ID:</b>	HR GC/MS
<b>Analysis Date:</b>	25-Oct-2018 <b>Time:</b> 05:10:30	<b>GC Column ID:</b>	SPB OCTYL
<b>Extract Volume (uL):</b>	20	<b>Sample Data Filename:</b>	<b>PB8C_366 S: 10</b>
<b>Injection Volume (uL):</b>	1.0	<b>Blank Data Filename:</b>	PB8C_366 S: 4
<b>Dilution Factor:</b>	N/A	<b>Cal. Ver. Data Filename:</b>	PB8C_366 S: 1
<b>Concentration Units:</b>	pg/sample		

This page is part of a total report that contains information necessary for accreditation compliance.  
This test is not NELAP accredited. Sample results relate only to the sample tested.

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG <sup>1</sup>	CONC. FOUND	REPORTING LIMIT (RL) <sup>2</sup>	ION ABUND. RATIO	RRT
2-MoCB	1			49.0	7.91 (S)	3.30	1.001
3-MoCB	2			71.2	8.78 (S)	2.82	0.989
4-MoCB	3		K	62.3	7.46 (S)	3.93	1.001
2,2'-DiCB	4			134	52.0 (S)	1.75	1.002
2,3-DiCB	5		U		48.7 (S)		
2,3'-DiCB	6		K	88.4	43.6 (S)	1.11	1.176
2,4-DiCB	7		K	70.4	44.2 (S)	1.19	1.158
2,4'-DiCB	8			293	39.5 (S)	1.43	1.207
2,5-DiCB	9		U		43.9 (S)		
2,6-DiCB	10		U		44.0 (S)		
3,3'-DiCB	11			1960	45.7 (S)	1.55	0.968
3,4-DiCB	12	12 + 13	C K	58.8	46.3 (S)	1.16	0.983
3,4'-DiCB	13	12 + 13	C12				
3,5-DiCB	14		U		44.7 (S)		
4,4'-DiCB	15			229	50.2 (S)	1.54	1.001
2,2',3-TrICB	16			145	6.12 (S)	1.17	1.165
2,2',4-TrICB	17			312	5.30 (S)	1.15	1.137
2,2',5-TrICB	18	18 + 30	C	391	4.52 (S)	1.19	1.113
2,2',6-TrICB	19			152	6.13 (S)	0.99	1.001
2,3,3'-TrICB	20	20 + 28	C	835	7.96 (S)	1.03	0.847
2,3,4-TrICB	21	21 + 33	C	358	7.85 (S)	0.94	0.856
2,3,4'-TrICB	22			232	9.04 (S)	0.94	0.871
2,3,5-TrICB	23		K J	9.18	8.48 (S)	0.76	1.281
2,3,6-TrICB	24		K J	5.03	4.31 (Q)	0.81	1.157
2,3',4-TrICB	25			156	6.84 (S)	0.93	0.824
2,3',5-TrICB	26	26 + 29	C	144	8.16 (S)	0.89	1.301
2,3',6-TrICB	27			43.5	4.31 (Q)	1.10	1.150
2,4,4'-TrICB	28	20 + 28	C20				
2,4,5-TrICB	29	26 + 29	C26				
2,4,6-TrICB	30	18 + 30	C18				
2,4',5-TrICB	31			560	7.50 (S)	0.96	0.836
2,4',6-TrICB	32		G	98.5	7.97 (S)	0.94	1.197
2',3,4-TrICB	33	21 + 33	C21				
2',3,5-TrICB	34		K J	13.5	8.41 (S)	0.83	1.274
3,3',4-TrICB	35		J	22.4	8.33 (S)	1.05	0.985
3,3',5-TrICB	36		U		7.68 (S)		
3,4,4'-TrICB	37			203	8.03 (S)	1.03	1.001
3,4,5-TrICB	38		U		8.19 (S)		
3,4',5-TrICB	39		K J	8.42	8.16 (S)	1.90	0.945

This page is part of a total report that contains information necessary for accreditation compliance.  
 This test is not NELAP accredited. Sample results relate only to the sample tested.

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG <sup>1</sup>	CONC. FOUND	REPORTING LIMIT (RL) <sup>2</sup>	ION ABUND. RATIO	RRT
2,2',3,3'-TeCB	40	40 + 41 + 71	C	455	4.31 (Q)	0.77	1.336
2,2',3,4'-TeCB	41	40 + 41 + 71	C40				
2,2',3,4'-TeCB	42			232	4.31 (Q)	0.84	1.311
2,2',3,5'-TeCB	43		K J	22.4	4.31 (Q)	1.28	1.247
2,2',3,5'-TeCB	44	44 + 47 + 65	C	2230	4.31 (Q)	0.80	1.285
2,2',3,6'-TeCB	45	45 + 51	C	650	4.31 (Q)	0.74	1.148
2,2',3,6'-TeCB	46			52.0	4.31 (Q)	0.78	1.160
2,2',4,4'-TeCB	47	44 + 47 + 65	C44				
2,2',4,5'-TeCB	48			134	4.31 (Q)	0.81	1.272
2,2',4,5'-TeCB	49	49 + 69	C	658	4.31 (Q)	0.77	1.258
2,2',4,6'-TeCB	50	50 + 53	C	185	4.31 (Q)	0.75	1.110
2,2',4,6'-TeCB	51	45 + 51	C45				
2,2',5,5'-TeCB	52			1110	4.31 (Q)	0.76	1.233
2,2',5,6'-TeCB	53	50 + 53	C50				
2,2',6,6'-TeCB	54			37.7	4.31 (Q)	0.75	1.001
2,3,3',4'-TeCB	55		U		13.0 (S)		
2,3,3',4'-TeCB	56			424	13.0 (S)	0.73	0.904
2,3,3',5'-TeCB	57		U		11.7 (S)		
2,3,3',5'-TeCB	58		U		12.0 (S)		
2,3,3',6'-TeCB	59	59 + 62 + 75	C	83.5	4.31 (Q)	0.73	1.301
2,3,4,4'-TeCB	60			180	13.1 (S)	0.75	0.911
2,3,4,5'-TeCB	61	61 + 70 + 74 + 76	C	1440	11.7 (S)	0.76	0.874
2,3,4,6'-TeCB	62	59 + 62 + 75	C59				
2,3,4',5'-TeCB	63		K	40.5	11.8 (S)	0.91	0.864
2,3,4',6'-TeCB	64			373	4.31 (Q)	0.75	1.348
2,3,5,6'-TeCB	65	44 + 47 + 65	C44				
2,3',4,4'-TeCB	66		G	967	11.7 (S)	0.78	0.884
2,3',4,5'-TeCB	67		K J	16.8	10.1 (S)	0.59	0.855
2,3',4,5'-TeCB	68			339	11.7 (S)	0.76	0.831
2,3',4,6'-TeCB	69	49 + 69	C49				
2,3',4',5'-TeCB	70	61 + 70 + 74 + 76	C61				
2,3',4',6'-TeCB	71	40 + 41 + 71	C40				
2,3',5,5'-TeCB	72		J	21.6	11.4 (S)	0.79	0.822
2,3',5,6'-TeCB	73		U		4.31 (Q)		
2,4,4',5'-TeCB	74	61 + 70 + 74 + 76	C61				
2,4,4',6'-TeCB	75	59 + 62 + 75	C59				
2',3,4,5'-TeCB	76	61 + 70 + 74 + 76	C61				
3,3',4,4'-TeCB	77			102	11.3 (S)	0.88	1.000
3,3',4,5'-TeCB	78		U		12.7 (S)		
3,3',4,5'-TeCB	79		K J	14.7	10.5 (S)	0.95	0.969
3,3',5,5'-TeCB	80		U		11.7 (S)		
3,4,4',5'-TeCB	81		U		11.7 (S)		
2,2',3,3',4'-PeCB	82			181	8.46 (S)	1.72	0.934
2,2',3,3',5'-PeCB	83	83 + 99	C	1010	7.72 (S)	1.75	0.886
2,2',3,3',6'-PeCB	84			339	8.30 (S)	1.73	1.164
2,2',3,4,4'-PeCB	85	85 + 116 + 117	C	290	6.44 (S)	1.52	0.920
2,2',3,4,5'-PeCB	86	86 + 87 + 97 + 108 + 119 + 125	C G	1050	6.63 (S)	1.52	0.901
2,2',3,4,5'-PeCB	87	86 + 87 + 97 + 108 + 119 + 125	C86				
2,2',3,4,6'-PeCB	88	88 + 91	C	249	7.37 (S)	1.44	1.155
2,2',3,4,6'-PeCB	89		K J	14.8	7.83 (S)	2.19	1.183
2,2',3,4',5'-PeCB	90	90 + 101 + 113	C	1490	6.59 (S)	1.49	0.869
2,2',3,4',6'-PeCB	91	88 + 91	C88				
2,2',3,5,5'-PeCB	92			313	7.69 (S)	1.66	0.853
2,2',3,5,6'-PeCB	93	93 + 95 + 98 + 100 + 102	C	1220	7.13 (S)	1.55	1.122
2,2',3,5,6'-PeCB	94		J	10.6	7.92 (S)	1.73	1.103
2,2',3,5',6'-PeCB	95	93 + 95 + 98 + 100 + 102	C93				
2,2',3,6,6'-PeCB	96		K J				
2,2',3',4,5'-PeCB	97	86 + 87 + 97 + 108 + 119 + 125	C86				
2,2',3',4,6'-PeCB	98	93 + 95 + 98 + 100 + 102	C93				
2,2',4,4',5'-PeCB	99	83 + 99	C83				

This page is part of a total report that contains information necessary for accreditation compliance.  
 This test is not NELAP accredited. Sample results relate only to the sample tested.

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG <sup>1</sup>	CONC. FOUND	REPORTING LIMIT (RL) <sup>2</sup>	ION ABUND. RATIO	RRT
2,2',4,4',6-PeCB	100	93 + 95 + 98 + 100 + 102	C93				
2,2',4,5,5'-PeCB	101	90 + 101 + 113	C90				
2,2',4,5,6'-PeCB	102	93 + 95 + 98 + 100 + 102	C93				
2,2',4,5',6-PeCB	103		K J	29.0	6.50 (S)	1.10	1.094
2,2',4,6,6'-PeCB	104		K J	9.82	4.31 (Q)	2.23	1.001
2,3,3',4,4'-PeCB	105			528	6.35 (S)	1.46	1.001
2,3,3',4,5-PeCB	106		U		8.21 (S)		
2,3,3',4,5'-PeCB	107	107 + 124	C	56.2	8.72 (S)	1.44	0.991
2,3,3',4,5'-PeCB	108	86 + 87 + 97 + 108 + 119 + 125	C86				
2,3,3',4,6-PeCB	109			112	7.93 (S)	1.61	0.997
2,3,3',4',6-PeCB	110	110 + 115	C	1680	5.72 (S)	1.52	0.925
2,3,3',5,5'-PeCB	111		U		5.74 (S)		
2,3,3',5,6-PeCB	112		U		5.59 (S)		
2,3,3',5',6-PeCB	113	90 + 101 + 113	C90				
2,3,4,4',5-PeCB	114			37.9	8.55 (S)	1.47	1.001
2,3,4,4',6-PeCB	115	110 + 115	C110				
2,3,4,5,6-PeCB	116	85 + 116 + 117	C85				
2,3,4',5,6-PeCB	117	85 + 116 + 117	C85				
2,3',4,4',5-PeCB	118			1310	8.12 (S)	1.48	1.000
2,3',4,4',6-PeCB	119	86 + 87 + 97 + 108 + 119 + 125	C86				
2,3',4,5,5'-PeCB	120		K J	13.3	5.54 (S)	0.77	0.958
2,3',4,5',6-PeCB	121		U		5.85 (S)		
2',3,3',4,5-PeCB	122		J	14.9	9.60 (S)	1.33	1.010
2',3,4,4',5-PeCB	123		K J	34.0	8.20 (S)	1.52	1.000
2',3,4,5,5'-PeCB	124	107 + 124	C107				
2',3,4,5,6'-PeCB	125	86 + 87 + 97 + 108 + 119 + 125	C86				
3,3',4,4',5-PeCB	126		K J	14.0	9.90 (S)	0.82	1.001
3,3',4,5,5'-PeCB	127		U		9.25 (S)		
2,2',3,3',4,4'-HxCB	128	128 + 166	C	404	11.1 (S)	1.24	0.959
2,2',3,3',4,5-HxCB	129	129 + 138 + 160 + 163	C	2360	11.2 (S)	1.27	0.928
2,2',3,3',4,5'-HxCB	130			157	14.6 (S)	1.24	0.913
2,2',3,3',4,6-HxCB	131		K J	34.0	13.3 (S)	0.91	1.161
2,2',3,3',4,6'-HxCB	132			746	14.1 (S)	1.27	1.176
2,2',3,3',5,5'-HxCB	133		K	55.5	13.0 (S)	1.47	1.192
2,2',3,3',5,6-HxCB	134	134 + 143	C K	130	13.2 (S)	1.57	1.141
2,2',3,3',5,6'-HxCB	135	135 + 151 + 154	C	863	4.31 (Q)	1.25	1.105
2,2',3,3',6,6'-HxCB	136			262	4.31 (Q)	1.31	1.025
2,2',3,4,4',5-HxCB	137		K	83.5	14.3 (S)	1.45	0.918
2,2',3,4,4',5'-HxCB	138	129 + 138 + 160 + 163	C129				
2,2',3,4,4',6-HxCB	139	139 + 140	C	44.2	11.9 (S)	1.16	1.153
2,2',3,4,4',6'-HxCB	140	139 + 140	C139				
2,2',3,4,5,5'-HxCB	141			419	13.0 (S)	1.22	0.903
2,2',3,4,5,6-HxCB	142		U		13.4 (S)		
2,2',3,4,5,6'-HxCB	143	134 + 143	C134				
2,2',3,4,5',6-HxCB	144		K	89.3	4.31 (Q)	0.91	1.122
2,2',3,4,6,6'-HxCB	145		U		4.31 (Q)		
2,2',3,4,5,5'-HxCB	146			538	11.3 (S)	1.15	0.884
2,2',3,4',5,6-HxCB	147	147 + 149	C	2350	11.7 (S)	1.23	1.134
2,2',3,4',5,6'-HxCB	148		J	15.1	4.31 (Q)	1.08	1.084
2,2',3,4',5,6-HxCB	149	147 + 149	C147				
2,2',3,4',6,6'-HxCB	150		K J	10.6	4.31 (Q)	0.91	1.013
2,2',3,5,5',6-HxCB	151	135 + 151 + 154	C135				
2,2',3,5,6,6'-HxCB	152		J	4.94	4.31 (Q)	1.06	1.007
2,2',4,4',5,5'-HxCB	153	153 + 168	C	2020	10.0 (S)	1.22	0.898
2,2',4,4',5,6'-HxCB	154	135 + 151 + 154	C135				
2,2',4,4',6,6'-HxCB	155		K J	5.43	4.31 (Q)	2.79	1.001
2,3,3',4,4',5-HxCB	156	156 + 157	C	242	11.9 (S)	1.26	1.000
2,3,3',4,4',5'-HxCB	157	156 + 157	C156				
2,3,3',4,4',6-HxCB	158			193	8.60 (S)	1.08	0.938
2,3,3',4,5,5'-HxCB	159		U		9.76 (S)		
2,3,3',4,5,6-HxCB	160	129 + 138 + 160 + 163	C129				

This page is part of a total report that contains information necessary for accreditation compliance.  
This test is not NELAP accredited. Sample results relate only to the sample tested.

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG <sup>1</sup>	CONC. FOUND	REPORTING LIMIT (RL) <sup>2</sup>	ION ABUND. RATIO	RRT
2,3,3',4,5',6-HxCB	161		U		9.12 (S)		
2,3,3',4',5,5'-HxCB	162		U		8.92 (S)		
2,3,3',4',5,6-HxCB	163	129 + 138 + 160 + 163	C129				
2,3,3',4',5',6-HxCB	164			170	9.33 (S)	1.13	0.921
2,3,3',5,5',6-HxCB	165		U		10.8 (S)		
2,3,4,4',5,6-HxCB	166	128 + 166	C128				
2,3',4,4',5,5'-HxCB	167			93.5	9.60 (S)	1.32	1.000
2,3',4,4',5',6-HxCB	168	153 + 168	C153				
3,3',4,4',5,5'-HxCB	169		U		14.8 (S)		
2,2',3,3',4,4',5-HpCB	170			523	4.99 (S)	1.01	1.000
2,2',3,3',4,4',6-HpCB	171	171 + 173	C K	182	4.76 (S)	0.87	1.163
2,2',3,3',4,5,5'-HpCB	172			102	5.00 (S)	1.17	0.897
2,2',3,3',4,5,6-HpCB	173	171 + 173	C171				
2,2',3,3',4,5,6'-HpCB	174			515	4.46 (S)	1.13	1.133
2,2',3,3',4,5',6-HpCB	175		K J	22.3	4.31 (Q)	0.66	1.103
2,2',3,3',4,6,6'-HpCB	176		K	76.0	4.31 (Q)	1.21	1.034
2,2',3,3',4,5,6-HpCB	177			349	4.31 (Q)	1.13	1.146
2,2',3,3',5,5',6-HpCB	178			141	4.41 (S)	1.09	1.085
2,2',3,3',5,6,6'-HpCB	179			263	4.31 (Q)	1.14	1.010
2,2',3,4,4',5,5'-HpCB	180	180 + 193	C	1500	5.06 (S)	1.02	1.001
2,2',3,4,4',5,6-HpCB	181		K J	15.3	4.55 (S)	0.75	1.157
2,2',3,4,4',5,6'-HpCB	182		U		4.31 (Q)		
2,2',3,4,4',5',6-HpCB	183	183 + 185	C	403	4.31 (Q)	1.10	1.127
2,2',3,4,4',6,6'-HpCB	184		U		4.31 (Q)		
2,2',3,4,5,5',6-HpCB	185	183 + 185	C183				
2,2',3,4,5,6,6'-HpCB	186		U		4.31 (Q)		
2,2',3,4',5,5',6-HpCB	187			1060	4.31 (Q)	1.10	1.110
2,2',3,4',5,6,6'-HpCB	188		U		4.31 (Q)		
2,3,3',4,4',5,5'-HpCB	189		J	14.8	4.31 (Q)	0.98	1.001
2,3,3',4,4',5,6-HpCB	190			112	4.31 (Q)	1.06	0.947
2,3,3',4,4',5',6-HpCB	191		J	25.2	4.31 (Q)	1.05	0.917
2,3,3',4,5,5',6-HpCB	192		U		4.31 (Q)		
2,3,3',4',5,5',6-HpCB	193	180 + 193	C180				
2,2',3,3',4,4',5,5'-OcCB	194			301	5.03 (S)	0.86	0.991
2,2',3,3',4,4',5,6-OcCB	195			116	5.39 (S)	0.96	0.945
2,2',3,3',4,4',5,6'-OcCB	196			155	4.57 (S)	0.84	0.916
2,2',3,3',4,4',6,6'-OcCB	197	197 + 200	C K G	71.5	4.31 (Q)	0.68	1.046
2,2',3,3',4,5,5',6-OcCB	198	198 + 199	C	412	4.67 (S)	0.97	1.115
2,2',3,3',4,5,5',6'-OcCB	199	198 + 199	C198				
2,2',3,3',4,5,6,6'-OcCB	200	197 + 200	C197				
2,2',3,3',4,5',6,6'-OcCB	201			46.1	4.31 (Q)	0.89	1.023
2,2',3,3',5,5',6,6'-OcCB	202			108	4.31 (Q)	0.81	1.000
2,2',3,4,4',5,5',6-OcCB	203			233	4.36 (S)	0.91	0.919
2,2',3,4,4',5,6,6'-OcCB	204		U		4.31 (Q)		
2,3,3',4,4',5,5',6-OcCB	205		K J	12.6	4.31 (Q)	0.75	1.000
2,2',3,3',4,4',5,5',6-NoCB	206			264	4.61 (S)	0.84	1.001
2,2',3,3',4,4',5,6,6'-NoCB	207		K	35.0	4.31 (Q)	0.94	1.020
2,2',3,3',4,5,5',6,6'-NoCB	208		K	120	4.31 (Q)	0.94	1.000
2,2',3,3',4,4',5,5',6,6'-DeCB	209			256	4.31 (Q)	1.24	1.000

(1) Where applicable, custom lab flags have been used on this report; U = not detected at RL; K = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration; J = concentration less than lowest calibration equivalent; G = lock mass interference present; C = co-eluting congener.

(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = minimum reporting level.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_ Jason MacKenzie \_\_\_\_\_

For Axys Internal Use Only [ XSL Template: Form16681A.xsl; Created: 16-Nov-2018 10:17:08; Application: XMLTransformer-1.16.51;  
Report Filename: 1668\_PCB1668\_PCBTF\_L29967-6\_Form1A\_PB8C\_366S10\_SJ2455498.html; Workgroup: WG65583; Design ID: 3360 ]

## SGS AXYS METHOD MLA-010 Rev 12

Form 2  
PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.

PDI-WS-T01-1808

Sample Collection:

25-Aug-2018 12:02

## SGS AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

**Contract No.:** 4972  
**Matrix:** FILTER  
**Sample Receipt Date:** 29-Aug-2018  
**Extraction Date:** 10-Oct-2018  
**Analysis Date:** 25-Oct-2018 **Time:** 05:10:30  
**Extract Volume (uL):** 20  
**Injection Volume (uL):** 1.0  
**Dilution Factor:** N/A  
**Concentration Units:** pg absolute

## Project No.

**Lab Sample I.D.:** L29967-6  
**Sample Size:** 0.2 sample  
**Initial Calibration Date:** 07-Jul-2018  
**Instrument ID:** HR GC/MS  
**GC Column ID:** SPB OCTYL  
**Sample Data Filename:** PB8C\_366 S: 10  
**Blank Data Filename:** PB8C\_366 S: 4  
**Cal. Ver. Data Filename:** PB8C\_366 S: 1

PORTLAND HARBOR PDI AND  
BASELINE WATER

This page is part of a total report that contains information necessary for accreditation compliance.  
This test is not NELAP accredited. Sample results relate only to the sample tested.

LABELED COMPOUND	IUPAC NO. <sup>1</sup>	CO-ELUTIONS	LAB FLAG <sup>2</sup>	SPIKE CONC.	CONC. FOUND	R(%) <sup>3</sup>	ION ABUND. RATIO	RRT
13C12-2-MoCB	1L			4000	1250	31.2	3.16	0.719
13C12-4-MoCB	3L			4000	1380	34.6	3.16	0.859
13C12-2,2'-DiCB	4L			4000	1630	40.8	1.54	0.874
13C12-4,4'-DiCB	15L			4000	1540	38.5	1.56	1.254
13C12-2,2',6-TriCB	19L			4000	2080	51.9	1.06	1.072
13C12-3,4,4'-TriCB	37L			4000	2290	57.3	1.04	1.092
13C12-2,2',6,6'-TeCB	54L			4000	2440	61.1	0.79	0.811
13C12-3,3',4,4'-TeCB	77L			4000	3520	88.1	0.76	1.397
13C12-3,4,4',5-TeCB	81L			4000	3290	82.2	0.76	1.374
13C12-2,2',4,6,6'-PeCB	104L			4000	2200	55.1	1.58	0.808
13C12-2,3,3',4,4'-PeCB	105L			4000	3880	97.1	1.56	1.200
13C12-2,3,4,4',5-PeCB	114L			4000	3060	76.4	1.59	1.179
13C12-2,3',4,4',5-PeCB	118L			4000	3160	78.9	1.52	1.162
13C12-2',3,4,4',5-PeCB	123L			4000	3250	81.3	1.54	1.151
13C12-3,3',4,4',5-PeCB	126L			4000	2940	73.6	1.53	1.301
13C12-2,2',4,4',6,6'-HxCB	155L			4000	2480	62.1	1.26	0.785
13C12-2,3,3',4,4',5-HxCB	156L	156L + 157L	C	8000	6660	83.3	1.22	1.108
13C12-2,3,3',4,4',5'-HxCB	157L	156L + 157L	C156L					
13C12-2,3',4,4',5,5'-HxCB	167L			4000	3330	83.3	1.21	1.078
13C12-3,3',4,4',5,5'-HxCB	169L			4000	2950	73.8	1.25	1.192
13C12-2,2',3,3',4,4',5-HpCB	170L			4000	3830	95.6	1.01	0.897
13C12-2,2',3,4,4',5,5'-HpCB	180L			4000	3650	91.2	1.05	0.872
13C12-2,2',3,4',5,6,6'-HpCB	188L			4000	3310	82.8	1.06	0.712
13C12-2,3,3',4,4',5,5'-HpCB	189L			4000	3710	92.8	1.03	0.959
13C12-2,2',3,3',5,5',6,6'-OcCB	202L			4000	2480	62.0	0.89	0.817
13C12-2,3,3',4,4',5,5',6-OcCB	205L			4000	3670	91.8	0.87	1.009
13C12-2,2',3,3',4,4',5,5',6-NoCB	206L			4000	3100	77.6	0.77	1.043
13C12-2,2',3,3',4,5,5',6,6'-NoCB	208L			4000	3300	82.6	0.79	0.949
13C12-2,2',3,3',4,4',5,5',6,6'-DeCB	209L			4000	2570	64.3	1.19	1.075

## CLEANUP STANDARD

13C12-2,4,4'-TriCB	28L		4000	2450	61.3	1.04	0.925
13C12-2,3,3',5,5'-PeCB	111L		4000	3320	83.0	1.62	1.088
13C12-2,2',3,3',5,5'-HpCB	178L		4000	3000	75.1	1.04	1.012

(1) Suffix "L" indicates labeled compound.

(2) Where applicable, custom lab flags have been used on this report; C = co-eluting congener.

(3) R% = percent recovery of labeled compounds.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_ Jason MacKenzie \_\_\_\_\_

## SGS AXYS METHOD MLA-010 Rev 12

Form 1A  
PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.

PDI-WS-T06-1808

Sample Collection:

24-Aug-2018 16:32

**SGS AXYS ANALYTICAL SERVICES**2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811**Contract No.:** 4972**Matrix:** FILTER**Sample Receipt Date:** 29-Aug-2018**Extraction Date:** 10-Oct-2018**Analysis Date:** 25-Oct-2018 **Time:** 13:56:50**Extract Volume (uL):** 20**Injection Volume (uL):** 1.0**Dilution Factor:** N/A**Concentration Units:** pg/sample**Project No.**PORTLAND HARBOR PDI AND  
BASELINE WATER**Lab Sample I.D.:** L29967-7**Sample Size:** 0.2 sample**Initial Calibration Date:** 07-Jul-2018**Instrument ID:** HR GC/MS**GC Column ID:** SPB OCTYL**Sample Data Filename:** PB8C\_367 S: 7**Blank Data Filename:** PB8C\_366 S: 4**Cal. Ver. Data Filename:** PB8C\_367 S: 1

This page is part of a total report that contains information necessary for accreditation compliance.  
This test is not NELAP accredited. Sample results relate only to the sample tested.

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG <sup>1</sup>	CONC. FOUND	REPORTING LIMIT (RL) <sup>2</sup>	ION ABUND. RATIO	RRT
2-MoCB	1		X				
3-MoCB	2		X				
4-MoCB	3			45.8	4.30 (Q)	3.41	1.001
2,2'-DiCB	4			88.2	35.4 (S)	1.55	1.001
2,3-DiCB	5		U		34.0 (S)		
2,3'-DiCB	6			69.4	30.2 (S)	1.33	1.174
2,4-DiCB	7		K	88.1	30.3 (S)	1.18	1.159
2,4'-DiCB	8			240	27.5 (S)	1.51	1.206
2,5-DiCB	9		K	37.4	30.4 (S)	1.29	1.146
2,6-DiCB	10		U		31.3 (S)		
3,3'-DiCB	11			1400	31.4 (S)	1.55	0.968
3,4-DiCB	12	12 + 13	C K	38.3	31.7 (S)	1.22	0.984
3,4'-DiCB	13	12 + 13	C12				
3,5-DiCB	14		U		31.5 (S)		
4,4'-DiCB	15			121	32.9 (S)	1.55	1.000
2,2',3-TrICB	16			120	4.30 (Q)	1.15	1.165
2,2',4-TrICB	17		X				
2,2',5-TrICB	18	18 + 30	C	282	4.30 (Q)	1.05	1.113
2,2',6-TrICB	19			41.7	4.30 (Q)	1.17	1.001
2,3,3'-TrICB	20	20 + 28	C	461	4.30 (Q)	0.97	0.847
2,3,4-TrICB	21	21 + 33	C	248	4.30 (Q)	0.95	0.856
2,3,4'-TrICB	22			152	4.30 (Q)	1.02	0.872
2,3,5-TrICB	23		U		4.30 (Q)		
2,3,6-TrICB	24		U		4.30 (Q)		
2,3',4-TrICB	25			127	4.30 (Q)	1.01	0.824
2,3',5-TrICB	26	26 + 29	C	86.6	4.30 (Q)	1.03	1.301
2,3',6-TrICB	27		J	25.0	4.30 (Q)	1.04	1.151
2,4,4'-TrICB	28	20 + 28	C20				
2,4,5-TrICB	29	26 + 29	C26				
2,4,6-TrICB	30	18 + 30	C18				
2,4',5-TrICB	31			364	4.30 (Q)	0.96	0.836
2,4',6-TrICB	32		X				
2',3,4-TrICB	33	21 + 33	C21				
2',3,5-TrICB	34		U		4.30 (Q)		
3,3',4-TrICB	35		J	24.5	4.30 (Q)	0.90	0.985
3,3',5-TrICB	36		J	11.5	4.30 (Q)	1.07	0.930
3,4,4'-TrICB	37			104	4.30 (Q)	1.02	1.000
3,4,5-TrICB	38		U		4.30 (Q)		
3,4',5-TrICB	39		U		4.30 (Q)		

This page is part of a total report that contains information necessary for accreditation compliance.  
This test is not NELAP accredited. Sample results relate only to the sample tested.

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG <sup>1</sup>	CONC. FOUND	REPORTING LIMIT (RL) <sup>2</sup>	ION ABUND. RATIO	RRT
2,2',3,3'-TeCB	40	40 + 41 + 71	C	173	4.30 (Q)	0.79	1.335
2,2',3,4'-TeCB	41	40 + 41 + 71	C40				
2,2',3,4'-TeCB	42			90.1	4.30 (Q)	0.73	1.311
2,2',3,5'-TeCB	43		K J	12.6	4.30 (Q)	1.05	1.244
2,2',3,5'-TeCB	44	44 + 47 + 65	C	1570	4.30 (Q)	0.78	1.286
2,2',3,6'-TeCB	45	45 + 51	C	403	4.30 (Q)	0.82	1.148
2,2',3,6'-TeCB	46		K J	21.8	4.30 (Q)	0.93	1.160
2,2',4,4'-TeCB	47	44 + 47 + 65	C44				
2,2',4,5'-TeCB	48			62.6	4.30 (Q)	0.71	1.272
2,2',4,5'-TeCB	49	49 + 69	C	256	4.30 (Q)	0.76	1.258
2,2',4,6'-TeCB	50	50 + 53	C	62.2	4.30 (Q)	0.81	1.110
2,2',4,6'-TeCB	51	45 + 51	C45				
2,2',5,5'-TeCB	52			541	4.30 (Q)	0.82	1.233
2,2',5,6'-TeCB	53	50 + 53	C50				
2,2',6,6'-TeCB	54		U		4.30 (Q)		
2,3,3',4'-TeCB	55		U		7.55 (S)		
2,3,3',4'-TeCB	56			137	7.68 (S)	0.82	0.904
2,3,3',5'-TeCB	57		U		6.88 (S)		
2,3,3',5'-TeCB	58		U		7.33 (S)		
2,3,3',6'-TeCB	59	59 + 62 + 75	C J	28.2	4.30 (Q)	0.81	1.301
2,3,4,4'-TeCB	60			73.7	7.77 (S)	0.75	0.911
2,3,4,5'-TeCB	61	61 + 70 + 74 + 76	C	606	6.98 (S)	0.74	0.874
2,3,4,6'-TeCB	62	59 + 62 + 75	C59				
2,3,4',5'-TeCB	63		J	12.8	6.88 (S)	0.69	0.864
2,3,4',6'-TeCB	64			143	4.30 (Q)	0.82	1.348
2,3,5,6'-TeCB	65	44 + 47 + 65	C44				
2,3',4,4'-TeCB	66		X				
2,3',4,5'-TeCB	67		J	7.18	6.00 (S)	0.79	0.855
2,3',4,5'-TeCB	68			210	6.59 (S)	0.74	0.831
2,3',4,6'-TeCB	69	49 + 69	C49				
2,3',4',5'-TeCB	70	61 + 70 + 74 + 76	C61				
2,3',4',6'-TeCB	71	40 + 41 + 71	C40				
2,3',5,5'-TeCB	72		K J	8.47	6.51 (S)	1.16	0.822
2,3',5,6'-TeCB	73		U		4.30 (Q)		
2,4,4',5'-TeCB	74	61 + 70 + 74 + 76	C61				
2,4,4',6'-TeCB	75	59 + 62 + 75	C59				
2',3,4,5'-TeCB	76	61 + 70 + 74 + 76	C61				
3,3',4,4'-TeCB	77			47.1	6.94 (S)	0.70	1.000
3,3',4,5'-TeCB	78		U		7.41 (S)		
3,3',4,5'-TeCB	79		J	12.1	6.17 (S)	0.76	0.969
3,3',5,5'-TeCB	80		U		6.67 (S)		
3,4,4',5'-TeCB	81		U		6.69 (S)		
2,2',3,3',4'-PeCB	82		X				
2,2',3,3',5'-PeCB	83	83 + 99	C X				
2,2',3,3',6'-PeCB	84		X				
2,2',3,4,4'-PeCB	85	85 + 116 + 117	C X				
2,2',3,4,5'-PeCB	86	86 + 87 + 97 + 108 + 119 + 125	C X				
2,2',3,4,5'-PeCB	87	86 + 87 + 97 + 108 + 119 + 125	C86				
2,2',3,4,6'-PeCB	88	88 + 91	C X				
2,2',3,4,6'-PeCB	89		X				
2,2',3,4',5'-PeCB	90	90 + 101 + 113	C X				
2,2',3,4',6'-PeCB	91	88 + 91	C88				
2,2',3,5,5'-PeCB	92		X				
2,2',3,5,6'-PeCB	93	93 + 95 + 98 + 100 + 102	C X				
2,2',3,5,6'-PeCB	94		X				
2,2',3,5',6'-PeCB	95	93 + 95 + 98 + 100 + 102	C93				
2,2',3,6,6'-PeCB	96		X				
2,2',3',4,5'-PeCB	97	86 + 87 + 97 + 108 + 119 + 125	C86				
2,2',3',4,6'-PeCB	98	93 + 95 + 98 + 100 + 102	C93				
2,2',4,4',5'-PeCB	99	83 + 99	C83				

This page is part of a total report that contains information necessary for accreditation compliance.  
 This test is not NELAP accredited. Sample results relate only to the sample tested.

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG <sup>1</sup>	CONC. FOUND	REPORTING LIMIT (RL) <sup>2</sup>	ION ABUND. RATIO	RRT
2,2',4,4',6-PeCB	100	93 + 95 + 98 + 100 + 102	C93				
2,2',4,5,5'-PeCB	101	90 + 101 + 113	C90				
2,2',4,5,6'-PeCB	102	93 + 95 + 98 + 100 + 102	C93				
2,2',4,5',6-PeCB	103		X				
2,2',4,6,6'-PeCB	104		U		4.30 (Q)		
2,3,3',4,4'-PeCB	105		X				
2,3,3',4,5-PeCB	106		X				
2,3,3',4',5-PeCB	107	107 + 124	C X				
2,3,3',4,5'-PeCB	108	86 + 87 + 97 + 108 + 119 + 125	C86				
2,3,3',4,6-PeCB	109		X				
2,3,3',4',6-PeCB	110	110 + 115	C X				
2,3,3',5,5'-PeCB	111		X				
2,3,3',5,6-PeCB	112		X				
2,3,3',5',6-PeCB	113	90 + 101 + 113	C90				
2,3,4,4',5-PeCB	114		J	15.8	5.25 (S)	1.38	1.000
2,3,4,4',6-PeCB	115	110 + 115	C110				
2,3,4,5,6-PeCB	116	85 + 116 + 117	C85				
2,3,4',5,6-PeCB	117	85 + 116 + 117	C85				
2,3',4,4',5-PeCB	118			679	4.92 (S)	1.50	1.000
2,3',4,4',6-PeCB	119	86 + 87 + 97 + 108 + 119 + 125	C86				
2,3',4,5,5'-PeCB	120		X				
2,3',4,5',6-PeCB	121		X				
2',3,3',4,5-PeCB	122		X				
2',3,4,4',5-PeCB	123		K J	15.0	4.89 (S)	1.24	1.001
2',3,4,5,5'-PeCB	124	107 + 124	C107				
2',3,4,5,6'-PeCB	125	86 + 87 + 97 + 108 + 119 + 125	C86				
3,3',4,4',5-PeCB	126		K J	9.40	6.01 (S)	1.17	1.001
3,3',4,5,5'-PeCB	127		X				
2,2',3,3',4,4'-HxCB	128	128 + 166	C X				
2,2',3,3',4,5-HxCB	129	129 + 138 + 160 + 163	C	1510	6.38 (S)	1.28	0.929
2,2',3,3',4,5'-HxCB	130			93.9	8.12 (S)	1.20	0.913
2,2',3,3',4,6-HxCB	131		K J	17.2	7.35 (S)	1.78	1.160
2,2',3,3',4,6'-HxCB	132			389	7.95 (S)	1.15	1.176
2,2',3,3',5,5'-HxCB	133		J	28.6	7.39 (S)	1.14	1.192
2,2',3,3',5,6-HxCB	134	134 + 143	C	76.8	7.51 (S)	1.15	1.141
2,2',3,3',5,6'-HxCB	135	135 + 151 + 154	C	427	4.30 (Q)	1.21	1.105
2,2',3,3',6,6'-HxCB	136			126	4.30 (Q)	1.18	1.025
2,2',3,4,4',5-HxCB	137		K	58.8	7.45 (S)	1.44	0.918
2,2',3,4,4',5'-HxCB	138	129 + 138 + 160 + 163	C129				
2,2',3,4,4',6-HxCB	139	139 + 140	C J	22.2	6.77 (S)	1.26	1.153
2,2',3,4,4',6'-HxCB	140	139 + 140	C139				
2,2',3,4,5,5'-HxCB	141			235	7.10 (S)	1.12	0.903
2,2',3,4,5,6-HxCB	142		U		7.57 (S)		
2,2',3,4,5,6'-HxCB	143	134 + 143	C134				
2,2',3,4,5',6-HxCB	144			64.6	4.30 (Q)	1.16	1.122
2,2',3,4,6,6'-HxCB	145		U		4.30 (Q)		
2,2',3,4',5,5'-HxCB	146		X				
2,2',3,4',5,6-HxCB	147	147 + 149	C	1220	6.61 (S)	1.21	1.134
2,2',3,4',5,6'-HxCB	148		U		4.30 (Q)		
2,2',3,4',5,6-HxCB	149	147 + 149	C147				
2,2',3,4',6,6'-HxCB	150		K J	4.88	4.30 (Q)	2.48	1.012
2,2',3,5,5',6-HxCB	151	135 + 151 + 154	C135				
2,2',3,5,6,6'-HxCB	152		U		4.30 (Q)		
2,2',4,4',5,5'-HxCB	153	153 + 168	C	1280	5.66 (S)	1.24	0.898
2,2',4,4',5,6'-HxCB	154	135 + 151 + 154	C135				
2,2',4,4',6,6'-HxCB	155		K J	5.43	4.30 (Q)	0.76	1.001
2,3,3',4,4',5-HxCB	156	156 + 157	C	155	6.73 (S)	1.32	1.000
2,3,3',4,4',5'-HxCB	157	156 + 157	C156				
2,3,3',4,4',6-HxCB	158			131	5.06 (S)	1.27	0.937
2,3,3',4,5,5'-HxCB	159		J	22.5	5.40 (S)	1.15	0.981
2,3,3',4,5,6-HxCB	160	129 + 138 + 160 + 163	C129				

This page is part of a total report that contains information necessary for accreditation compliance.  
This test is not NELAP accredited. Sample results relate only to the sample tested.

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG <sup>1</sup>	CONC. FOUND	REPORTING LIMIT (RL) <sup>2</sup>	ION ABUND. RATIO	RRT
2,3,3',4,5',6-HxCB	161		U		5.32 (S)		
2,3,3',4',5,5'-HxCB	162		U		4.83 (S)		
2,3,3',4,5,6-HxCB	163	129 + 138 + 160 + 163	C129				
2,3,3',4',5,6-HxCB	164			95.2	5.53 (S)	1.12	0.921
2,3,3',5,5',6-HxCB	165		U		6.01 (S)		
2,3,4,4',5,6-HxCB	166	128 + 166	C128				
2,3',4,4',5,5'-HxCB	167			55.2	5.26 (S)	1.20	1.001
2,3',4,4',5',6-HxCB	168	153 + 168	C153				
3,3',4,4',5,5'-HxCB	169		U		5.65 (S)		
2,2',3,3',4,4',5-HpCB	170			428	4.30 (Q)	1.09	1.000
2,2',3,3',4,4',6-HpCB	171	171 + 173	C	145	4.30 (Q)	1.06	1.164
2,2',3,3',4,5,5'-HpCB	172			84.6	4.30 (Q)	1.04	0.896
2,2',3,3',4,5,6-HpCB	173	171 + 173	C171				
2,2',3,3',4,5,6'-HpCB	174			468	4.30 (Q)	1.04	1.134
2,2',3,3',4,5',6-HpCB	175		J	23.0	4.30 (Q)	0.99	1.103
2,2',3,3',4,6,6'-HpCB	176			62.5	4.30 (Q)	1.02	1.035
2,2',3,3',4,5,6-HpCB	177			253	4.30 (Q)	1.03	1.146
2,2',3,3',5,5',6-HpCB	178		K	130	4.30 (Q)	1.23	1.086
2,2',3,3',5,6,6'-HpCB	179			215	4.30 (Q)	1.15	1.011
2,2',3,4,4',5,5'-HpCB	180	180 + 193	C	1260	4.30 (Q)	1.01	1.001
2,2',3,4,4',5,6-HpCB	181			U	4.30 (Q)		
2,2',3,4,4',5,6'-HpCB	182			U	4.30 (Q)		
2,2',3,4,4',5',6-HpCB	183	183 + 185	C	369	4.30 (Q)	0.97	1.128
2,2',3,4,4',6,6'-HpCB	184		K J	5.76	4.30 (Q)	1.21	1.024
2,2',3,4,5,5',6-HpCB	185	183 + 185	C183				
2,2',3,4,5,6,6'-HpCB	186		U		4.30 (Q)		
2,2',3,4',5,5',6-HpCB	187		X				
2,2',3,4',5,6,6'-HpCB	188		U		4.30 (Q)		
2,3,3',4,4',5,5'-HpCB	189		J	17.1	4.30 (Q)	1.09	1.001
2,3,3',4,4',5,6-HpCB	190			103	4.30 (Q)	1.03	0.947
2,3,3',4,4',5',6-HpCB	191		K J	17.2	4.30 (Q)	0.84	0.917
2,3,3',4,5,5',6-HpCB	192		U		4.30 (Q)		
2,3,3',4',5,5',6-HpCB	193	180 + 193	C180				
2,2',3,3',4,4',5,5'-OcCB	194			253	4.30 (Q)	0.94	0.991
2,2',3,3',4,4',5,6-OcCB	195			114	4.30 (Q)	0.96	0.946
2,2',3,3',4,4',5,6'-OcCB	196			137	4.30 (Q)	0.81	0.916
2,2',3,3',4,4',6,6'-OcCB	197	197 + 200	C X				
2,2',3,3',4,5,5',6-OcCB	198	198 + 199	C	368	4.30 (Q)	0.97	1.115
2,2',3,3',4,5,5',6'-OcCB	199	198 + 199	C198				
2,2',3,3',4,5,6,6'-OcCB	200	197 + 200	C197				
2,2',3,3',4,5,6,6'-OcCB	201			48.4	4.30 (Q)	1.01	1.023
2,2',3,3',5,5',6,6'-OcCB	202			109	4.30 (Q)	0.93	1.001
2,2',3,4,4',5,5',6-OcCB	203			251	4.30 (Q)	0.95	0.919
2,2',3,4,4',5,6,6'-OcCB	204		U		4.30 (Q)		
2,3,3',4,4',5,5',6-OcCB	205		K J	15.8	4.30 (Q)	1.16	1.001
2,2',3,3',4,4',5,5',6-NoCB	206			206	4.30 (Q)	0.77	1.001
2,2',3,3',4,4',5,6,6'-NoCB	207		J	27.7	4.30 (Q)	0.74	1.020
2,2',3,3',4,5,5',6,6'-NoCB	208		K	73.0	4.30 (Q)	0.91	1.000
2,2',3,3',4,4',5,5',6,6'-DeCB	209			262	4.30 (Q)	1.12	1.001

(1) Where applicable, custom lab flags have been used on this report; U = not detected at RL; K = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration; J = concentration less than lowest calibration equivalent; C = co-eluting congener; X = result reported separately.

(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = minimum reporting level.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_ Jason MacKenzie \_\_\_\_\_

For Axys Internal Use Only [ XSL Template: Form16681A.xsl; Created: 16-Nov-2018 10:17:08; Application: XMLTransformer-1.16.51;  
Report Filename: 1668\_PCB1668\_PCBTF\_L29967-7\_Form1A\_PB8C\_367S7\_SJ2455303.html; Workgroup: WG65583; Design ID: 3360 ]

## SGS AXYS METHOD MLA-010 Rev 12

Form 2  
PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.

PDI-WS-T06-1808

Sample Collection:

24-Aug-2018 16:32

**SGS AXYS ANALYTICAL SERVICES**

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

**Contract No.:** 4972  
**Matrix:** FILTER  
**Sample Receipt Date:** 29-Aug-2018  
**Extraction Date:** 10-Oct-2018  
**Analysis Date:** 25-Oct-2018 **Time:** 13:56:50  
**Extract Volume (uL):** 20  
**Injection Volume (uL):** 1.0  
**Dilution Factor:** N/A  
**Concentration Units:** pg absolute

**Project No.**

PORTRLAND HARBOR PDI AND  
BASELINE WATER  
L29967-7  
0.2 sample  
07-Jul-2018  
HR GC/MS  
SPB OCTYL  
**Sample Data Filename:** PB8C\_367 S: 7  
**Blank Data Filename:** PB8C\_366 S: 4  
**Cal. Ver. Data Filename:** PB8C\_367 S: 1

This page is part of a total report that contains information necessary for accreditation compliance.  
This test is not NELAP accredited. Sample results relate only to the sample tested.

LABELED COMPOUND	IUPAC NO. <sup>1</sup>	CO-ELUTIONS	LAB FLAG <sup>2</sup>	SPIKE CONC.	CONC. FOUND	R(%) <sup>3</sup>	ION ABUND. RATIO	RRT
13C12-2-MoCB	1L		X					
13C12-4-MoCB	3L			4000	1650	41.2	3.12	0.858
13C12-2,2'-DiCB	4L			4000	1970	49.2	1.56	0.873
13C12-4,4'-DiCB	15L			4000	1850	46.3	1.54	1.251
13C12-2,2',6-TriCB	19L			4000	2410	60.4	1.07	1.070
13C12-3,4,4'-TriCB	37L			4000	2310	57.7	1.03	1.092
13C12-2,2',6,6'-TeCB	54L			4000	2580	64.5	0.80	0.811
13C12-3,3',4,4'-TeCB	77L			4000	3210	80.1	0.75	1.397
13C12-3,4,4',5-TeCB	81L			4000	3170	79.3	0.71	1.373
13C12-2,2',4,6,6'-PeCB	104L			4000	2280	56.9	1.60	0.808
13C12-2,3,3',4,4'-PeCB	105L		X					
13C12-2,3,4,4',5-PeCB	114L			4000	3070	76.7	1.56	1.180
13C12-2,3',4,4',5-PeCB	118L			4000	3300	82.5	1.55	1.162
13C12-2',3,4,4',5-PeCB	123L			4000	3500	87.6	1.55	1.152
13C12-3,3',4,4',5-PeCB	126L			4000	3030	75.8	1.54	1.302
13C12-2,2',4,4',6,6'-HxCB	155L			4000	2340	58.5	1.29	0.785
13C12-2,3,3',4,4',5-HxCB	156L	156L + 157L	C	8000	6580	82.3	1.26	1.108
13C12-2,3,3',4,4',5-HxCB	157L	156L + 157L	C156L					
13C12-2,3',4,4',5,5'-HxCB	167L			4000	3320	82.9	1.25	1.078
13C12-3,3',4,4',5,5'-HxCB	169L			4000	3310	82.8	1.27	1.192
13C12-2,2',3,3',4,4',5-HpCB	170L			4000	3860	96.5	1.06	0.897
13C12-2,2',3,4,4',5,5'-HpCB	180L			4000	3360	84.0	1.03	0.872
13C12-2,2',3,4',5,6,6'-HpCB	188L			4000	3140	78.4	1.05	0.712
13C12-2,3,3',4,4',5,5'-HpCB	189L			4000	3030	75.7	1.01	0.959
13C12-2,2',3,3',5,5',6,6'-OcCB	202L			4000	2350	58.7	0.93	0.817
13C12-2,3,3',4,4',5,5',6-OcCB	205L			4000	3800	94.9	0.89	1.009
13C12-2,2',3,3',4,4',5,5',6-NoCB	206L			4000	3140	78.6	0.77	1.043
13C12-2,2',3,3',4,5,5',6,6'-NoCB	208L			4000	3430	85.9	0.77	0.949
13C12-2,2',3,3',4,4',5,5',6,6'-DeCB	209L			4000	2400	59.9	1.21	1.074
<b>CLEANUP STANDARD</b>								
13C12-2,4,4'-TriCB	28L			4000	2640	66.0	1.01	0.925
13C12-2,3,3',5,5'-PeCB	111L			4000	3370	84.2	1.63	1.088
13C12-2,2',3,3',5,5'-HpCB	178L			4000	2880	71.9	1.09	1.012

(1) Suffix "L" indicates labeled compound.

(2) Where applicable, custom lab flags have been used on this report; C = co-eluting congener; X = result reported separately.

(3) R% = percent recovery of labeled compounds.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_ Jason MacKenzie \_\_\_\_\_

## SGS AXYS METHOD MLA-010 Rev 12

Form 1A  
PCB CONGENER ANALYSIS REPORT

**CLIENT SAMPLE NO.**  
**PDI-WS-T06-1808**  
**Sample Collection:**  
**24-Aug-2018 16:32**

**SGS AXYS ANALYTICAL SERVICES**

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

<b>Contract No.:</b>	4972	<b>Project No.</b>	PORLTAND HARBOR PDI AND BASELINE WATER
<b>Matrix:</b>	FILTER	<b>Lab Sample I.D.:</b>	L29967-7 W
<b>Sample Receipt Date:</b>	29-Aug-2018	<b>Initial Calibration Date:</b>	07-Jul-2018
<b>Extraction Date:</b>	10-Oct-2018	<b>Instrument ID:</b>	HR GC/MS
<b>Analysis Date:</b>	31-Oct-2018 <b>Time:</b> 02:41:03	<b>GC Column ID:</b>	SPB OCTYL
<b>Extract Volume (uL):</b>	100	<b>Sample Data Filename:</b>	PB8C_374 S: 7
<b>Injection Volume (uL):</b>	1.0	<b>Blank Data Filename:</b>	PB8C_366 S: 4
<b>Dilution Factor:</b>	5	<b>Cal. Ver. Data Filename:</b>	PB8C_374 S: 1
<b>Concentration Units:</b>	pg/sample		

This page is part of a total report that contains information necessary for accreditation compliance.  
This test is not NELAP accredited. Sample results relate only to the sample tested.

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG <sup>1</sup>	CONC. FOUND	REPORTING LIMIT (RL) <sup>2</sup>	ION ABUND. RATIO	RRT
2-MoCB	1		K D J	42.1	15.1 (S)	4.73	1.003
3-MoCB	2		D J	56.3	23.2 (S)	3.04	0.989
4-MoCB	3		X				
2,2'-DiCB	4		X				
2,3-DiCB	5		X				
2,3'-DiCB	6		X				
2,4-DiCB	7		X				
2,4'-DiCB	8		X				
2,5-DiCB	9		X				
2,6-DiCB	10		X				
3,3'-DiCB	11		X				
3,4-DiCB	12	12 + 13	C X				
3,4'-DiCB	13	12 + 13	C12				
3,5-DiCB	14		X				
4,4'-DiCB	15		X				
2,2',3-TrICB	16		X				
2,2',4-TrICB	17		D	190	28.0 (S)	1.11	1.137
2,2',5-TrICB	18	18 + 30	C X				
2,2',6-TrICB	19		X				
2,3,3'-TrICB	20	20 + 28	C X				
2,3,4-TrICB	21	21 + 33	C X				
2,3,4'-TrICB	22		X				
2,3,5-TrICB	23		X				
2,3,6-TrICB	24		X				
2,3',4-TrICB	25		X				
2,3',5-TrICB	26	26 + 29	C X				
2,3',6-TrICB	27		X				
2,4,4'-TrICB	28	20 + 28	C20				
2,4,5-TrICB	29	26 + 29	C26				
2,4,6-TrICB	30	18 + 30	C18				
2,4',5-TrICB	31		X				
2,4',6-TrICB	32		K D J	92.3	28.7 (S)	0.74	1.196
2',3,4-TrICB	33	21 + 33	C21				
2',3,5-TrICB	34		X				
3,3',4-TrICB	35		X				
3,3',5-TrICB	36		X				
3,4,4'-TrICB	37		X				
3,4,5-TrICB	38		X				
3,4',5-TrICB	39		X				

This page is part of a total report that contains information necessary for accreditation compliance.  
 This test is not NELAP accredited. Sample results relate only to the sample tested.

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG <sup>1</sup>	CONC. FOUND	REPORTING LIMIT (RL) <sup>2</sup>	ION ABUND. RATIO	RRT
2,2',3,3'-TeCB	40	40 + 41 + 71	C X				
2,2',3,4'-TeCB	41	40 + 41 + 71	C40				
2,2',3,4'-TeCB	42		X				
2,2',3,5'-TeCB	43		X				
2,2',3,5'-TeCB	44	44 + 47 + 65	C X				
2,2',3,6'-TeCB	45	45 + 51	C X				
2,2',3,6'-TeCB	46		X				
2,2',4,4'-TeCB	47	44 + 47 + 65	C44				
2,2',4,5'-TeCB	48		X				
2,2',4,5'-TeCB	49	49 + 69	C X				
2,2',4,6'-TeCB	50	50 + 53	C X				
2,2',4,6'-TeCB	51	45 + 51	C45				
2,2',5,5'-TeCB	52		X				
2,2',5,6'-TeCB	53	50 + 53	C50				
2,2',6,6'-TeCB	54		X				
2,3,3',4'-TeCB	55		X				
2,3,3',4'-TeCB	56		X				
2,3,3',5'-TeCB	57		X				
2,3,3',5'-TeCB	58		X				
2,3,3',6'-TeCB	59	59 + 62 + 75	C X				
2,3,4,4'-TeCB	60		X				
2,3,4,5'-TeCB	61	61 + 70 + 74 + 76	C X				
2,3,4,6'-TeCB	62	59 + 62 + 75	C59				
2,3,4',5'-TeCB	63		X				
2,3,4',6'-TeCB	64		X				
2,3,5,6'-TeCB	65	44 + 47 + 65	C44				
2,3',4,4'-TeCB	66		D	350	25.5 (S)	0.76	0.884
2,3',4,5'-TeCB	67		X				
2,3',4,5'-TeCB	68		X				
2,3',4,6'-TeCB	69	49 + 69	C49				
2,3',4',5'-TeCB	70	61 + 70 + 74 + 76	C61				
2,3',4',6'-TeCB	71	40 + 41 + 71	C40				
2,3',5,5'-TeCB	72		X				
2,3',5',6'-TeCB	73		X				
2,4,4',5'-TeCB	74	61 + 70 + 74 + 76	C61				
2,4,4',6'-TeCB	75	59 + 62 + 75	C59				
2',3,4,5'-TeCB	76	61 + 70 + 74 + 76	C61				
3,3',4,4'-TeCB	77		X				
3,3',4,5'-TeCB	78		X				
3,3',4,5'-TeCB	79		X				
3,3',5,5'-TeCB	80		X				
3,4,4',5'-TeCB	81		X				
2,2',3,3',4'-PeCB	82		K D J	60.6	23.2 (S)	1.79	0.933
2,2',3,3',5'-PeCB	83	83 + 99	C K D	387	21.3 (S)	1.28	0.885
2,2',3,3',6'-PeCB	84		K D J	104	22.8 (S)	1.17	1.164
2,2',3,4,4'-PeCB	85	85 + 116 + 117	C K D J	123	17.3 (S)	2.41	0.920
2,2',3,4,5'-PeCB	86	86 + 87 + 97 + 108 + 119 + 125	C D	366	17.8 (S)	1.61	0.901
2,2',3,4,5'-PeCB	87	86 + 87 + 97 + 108 + 119 + 125	C86				
2,2',3,4,6'-PeCB	88	88 + 91	C K D J	67.8	20.1 (S)	1.81	1.155
2,2',3,4,6'-PeCB	89		U D		21.7 (S)		
2,2',3,4',5'-PeCB	90	90 + 101 + 113	C D	611	17.6 (S)	1.74	0.869
2,2',3,4',6'-PeCB	91	88 + 91	C88				
2,2',3,5,5'-PeCB	92		K D J	132	20.4 (S)	1.25	0.853
2,2',3,5,6'-PeCB	93	93 + 95 + 98 + 100 + 102	C K D	450	19.6 (S)	1.27	1.121
2,2',3,5,6'-PeCB	94		U D		22.1 (S)		
2,2',3,5',6'-PeCB	95	93 + 95 + 98 + 100 + 102	C93				
2,2',3,6,6'-PeCB	96		U D			10.5 (S)	
2,2',3',4,5'-PeCB	97	86 + 87 + 97 + 108 + 119 + 125	C86				
2,2',3',4,6'-PeCB	98	93 + 95 + 98 + 100 + 102	C93				
2,2',4,4',5'-PeCB	99	83 + 99	C83				

This page is part of a total report that contains information necessary for accreditation compliance.  
This test is not NELAP accredited. Sample results relate only to the sample tested.

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG <sup>1</sup>	CONC. FOUND	REPORTING LIMIT (RL) <sup>2</sup>	ION ABUND. RATIO	RRT
2,2',4,4',6-PeCB	100	93 + 95 + 98 + 100 + 102	C93				
2,2',4,5,5'-PeCB	101	90 + 101 + 113	C90				
2,2',4,5,6'-PeCB	102	93 + 95 + 98 + 100 + 102	C93				
2,2',4,5',6-PeCB	103		UD		17.8 (S)		
2,2',4,6,6'-PeCB	104		X				
2,3,3',4,4'-PeCB	105		KD	237	19.0 (S)	1.82	1.000
2,3,3',4,5-PeCB	106		UD		22.4 (S)		
2,3,3',4',5-PeCB	107	107 + 124	CUD		25.4 (S)		
2,3,3',4',5'-PeCB	108	86 + 87 + 97 + 108 + 119 + 125	C86				
2,3,3',4,6-PeCB	109		KDJ	85.3	24.2 (S)	1.87	0.997
2,3,3',4',6-PeCB	110	110 + 115	CKD	703	15.4 (S)	1.86	0.925
2,3,3',5,5'-PeCB	111		UD		15.5 (S)		
2,3,3',5,6-PeCB	112		UD		14.8 (S)		
2,3,3',5',6-PeCB	113	90 + 101 + 113	C90				
2,3,4,4',5-PeCB	114		X				
2,3,4,4',6-PeCB	115	110 + 115	C110				
2,3,4,5,6-PeCB	116	85 + 116 + 117	C85				
2,3,4',5,6-PeCB	117	85 + 116 + 117	C85				
2,3',4,4',5-PeCB	118		X				
2,3',4,4',6-PeCB	119	86 + 87 + 97 + 108 + 119 + 125	C86				
2,3',4,5,5'-PeCB	120		UD		14.5 (S)		
2,3',4,5',6-PeCB	121		UD		15.4 (S)		
2',3,3',4,5-PeCB	122		UD		27.2 (S)		
2',3,4,4',5-PeCB	123		X				
2',3,4,5,5'-PeCB	124	107 + 124	C107				
2',3,4,5,6'-PeCB	125	86 + 87 + 97 + 108 + 119 + 125	C86				
3,3',4,4',5-PeCB	126		X				
3,3',4,5,5'-PeCB	127		UD		26.0 (S)		
2,2',3,3',4,4'-HxCB	128	128 + 166	CD	284	14.4 (S)	1.26	0.959
2,2',3,3',4,5-HxCB	129	129 + 138 + 160 + 163	CX				
2,2',3,3',4,5'-HxCB	130		X				
2,2',3,3',4,6-HxCB	131		X				
2,2',3,3',4,6'-HxCB	132		X				
2,2',3,3',5,5'-HxCB	133		X				
2,2',3,3',5,6-HxCB	134	134 + 143	CX				
2,2',3,3',5,6'-HxCB	135	135 + 151 + 154	CX				
2,2',3,3',6,6'-HxCB	136		X				
2,2',3,4,4',5-HxCB	137		X				
2,2',3,4,4',5'-HxCB	138	129 + 138 + 160 + 163	C129				
2,2',3,4,4',6-HxCB	139	139 + 140	CX				
2,2',3,4,4',6'-HxCB	140	139 + 140	C139				
2,2',3,4,5,5'-HxCB	141		X				
2,2',3,4,5,6-HxCB	142		X				
2,2',3,4,5,6'-HxCB	143	134 + 143	C134				
2,2',3,4,5',6-HxCB	144		X				
2,2',3,4,6,6'-HxCB	145		X				
2,2',3,4',5,5'-HxCB	146		KD	269	14.6 (S)	1.46	0.883
2,2',3,4',5,6-HxCB	147	147 + 149	CX				
2,2',3,4',5,6'-HxCB	148		X				
2,2',3,4',5',6-HxCB	149	147 + 149	C147				
2,2',3,4',6,6'-HxCB	150		X				
2,2',3,5,5',6-HxCB	151	135 + 151 + 154	C135				
2,2',3,5,6,6'-HxCB	152		X				
2,2',4,4',5,5'-HxCB	153	153 + 168	CX				
2,2',4,4',5,6'-HxCB	154	135 + 151 + 154	C135				
2,2',4,4',6,6'-HxCB	155		X				
2,3,3',4,4',5-HxCB	156	156 + 157	CX				
2,3,3',4,4',5'-HxCB	157	156 + 157	C156				
2,3,3',4,4',6-HxCB	158		X				
2,3,3',4,5,5'-HxCB	159		X				
2,3,3',4,5,6-HxCB	160	129 + 138 + 160 + 163	C129				

This page is part of a total report that contains information necessary for accreditation compliance.  
 This test is not NELAP accredited. Sample results relate only to the sample tested.

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG <sup>1</sup>	CONC. FOUND	REPORTING LIMIT (RL) <sup>2</sup>	ION ABUND. RATIO	RRT
2,3,3',4,5',6-HxCB	161		X				
2,3,3',4',5,5'-HxCB	162		X				
2,3,3',4',5,6-HxCB	163	129 + 138 + 160 + 163	C129				
2,3,3',4',5',6-HxCB	164		X				
2,3,3',5,5',6-HxCB	165		X				
2,3,4,4',5,6-HxCB	166	128 + 166	C128				
2,3',4,4',5,5'-HxCB	167		X				
2,3',4,4',5',6-HxCB	168	153 + 168	C153				
3,3',4,4',5,5'-HxCB	169		X				
2,2',3,3',4,4',5-HpCB	170		X				
2,2',3,3',4,4',6-HpCB	171	171 + 173	C X				
2,2',3,3',4,5,5'-HpCB	172		X				
2,2',3,3',4,5,6-HpCB	173	171 + 173	C171				
2,2',3,3',4,5,6'-HpCB	174		X				
2,2',3,3',4,5',6-HpCB	175		X				
2,2',3,3',4,6,6'-HpCB	176		X				
2,2',3,3',4',5,6-HpCB	177		X				
2,2',3,3',5,5',6-HpCB	178		X				
2,2',3,3',5,6,6'-HpCB	179		X				
2,2',3,4,4',5,5'-HpCB	180	180 + 193	C X				
2,2',3,4,4',5,6-HpCB	181		X				
2,2',3,4,4',5,6'-HpCB	182		X				
2,2',3,4,4',5',6-HpCB	183	183 + 185	C X				
2,2',3,4,4',6,6'-HpCB	184		X				
2,2',3,4,5,5',6-HpCB	185	183 + 185	C183				
2,2',3,4,5,6,6'-HpCB	186		X				
2,2',3,4',5,5',6-HpCB	187		D	890	18.6 (S)	1.09	1.111
2,2',3,4',5,6,6'-HpCB	188		X				
2,3,3',4,4',5,5'-HpCB	189		X				
2,3,3',4,4',5,6-HpCB	190		X				
2,3,3',4,4',5',6-HpCB	191		X				
2,3,3',4,5,5',6-HpCB	192		X				
2,3,3',4',5,5',6-HpCB	193	180 + 193	C180				
2,2',3,3',4,4',5,5'-Occb	194		X				
2,2',3,3',4,4',5,6-Occb	195		X				
2,2',3,3',4,4',5,6'-Occb	196		X				
2,2',3,3',4,4',6,6'-Occb	197	197 + 200	C K D J	97.1	12.8 (S)	0.69	1.046
2,2',3,3',4,5,5',6-Occb	198	198 + 199	C X				
2,2',3,3',4,5,5',6'-Occb	199	198 + 199	C198				
2,2',3,3',4,5,6,6'-Occb	200	197 + 200	C197				
2,2',3,3',4,5',6,6'-Occb	201		X				
2,2',3,3',5,5',6,6'-Occb	202		X				
2,2',3,4,4',5,5',6-Occb	203		X				
2,2',3,4,4',5,6,6'-Occb	204		X				
2,3,3',4,4',5,5',6-Occb	205		X				
2,2',3,3',4,4',5,5',6-NoCB	206		X				
2,2',3,3',4,4',5,6,6'-NoCB	207		X				
2,2',3,3',4,5,5',6,6'-NoCB	208		X				
2,2',3,3',4,4',5,5',6,6'-DeCB	209		X				

(1) Where applicable, custom lab flags have been used on this report; U = not detected at RL; K = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration; D = dilution data; J = concentration less than lowest calibration equivalent; C = co-eluting congener; X = result reported separately.

(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = minimum reporting level.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_ Jason MacKenzie \_\_\_\_\_

For Axys Internal Use Only [ XSL Template: Form16681A.xsl; Created: 16-Nov-2018 10:17:08; Application: XMLTransformer-1.16.51;  
 Report Filename: 1668\_PCB1668\_PCBTF\_L29967-7\_Form1A\_PB8C\_374S7\_SJ2457648.html; Workgroup: WG65583; Design ID: 3360 ]

## SGS AXYS METHOD MLA-010 Rev 12

Form 2  
PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.

PDI-WS-T06-1808

Sample Collection:

24-Aug-2018 16:32

## SGS AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

**Contract No.:** 4972  
**Matrix:** FILTER  
**Sample Receipt Date:** 29-Aug-2018  
**Extraction Date:** 10-Oct-2018  
**Analysis Date:** 31-Oct-2018 **Time:** 02:41:03  
**Extract Volume (uL):** 100  
**Injection Volume (uL):** 1.0  
**Dilution Factor:** 5  
**Concentration Units:** pg absolute

## Project No.

**Lab Sample I.D.:** L29967-7 W  
**Sample Size:** 0.2 sample  
**Initial Calibration Date:** 07-Jul-2018  
**Instrument ID:** HR GC/MS  
**GC Column ID:** SPB OCTYL  
**Sample Data Filename:** PB8C\_374 S: 7  
**Blank Data Filename:** PB8C\_366 S: 4  
**Cal. Ver. Data Filename:** PB8C\_374 S: 1

PORTLAND HARBOR PDI AND  
BASELINE WATER

This page is part of a total report that contains information necessary for accreditation compliance.  
This test is not NELAP accredited. Sample results relate only to the sample tested.

LABELED COMPOUND	IUPAC NO. <sup>1</sup>	CO-ELUTIONS	LAB FLAG <sup>2</sup>	SPIKE CONC.	CONC. FOUND	R(%) <sup>3</sup>	ION ABUND. RATIO	RRT
13C12-2-MoCB	1L		D	4000	2020	50.4	3.21	0.717
13C12-4-MoCB	3L		D	4000	1830	45.6	3.39	0.858
13C12-2,2'-DiCB	4L		X					
13C12-4,4'-DiCB	15L		X					
13C12-2,2',6-TriCB	19L		D	4000	2900	72.4	1.02	1.072
13C12-3,4,4'-TriCB	37L		D	4000	1780	44.5	1.03	1.092
13C12-2,2',6,6'-TeCB	54L		D	4000	2900	72.5	0.79	0.811
13C12-3,3',4,4'-TeCB	77L		D	4000	2610	65.2	0.73	1.397
13C12-3,4,4',5-TeCB	81L		D	4000	2600	65.0	0.77	1.374
13C12-2,2',4,6,6'-PeCB	104L		D	4000	2940	73.5	1.56	0.808
13C12-2,3,3',4,4'-PeCB	105L		D	4000	3660	91.5	1.54	1.201
13C12-2,3,4,4',5-PeCB	114L		D	4000	3130	78.2	1.49	1.179
13C12-2,3',4,4',5-PeCB	118L		D	4000	3540	88.5	1.54	1.162
13C12-2',3,4,4',5-PeCB	123L		D	4000	3900	97.6	1.50	1.151
13C12-3,3',4,4',5-PeCB	126L		D	4000	3030	75.6	1.54	1.302
13C12-2,2',4,4',6,6'-HxCB	155L		D	4000	2420	60.4	1.21	0.785
13C12-2,3,3',4,4',5-HxCB	156L	156L + 157L	C D	8000	7190	89.8	1.26	1.108
13C12-2,3,3',4,4',5-HxCB	157L	156L + 157L	C156L					
13C12-2,3',4,4',5,5'-HxCB	167L		D	4000	3380	84.5	1.29	1.078
13C12-3,3',4,4',5,5'-HxCB	169L		D	4000	3860	96.4	1.21	1.192
13C12-2,2',3,3',4,4',5-HpCB	170L		D	4000	3550	88.8	1.05	0.897
13C12-2,2',3,4,4',5,5'-HpCB	180L		D	4000	3330	83.1	1.04	0.872
13C12-2,2',3,4',5,6,6'-HpCB	188L		D	4000	3190	79.8	1.01	0.712
13C12-2,3,3',4,4',5,5'-HpCB	189L		D	4000	2660	66.5	1.03	0.959
13C12-2,2',3,3',5,5',6,6'-OcCB	202L		D	4000	2410	60.2	0.86	0.817
13C12-2,3,3',4,4',5,5',6-OcCB	205L		D	4000	3620	90.5	0.90	1.009
13C12-2,2',3,3',4,4',5,5',6-NoCB	206L		X					
13C12-2,2',3,3',4,5,5',6,6'-NoCB	208L		X					
13C12-2,2',3,3',4,4',5,5',6,6'-DeCB	209L		X					

## CLEANUP STANDARD

13C12-2,4,4'-TriCB	28L	X
13C12-2,3,3',5,5'-PeCB	111L	X
13C12-2,2',3,3',5,5'-HpCB	178L	X

(1) Suffix "L" indicates labeled compound.

(2) Where applicable, custom lab flags have been used on this report; D = dilution data; C = co-eluting congener; X = result reported separately.

(3) R% = percent recovery of labeled compounds.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_ Jason MacKenzie \_\_\_\_\_

## SGS AXYS METHOD MLA-010 Rev 12

**Form 1A**  
**PCB CONGENER ANALYSIS REPORT**

**CLIENT SAMPLE NO.**  
Lab Blank  
Sample Collection:  
N/A

**SGS AXYS ANALYTICAL SERVICES**  
2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

**Contract No.:** 4972

**Matrix:** FILTER

**Sample Receipt Date:** N/A

**Extraction Date:** 10-Oct-2018

**Analysis Date:** 24-Oct-2018 **Time:** 22:47:34

**Extract Volume (uL):** 20

**Injection Volume (uL):** 1.0

**Dilution Factor:** N/A

**Concentration Units:** pg/sample

**Project No.** N/A

**Lab Sample I.D.:** WG65583-101

**Sample Size:** 0.2 sample

**Initial Calibration Date:** 07-Jul-2018

**Instrument ID:** HR GC/MS

**GC Column ID:** SPB OCTYL

**Sample Data Filename:** PB8C\_366 S: 4

**Blank Data Filename:** PB8C\_366 S: 4

**Cal. Ver. Data Filename:** PB8C\_366 S: 1

This page is part of a total report that contains information necessary for accreditation compliance.  
This test is not NELAP accredited. Sample results relate only to the sample tested.

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG <sup>1</sup>	CONC. FOUND	REPORTING LIMIT (RL) <sup>2</sup>	ION ABUND. RATIO	RRT
2-MoCB	1		X				
3-MoCB	2		X				
4-MoCB	3		X				
2,2'-DiCB	4		X				
2,3-DiCB	5		X				
2,3'-DiCB	6		X				
2,4-DiCB	7		X				
2,4'-DiCB	8		X				
2,5-DiCB	9		X				
2,6-DiCB	10		X				
3,3'-DiCB	11		X				
3,4-DiCB	12	12 + 13	C X				
3,4'-DiCB	13	12 + 13	C12				
3,5-DiCB	14		X				
4,4'-DiCB	15		X				
2,2',3-TriCB	16			84.5	4.28 (Q)	1.14	1.160
2,2',4-TriCB	17			113	4.28 (Q)	1.01	1.133
2,2',5-TriCB	18	18 + 30	C	198	4.28 (Q)	0.97	1.109
2,2',6-TriCB	19		J	32.3	4.28 (Q)	1.19	1.001
2,3,3'-TriCB	20	20 + 28	C	165	4.28 (Q)	0.97	0.849
2,3,4-TriCB	21	21 + 33	C	91.3	4.28 (Q)	0.92	0.857
2,3,4'-TriCB	22			52.4	4.28 (Q)	1.14	0.872
2,3,5-TriCB	23		K J	10.2	4.28 (Q)	0.83	1.274
2,3,6-TriCB	24		U		4.28 (Q)		
2,3',4-TriCB	25			89.4	4.28 (Q)	0.99	0.826
2,3',5-TriCB	26	26 + 29	C J	28.6	4.28 (Q)	0.89	1.292
2,3',6-TriCB	27		J	13.3	4.28 (Q)	0.98	1.147
2,4,4'-TriCB	28	20 + 28	C20				
2,4,5-TriCB	29	26 + 29	C26				
2,4,6-TriCB	30	18 + 30	C18				
2,4',5-TriCB	31			123	4.28 (Q)	0.97	0.838
2,4',6-TriCB	32		X				
2',3,4-TriCB	33	21 + 33	C21				
2',3,5-TriCB	34		J	9.90	4.28 (Q)	1.08	1.265
3,3',4-TriCB	35		J	8.74	4.28 (Q)	0.92	0.985
3,3',5-TriCB	36		U		4.28 (Q)		
3,4,4'-TriCB	37		J	21.9	4.28 (Q)	1.12	1.001
3,4,5-TriCB	38		U		4.28 (Q)		
3,4',5-TriCB	39		U		4.28 (Q)		

This page is part of a total report that contains information necessary for accreditation compliance.  
 This test is not NELAP accredited. Sample results relate only to the sample tested.

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG <sup>1</sup>	CONC. FOUND	REPORTING LIMIT (RL) <sup>2</sup>	ION ABUND. RATIO	RRT
2,2',3,3'-TeCB	40	40 + 41 + 71	C	37.4	4.28 (Q)	0.82	1.331
2,2',3,4'-TeCB	41	40 + 41 + 71	C40				
2,2',3,4'-TeCB	42		K J	21.7	4.28 (Q)	1.09	1.307
2,2',3,5'-TeCB	43		K J	5.05	4.28 (Q)	1.21	1.241
2,2',3,5'-TeCB	44	44 + 47 + 65	C	1010	4.28 (Q)	0.77	1.282
2,2',3,6'-TeCB	45	45 + 51	C	233	4.28 (Q)	0.78	1.146
2,2',3,6'-TeCB	46		J	8.64	4.28 (Q)	0.75	1.158
2,2',4,4'-TeCB	47	44 + 47 + 65	C44				
2,2',4,5'-TeCB	48		K J	16.1	4.28 (Q)	0.94	1.268
2,2',4,5'-TeCB	49	49 + 69	C	58.8	4.28 (Q)	0.82	1.255
2,2',4,6'-TeCB	50	50 + 53	C J	16.4	4.28 (Q)	0.83	1.109
2,2',4,6'-TeCB	51	45 + 51	C45				
2,2',5,5'-TeCB	52			108	4.28 (Q)	0.86	1.230
2,2',5,6'-TeCB	53	50 + 53	C50				
2,2',6,6'-TeCB	54		J	10.9	4.28 (Q)	0.66	1.001
2,3,3',4-TeCB	55		U		4.28 (Q)		
2,3,3',4'-TeCB	56		J	16.9	4.28 (Q)	0.76	0.905
2,3,3',5-TeCB	57		U		4.28 (Q)		
2,3,3',5'-TeCB	58		U		4.28 (Q)		
2,3,3',6-TeCB	59	59 + 62 + 75	C K J	9.20	4.28 (Q)	1.02	1.296
2,3,4,4'-TeCB	60		K J	10.2	4.28 (Q)	0.65	0.911
2,3,4,5-TeCB	61	61 + 70 + 74 + 76	C	57.2	4.28 (Q)	0.74	0.875
2,3,4,6-TeCB	62	59 + 62 + 75	C59				
2,3,4',5-TeCB	63		U		4.28 (Q)		
2,3,4',6-TeCB	64		K J	26.5	4.28 (Q)	0.92	1.344
2,3,5,6-TeCB	65	44 + 47 + 65	C44				
2,3',4,4'-TeCB	66		X				
2,3',4,5-TeCB	67		U		4.28 (Q)		
2,3',4,5'-TeCB	68			85.1	4.28 (Q)	0.79	0.831
2,3',4,6-TeCB	69	49 + 69	C49				
2,3',4',5-TeCB	70	61 + 70 + 74 + 76	C61				
2,3',4',6-TeCB	71	40 + 41 + 71	C40				
2,3',5,5'-TeCB	72		U		4.28 (Q)		
2,3',5',6-TeCB	73		U		4.28 (Q)		
2,4,4',5-TeCB	74	61 + 70 + 74 + 76	C61				
2,4,4',6-TeCB	75	59 + 62 + 75	C59				
2',3,4,5-TeCB	76	61 + 70 + 74 + 76	C61				
3,3',4,4'-TeCB	77		K J	8.61	4.28 (Q)	0.98	1.000
3,3',4,5-TeCB	78		U		4.28 (Q)		
3,3',4,5'-TeCB	79		U		4.28 (Q)		
3,3',5,5'-TeCB	80		U		4.28 (Q)		
3,4,4',5-TeCB	81		K J	4.80	4.28 (Q)	0.97	1.000
2,2',3,3',4-PeCB	82		X				
2,2',3,3',5-PeCB	83	83 + 99	C X				
2,2',3,3',6-PeCB	84		X				
2,2',3,4,4'-PeCB	85	85 + 116 + 117	C X				
2,2',3,4,5-PeCB	86	86 + 87 + 97 + 108 + 119 + 125	C X				
2,2',3,4,5'-PeCB	87	86 + 87 + 97 + 108 + 119 + 125	C86				
2,2',3,4,6-PeCB	88	88 + 91	C X				
2,2',3,4,6'-PeCB	89		X				
2,2',3,4',5-PeCB	90	90 + 101 + 113	C X				
2,2',3,4',6-PeCB	91	88 + 91	C88				
2,2',3,5,5'-PeCB	92		X				
2,2',3,5,6-PeCB	93	93 + 95 + 98 + 100 + 102	C X				
2,2',3,5,6'-PeCB	94		X				
2,2',3,5,6-PeCB	95	93 + 95 + 98 + 100 + 102	C93				
2,2',3,6,6'-PeCB	96		X				
2,2',3',4,5-PeCB	97	86 + 87 + 97 + 108 + 119 + 125	C86				
2,2',3',4,6-PeCB	98	93 + 95 + 98 + 100 + 102	C93				
2,2',4,4',5-PeCB	99	83 + 99	C83				

This page is part of a total report that contains information necessary for accreditation compliance.  
 This test is not NELAP accredited. Sample results relate only to the sample tested.

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG <sup>1</sup>	CONC. FOUND	REPORTING LIMIT (RL) <sup>2</sup>	ION ABUND. RATIO	RRT
2,2',4,4',6-PeCB	100	93 + 95 + 98 + 100 + 102	C93				
2,2',4,5,5'-PeCB	101	90 + 101 + 113	C90				
2,2',4,5,6'-PeCB	102	93 + 95 + 98 + 100 + 102	C93				
2,2',4,5',6-PeCB	103		X				
2,2',4,6,6'-PeCB	104		K J	6.03	4.28 (Q)	1.31	1.001
2,3,3',4,4'-PeCB	105		X				
2,3,3',4,5-PeCB	106		X				
2,3,3',4',5-PeCB	107	107 + 124	C X				
2,3,3',4,5'-PeCB	108	86 + 87 + 97 + 108 + 119 + 125	C86				
2,3,3',4,6-PeCB	109		X				
2,3,3',4',6-PeCB	110	110 + 115	C X				
2,3,3',5,5'-PeCB	111		X				
2,3,3',5,6-PeCB	112		X				
2,3,3',5',6-PeCB	113	90 + 101 + 113	C90				
2,3,4,4',5-PeCB	114		U		4.28 (Q)		
2,3,4,4',6-PeCB	115	110 + 115	C110				
2,3,4,5,6-PeCB	116	85 + 116 + 117	C85				
2,3,4',5,6-PeCB	117	85 + 116 + 117	C85				
2,3',4,4',5-PeCB	118			35.3	4.28 (Q)	1.53	1.000
2,3',4,4',6-PeCB	119	86 + 87 + 97 + 108 + 119 + 125	C86				
2,3',4,5,5'-PeCB	120		X				
2,3',4,5',6-PeCB	121		X				
2',3,3',4,5-PeCB	122		X				
2',3,4,4',5-PeCB	123		U		4.28 (Q)		
2',3,4,5,5'-PeCB	124	107 + 124	C107				
2',3,4,5,6'-PeCB	125	86 + 87 + 97 + 108 + 119 + 125	C86				
3,3',4,4',5-PeCB	126		U		4.28 (Q)		
3,3',4,5,5'-PeCB	127		X				
2,2',3,3',4,4'-HxCB	128	128 + 166	C X				
2,2',3,3',4,5-HxCB	129	129 + 138 + 160 + 163	C K	38.9	4.28 (Q)	1.55	0.929
2,2',3,3',4,5'-HxCB	130		U		4.28 (Q)		
2,2',3,3',4,6-HxCB	131		U		4.28 (Q)		
2,2',3,3',4,6'-HxCB	132		J	16.5	4.28 (Q)	1.09	1.175
2,2',3,3',5,5'-HxCB	133		U		4.28 (Q)		
2,2',3,3',5,6-HxCB	134	134 + 143	C U		4.28 (Q)		
2,2',3,3',5,6'-HxCB	135	135 + 151 + 154	C J	15.2	4.28 (Q)	1.24	1.105
2,2',3,3',6,6'-HxCB	136		K J	5.90	4.28 (Q)	2.37	1.026
2,2',3,4,4',5-HxCB	137		U		4.28 (Q)		
2,2',3,4,4',5'-HxCB	138	129 + 138 + 160 + 163	C129				
2,2',3,4,4',6-HxCB	139	139 + 140	C U		4.28 (Q)		
2,2',3,4,4',6'-HxCB	140	139 + 140	C139				
2,2',3,4,5,5'-HxCB	141		K J	8.11	4.28 (Q)	1.76	0.904
2,2',3,4,5,6-HxCB	142		U		4.28 (Q)		
2,2',3,4,5,6'-HxCB	143	134 + 143	C134				
2,2',3,4,5',6-HxCB	144		U		4.28 (Q)		
2,2',3,4,6,6'-HxCB	145		U		4.28 (Q)		
2,2',3,4',5,5'-HxCB	146		X				
2,2',3,4',5,6-HxCB	147	147 + 149	C J	27.2	4.28 (Q)	1.38	1.134
2,2',3,4',5,6'-HxCB	148		U		4.28 (Q)		
2,2',3,4',5',6-HxCB	149	147 + 149	C147				
2,2',3,4',6,6'-HxCB	150		U		4.28 (Q)		
2,2',3,5,5',6-HxCB	151	135 + 151 + 154	C135				
2,2',3,5,6,6'-HxCB	152		U		4.28 (Q)		
2,2',4,4',5,5'-HxCB	153	153 + 168	C J	32.3	4.28 (Q)	1.06	0.898
2,2',4,4',5,6'-HxCB	154	135 + 151 + 154	C135				
2,2',4,4',6,6'-HxCB	155		K J	4.63	4.28 (Q)	0.67	1.001
2,3,3',4,4',5-HxCB	156	156 + 157	C K J	7.29	4.28 (Q)	0.67	1.000
2,3,3',4,4',5'-HxCB	157	156 + 157	C156				
2,3,3',4,4',6-HxCB	158		U		4.28 (Q)		
2,3,3',4,5,5'-HxCB	159		U		4.28 (Q)		
2,3,3',4,5,6-HxCB	160	129 + 138 + 160 + 163	C129				

This page is part of a total report that contains information necessary for accreditation compliance.  
This test is not NELAP accredited. Sample results relate only to the sample tested.

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG <sup>1</sup>	CONC. FOUND	REPORTING LIMIT (RL) <sup>2</sup>	ION ABUND. RATIO	RRT
2,3,3',4,5',6-HxCB	161		U		4.28 (Q)		
2,3,3',4',5,5'-HxCB	162		U		4.28 (Q)		
2,3,3',4',5,6-HxCB	163	129 + 138 + 160 + 163	C129				
2,3,3',4',5',6-HxCB	164		U		4.28 (Q)		
2,3,3',5,5',6-HxCB	165		U		4.28 (Q)		
2,3,4,4',5,6-HxCB	166	128 + 166	C128				
2,3',4,4',5,5'-HxCB	167		U		4.28 (Q)		
2,3',4,4',5',6-HxCB	168	153 + 168	C153				
3,3',4,4',5,5'-HxCB	169		U		4.28 (Q)		
2,2',3,3',4,4',5-HpCB	170		K J	5.61	4.28 (Q)	1.99	1.001
2,2',3,3',4,4',6-HpCB	171	171 + 173	C U		4.28 (Q)		
2,2',3,3',4,5,5'-HpCB	172		U		4.28 (Q)		
2,2',3,3',4,5,6-HpCB	173	171 + 173	C171				
2,2',3,3',4,5,6'-HpCB	174		U		4.28 (Q)		
2,2',3,3',4,5',6-HpCB	175		U		4.28 (Q)		
2,2',3,3',4,6,6'-HpCB	176		U		4.28 (Q)		
2,2',3,3',4',5,6-HpCB	177		U		4.28 (Q)		
2,2',3,3',5,5',6-HpCB	178		U		4.28 (Q)		
2,2',3,3',5,6,6'-HpCB	179		U		4.28 (Q)		
2,2',3,4,4',5,5'-HpCB	180	180 + 193	C J	20.0	4.28 (Q)	1.02	1.000
2,2',3,4,4',5,6-HpCB	181		U		4.28 (Q)		
2,2',3,4,4',5,6'-HpCB	182		U		4.28 (Q)		
2,2',3,4,4',5',6-HpCB	183	183 + 185	C K J	7.23	4.28 (Q)	0.68	1.127
2,2',3,4,4',6,6'-HpCB	184		U		4.28 (Q)		
2,2',3,4,5,5',6-HpCB	185	183 + 185	C183				
2,2',3,4,5,6,6'-HpCB	186		U		4.28 (Q)		
2,2',3,4',5,5',6-HpCB	187		X				
2,2',3,4',5,6,6'-HpCB	188		U		4.28 (Q)		
2,3,3',4,4',5,5'-HpCB	189		U		4.28 (Q)		
2,3,3',4,4',5,6-HpCB	190		U		4.28 (Q)		
2,3,3',4,4',5',6-HpCB	191		U		4.28 (Q)		
2,3,3',4,5,5',6-HpCB	192		U		4.28 (Q)		
2,3,3',4',5,5',6-HpCB	193	180 + 193	C180				
2,2',3,3',4,4',5,5'-OcCB	194		K J	4.46	4.28 (Q)	0.53	0.991
2,2',3,3',4,4',5,6-OcCB	195		U		4.28 (Q)		
2,2',3,3',4,4',5,6'-OcCB	196		U		4.28 (Q)		
2,2',3,3',4,4',6,6'-OcCB	197	197 + 200	C X				
2,2',3,3',4,5,5',6-OcCB	198	198 + 199	C K J	6.19	4.28 (Q)	2.14	1.115
2,2',3,3',4,5,5',6'-OcCB	199	198 + 199	C198				
2,2',3,3',4,5,6,6'-OcCB	200	197 + 200	C197				
2,2',3,3',4,5',6,6'-OcCB	201		U		4.28 (Q)		
2,2',3,3',5,5',6,6'-OcCB	202		U		4.28 (Q)		
2,2',3,4,4',5,5',6-OcCB	203		U		4.28 (Q)		
2,2',3,4,4',5,6,6'-OcCB	204		U		4.28 (Q)		
2,3,3',4,4',5,5',6-OcCB	205		U		4.28 (Q)		
2,2',3,3',4,4',5,5',6-NoCB	206		K J	4.53	4.28 (Q)	0.95	1.000
2,2',3,3',4,4',5,6,6'-NoCB	207		U		4.28 (Q)		
2,2',3,3',4,5,5',6,6'-NoCB	208		U		4.28 (Q)		
2,2',3,3',4,4',5,5',6,6'-DeCB	209		J	13.4	4.28 (Q)	1.24	1.001

(1) Where applicable, custom lab flags have been used on this report; U = not detected at RL; K = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration; J = concentration less than lowest calibration equivalent; C = co-eluting congener; X = result reported separately.

(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = minimum reporting level.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_ Jason MacKenzie \_\_\_\_\_

## SGS AXYS METHOD MLA-010 Rev 12

Form 2  
PCB CONGENER ANALYSIS REPORT

## CLIENT SAMPLE NO.

Lab Blank

Sample Collection:

N/A

**SGS AXYS ANALYTICAL SERVICES**2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811**Contract No.:** 4972**Matrix:** FILTER**Sample Receipt Date:** N/A**Extraction Date:** 10-Oct-2018**Analysis Date:** 24-Oct-2018 **Time:** 22:47:34**Extract Volume (uL):** 20**Injection Volume (uL):** 1.0**Dilution Factor:** N/A**Concentration Units:** pg absolute**Project No.** N/A**Lab Sample I.D.:** WG65583-101**Sample Size:** 0.2 sample**Initial Calibration Date:** 07-Jul-2018**Instrument ID:** HR GC/MS**GC Column ID:** SPB OCTYL**Sample Data Filename:** PB8C\_366 S: 4**Blank Data Filename:** PB8C\_366 S: 4**Cal. Ver. Data Filename:** PB8C\_366 S: 1

This page is part of a total report that contains information necessary for accreditation compliance.  
This test is not NELAP accredited. Sample results relate only to the sample tested.

LABELED COMPOUND	IUPAC NO. <sup>1</sup>	CO-ELUTIONS	LAB FLAG <sup>2</sup>	SPIKE CONC.	CONC. FOUND	R(%) <sup>3</sup>	ION ABUND. RATIO	RRT
13C12-2-MoCB	1L		X					
13C12-4-MoCB	3L		X					
13C12-2,2'-DiCB	4L		X					
13C12-4,4'-DiCB	15L		X					
13C12-2,2',6-TriCB	19L			4000	2820	70.4	1.09	1.069
13C12-3,4,4'-TriCB	37L			4000	2170	54.3	1.03	1.091
13C12-2,2',6,6'-TeCB	54L			4000	2800	70.0	0.78	0.814
13C12-3,3',4,4'-TeCB	77L			4000	3230	80.8	0.76	1.395
13C12-3,4,4',5-TeCB	81L			4000	3310	82.8	0.76	1.372
13C12-2,2',4,6,6'-PeCB	104L			4000	2440	61.1	1.65	0.809
13C12-2,3,3',4,4'-PeCB	105L		X					
13C12-2,3,4,4',5-PeCB	114L			4000	2910	72.8	1.58	1.179
13C12-2,3',4,4',5-PeCB	118L			4000	2960	73.9	1.53	1.162
13C12-2,3,4,4',5-PeCB	123L			4000	2990	74.6	1.57	1.151
13C12-3,3',4,4',5-PeCB	126L			4000	2840	70.9	1.56	1.301
13C12-2,2',4,4',6,6'-HxCB	155L			4000	2380	59.4	1.29	0.785
13C12-2,3,3',4,4',5-HxCB	156L	156L + 157L	C	8000	6250	78.1	1.26	1.108
13C12-2,3,3',4,4',5-HxCB	157L	156L + 157L	C156L					
13C12-2,3',4,4',5,5'-HxCB	167L			4000	3110	77.8	1.25	1.078
13C12-3,3',4,4',5,5'-HxCB	169L			4000	3030	75.7	1.26	1.192
13C12-2,2',3,3',4,4',5-HpCB	170L			4000	3770	94.4	1.08	0.897
13C12-2,2',3,4,4',5,5'-HpCB	180L			4000	3540	88.5	1.07	0.872
13C12-2,2',3,4',5,6,6'-HpCB	188L			4000	3000	74.9	1.06	0.712
13C12-2,3,3',4,4',5,5'-HpCB	189L			4000	2960	74.0	1.03	0.959
13C12-2,2',3,3',5,5',6,6'-OcCB	202L			4000	2320	58.0	0.91	0.817
13C12-2,3,3',4,4',5,5',6-OcCB	205L			4000	3360	84.0	0.88	1.009
13C12-2,2',3,3',4,4',5,5',6-NoCB	206L			4000	3050	76.2	0.77	1.043
13C12-2,2',3,3',4,4',5,5',6-NoCB	208L			4000	3380	84.6	0.78	0.949
13C12-2,2',3,3',4,4',5,5',6,6'-DeCB	209L			4000	2560	64.1	1.15	1.074
<b>CLEANUP STANDARD</b>								
13C12-2,4,4'-TriCB	28L			4000	2640	66.1	1.02	0.925
13C12-2,3,3',5,5'-PeCB	111L			4000	3050	76.3	1.56	1.087
13C12-2,2',3,3',5,5',6-HpCB	178L			4000	2950	73.9	1.04	1.012

(1) Suffix "L" indicates labeled compound.

(2) Where applicable, custom lab flags have been used on this report; C = co-eluting congener; X = result reported separately.

(3) R% = percent recovery of labeled compounds.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_ Jason MacKenzie \_\_\_\_\_

## SGS AXYS METHOD MLA-010 Rev 12

**Form 1A**  
**PCB CONGENER ANALYSIS REPORT**

**CLIENT SAMPLE NO.**  
Lab Blank  
Sample Collection:  
N/A

**SGS AXYS ANALYTICAL SERVICES**  
2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

**Contract No.:** 4972

**Matrix:** FILTER

**Sample Receipt Date:** N/A

**Extraction Date:** 10-Oct-2018

**Analysis Date:** 31-Oct-2018 **Time:** 00:33:45

**Extract Volume (uL):** 100

**Injection Volume (uL):** 1.0

**Dilution Factor:** 5

**Concentration Units:** pg/sample

**Project No.** N/A

**Lab Sample I.D.:** WG65583-101 W

**Sample Size:** 0.2 sample

**Initial Calibration Date:** 07-Jul-2018

**Instrument ID:** HR GC/MS

**GC Column ID:** SPB OCTYL

**Sample Data Filename:** PB8C\_374 S: 5

**Blank Data Filename:** PB8C\_366 S: 4

**Cal. Ver. Data Filename:** PB8C\_374 S: 1

This page is part of a total report that contains information necessary for accreditation compliance.  
This test is not NELAP accredited. Sample results relate only to the sample tested.

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG <sup>1</sup>	CONC. FOUND	REPORTING LIMIT (RL) <sup>2</sup>	ION ABUND. RATIO	RRT
2-MoCB	1		UD		21.7 (S)		
3-MoCB	2		KDJ	41.3	24.1 (S)	4.54	0.988
4-MoCB	3		KDJ	64.0	14.5 (S)	12.3	0.999
2,2'-DiCB	4		UD		190 (S)		
2,3-DiCB	5		UD		261 (S)		
2,3'-DiCB	6		UD		234 (S)		
2,4-DiCB	7		UD		239 (S)		
2,4'-DiCB	8		UD		209 (S)		
2,5-DiCB	9		UD		227 (S)		
2,6-DiCB	10		UD		233 (S)		
3,3'-DiCB	11		KD	408	240 (S)	3.07	0.968
3,4-DiCB	12	12 + 13	CUD		241 (S)		
3,4'-DiCB	13	12 + 13	C12				
3,5-DiCB	14		UD		234 (S)		
4,4'-DiCB	15		UD		259 (S)		
2,2',3-TriCB	16		X				
2,2',4-TriCB	17		X				
2,2',5-TriCB	18	18 + 30	CX				
2,2',6-TriCB	19		X				
2,3,3'-TriCB	20	20 + 28	CX				
2,3,4-TriCB	21	21 + 33	CX				
2,3,4'-TriCB	22		X				
2,3,5-TriCB	23		X				
2,3,6-TriCB	24		X				
2,3',4-TriCB	25		X				
2,3',5-TriCB	26	26 + 29	CX				
2,3',6-TriCB	27		X				
2,4,4'-TriCB	28	20 + 28	C20				
2,4,5-TriCB	29	26 + 29	C26				
2,4,6-TriCB	30	18 + 30	C18				
2,4',5-TriCB	31		X				
2,4',6-TriCB	32		KDJ	54.1	20.2 (S)	1.60	1.196
2',3,4-TriCB	33	21 + 33	C21				
2',3,5-TriCB	34		X				
3,3',4-TriCB	35		X				
3,3',5-TriCB	36		X				
3,4,4'-TriCB	37		X				
3,4,5-TriCB	38		X				
3,4',5-TriCB	39		X				

This page is part of a total report that contains information necessary for accreditation compliance.  
 This test is not NELAP accredited. Sample results relate only to the sample tested.

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG <sup>1</sup>	CONC. FOUND	REPORTING LIMIT (RL) <sup>2</sup>	ION ABUND. RATIO	RRT
2,2',3,3'-TeCB	40	40 + 41 + 71	C X				
2,2',3,4-TeCB	41	40 + 41 + 71	C40				
2,2',3,4'-TeCB	42		X				
2,2',3,5-TeCB	43		X				
2,2',3,5'-TeCB	44	44 + 47 + 65	C X				
2,2',3,6-TeCB	45	45 + 51	C X				
2,2',3,6'-TeCB	46		X				
2,2',4,4'-TeCB	47	44 + 47 + 65	C44				
2,2',4,5-TeCB	48		X				
2,2',4,5'-TeCB	49	49 + 69	C X				
2,2',4,6-TeCB	50	50 + 53	C X				
2,2',4,6'-TeCB	51	45 + 51	C45				
2,2',5,5'-TeCB	52		X				
2,2',5,6'-TeCB	53	50 + 53	C50				
2,2',6,6'-TeCB	54		X				
2,3,3',4-TeCB	55		X				
2,3,3',4'-TeCB	56		X				
2,3,3',5-TeCB	57		X				
2,3,3',5'-TeCB	58		X				
2,3,3',6-TeCB	59	59 + 62 + 75	C X				
2,3,4,4'-TeCB	60		X				
2,3,4,5-TeCB	61	61 + 70 + 74 + 76	C X				
2,3,4,6-TeCB	62	59 + 62 + 75	C59				
2,3,4',5-TeCB	63		X				
2,3,4',6-TeCB	64		X				
2,3,5,6-TeCB	65	44 + 47 + 65	C44				
2,3',4,4'-TeCB	66		K D J	34.6	18.4 (S)	0.90	0.884
2,3',4,5-TeCB	67		X				
2,3',4,5'-TeCB	68		X				
2,3',4,6-TeCB	69	49 + 69	C49				
2,3',4',5-TeCB	70	61 + 70 + 74 + 76	C61				
2,3',4',6-TeCB	71	40 + 41 + 71	C40				
2,3',5,5'-TeCB	72		X				
2,3',5',6-TeCB	73		X				
2,4,4',5-TeCB	74	61 + 70 + 74 + 76	C61				
2,4,4',6-TeCB	75	59 + 62 + 75	C59				
2',3,4,5-TeCB	76	61 + 70 + 74 + 76	C61				
3,3',4,4'-TeCB	77		X				
3,3',4,5-TeCB	78		X				
3,3',4,5'-TeCB	79		X				
3,3',5,5'-TeCB	80		X				
3,4,4',5-TeCB	81		X				
2,2',3,3',4-PeCB	82		U D		13.8 (S)		
2,2',3,3',5-PeCB	83	83 + 99	C K D J	29.3	12.7 (S)	1.30	0.886
2,2',3,3',6-PeCB	84		U D		13.6 (S)		
2,2',3,4,4'-PeCB	85	85 + 116 + 117	C U D		10.3 (S)		
2,2',3,4,5-PeCB	86	86 + 87 + 97 + 108 + 119 + 125	C K D J	47.8	10.6 (S)	0.59	0.903
2,2',3,4,5'-PeCB	87	86 + 87 + 97 + 108 + 119 + 125	C86				
2,2',3,4,6-PeCB	88	88 + 91	C U D		12.0 (S)		
2,2',3,4,6'-PeCB	89		U D		13.0 (S)		
2,2',3,4',5-PeCB	90	90 + 101 + 113	C K D J	44.6	10.5 (S)	1.27	0.869
2,2',3,4',6-PeCB	91	88 + 91	C88				
2,2',3,5,5'-PeCB	92		U D		12.2 (S)		
2,2',3,5,6-PeCB	93	93 + 95 + 98 + 100 + 102	C K D J	67.7	11.7 (S)	1.00	1.123
2,2',3,5,6'-PeCB	94		U D		13.2 (S)		
2,2',3,5',6-PeCB	95	93 + 95 + 98 + 100 + 102	C93				
2,2',3,6,6'-PeCB	96		U D		9.29 (S)		
2,2',3',4,5-PeCB	97	86 + 87 + 97 + 108 + 119 + 125	C86				
2,2',3',4,6-PeCB	98	93 + 95 + 98 + 100 + 102	C93				
2,2',4,4',5-PeCB	99	83 + 99	C83				

This page is part of a total report that contains information necessary for accreditation compliance.  
 This test is not NELAP accredited. Sample results relate only to the sample tested.

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG <sup>1</sup>	CONC. FOUND	REPORTING LIMIT (RL) <sup>2</sup>	ION ABUND. RATIO	RRT
2,2',4,4',6-PeCB	100	93 + 95 + 98 + 100 + 102	C93				
2,2',4,5,5'-PeCB	101	90 + 101 + 113	C90				
2,2',4,5,6'-PeCB	102	93 + 95 + 98 + 100 + 102	C93				
2,2',4,5',6-PeCB	103		UD		10.6 (S)		
2,2',4,6,6'-PeCB	104		X				
2,3,3',4,4'-PeCB	105		K D J	23.5	11.3 (S)	3.76	1.000
2,3,3',4,5-PeCB	106		UD		14.6 (S)		
2,3,3',4',5-PeCB	107	107 + 124	C U D		16.5 (S)		
2,3,3',4',5'-PeCB	108	86 + 87 + 97 + 108 + 119 + 125	C86				
2,3,3',4,6-PeCB	109		UD		15.7 (S)		
2,3,3',4',6-PeCB	110	110 + 115	C K D J	45.0	9.20 (S)	1.11	0.926
2,3,3',5,5'-PeCB	111		UD		9.28 (S)		
2,3,3',5,6-PeCB	112		UD		8.82 (S)		
2,3,3',5',6-PeCB	113	90 + 101 + 113	C90				
2,3,4,4',5-PeCB	114		X				
2,3,4,4',6-PeCB	115	110 + 115	C110				
2,3,4,5,6-PeCB	116	85 + 116 + 117	C85				
2,3,4',5,6-PeCB	117	85 + 116 + 117	C85				
2,3',4,4',5-PeCB	118		X				
2,3',4,4',6-PeCB	119	86 + 87 + 97 + 108 + 119 + 125	C86				
2,3',4,5,5'-PeCB	120		UD		8.67 (S)		
2,3',4,5',6-PeCB	121		UD		9.22 (S)		
2',3,3',4,5-PeCB	122		UD		17.7 (S)		
2',3,4,4',5-PeCB	123		X				
2',3,4,5,5'-PeCB	124	107 + 124	C107				
2',3,4,5,6'-PeCB	125	86 + 87 + 97 + 108 + 119 + 125	C86				
3,3',4,4',5-PeCB	126		X				
3,3',4,5,5'-PeCB	127		UD		16.9 (S)		
2,2',3,3',4,4'-HxCB	128	128 + 166	C U D		15.9 (S)		
2,2',3,3',4,5-HxCB	129	129 + 138 + 160 + 163	C X				
2,2',3,3',4,5'-HxCB	130		X				
2,2',3,3',4,6-HxCB	131		X				
2,2',3,3',4,6'-HxCB	132		X				
2,2',3,3',5,5'-HxCB	133		X				
2,2',3,3',5,6-HxCB	134	134 + 143	C X				
2,2',3,3',5,6'-HxCB	135	135 + 151 + 154	C X				
2,2',3,3',6,6'-HxCB	136		X				
2,2',3,4,4',5-HxCB	137		X				
2,2',3,4,4',5'-HxCB	138	129 + 138 + 160 + 163	C129				
2,2',3,4,4',6-HxCB	139	139 + 140	C X				
2,2',3,4,4',6'-HxCB	140	139 + 140	C139				
2,2',3,4,5,5'-HxCB	141		X				
2,2',3,4,5,6-HxCB	142		X				
2,2',3,4,5,6'-HxCB	143	134 + 143	C134				
2,2',3,4,5',6-HxCB	144		X				
2,2',3,4,6,6'-HxCB	145		X				
2,2',3,4',5,5'-HxCB	146		UD		16.1 (S)		
2,2',3,4',5,6-HxCB	147	147 + 149	C X				
2,2',3,4',5,6'-HxCB	148		X				
2,2',3,4',5',6-HxCB	149	147 + 149	C147				
2,2',3,4',6,6'-HxCB	150		X				
2,2',3,5,5',6-HxCB	151	135 + 151 + 154	C135				
2,2',3,5,6,6'-HxCB	152		X				
2,2',4,4',5,5'-HxCB	153	153 + 168	C X				
2,2',4,4',5,6'-HxCB	154	135 + 151 + 154	C135				
2,2',4,4',6,6'-HxCB	155		X				
2,3,3',4,4',5-HxCB	156	156 + 157	C X				
2,3,3',4,4',5'-HxCB	157	156 + 157	C156				
2,3,3',4,4',6-HxCB	158		X				
2,3,3',4,5,5'-HxCB	159		X				
2,3,3',4,5,6-HxCB	160	129 + 138 + 160 + 163	C129				

This page is part of a total report that contains information necessary for accreditation compliance.  
 This test is not NELAP accredited. Sample results relate only to the sample tested.

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG <sup>1</sup>	CONC. FOUND	REPORTING LIMIT (RL) <sup>2</sup>	ION ABUND. RATIO	RRT
2,3,3',4,5',6-HxCB	161		X				
2,3,3',4',5,5'-HxCB	162		X				
2,3,3',4',5,6-HxCB	163	129 + 138 + 160 + 163	C129				
2,3,3',4',5',6-HxCB	164		X				
2,3,3',5,5',6-HxCB	165		X				
2,3,4,4',5,6-HxCB	166	128 + 166	C128				
2,3',4,4',5,5'-HxCB	167		X				
2,3',4,4',5',6-HxCB	168	153 + 168	C153				
3,3',4,4',5,5'-HxCB	169		X				
2,2',3,3',4,4',5-HpCB	170		X				
2,2',3,3',4,4',6-HpCB	171	171 + 173	C X				
2,2',3,3',4,5,5'-HpCB	172		X				
2,2',3,3',4,5,6-HpCB	173	171 + 173	C171				
2,2',3,3',4,5,6'-HpCB	174		X				
2,2',3,3',4,5',6-HpCB	175		X				
2,2',3,3',4,6,6'-HpCB	176		X				
2,2',3,3',4',5,6-HpCB	177		X				
2,2',3,3',5,5',6-HpCB	178		X				
2,2',3,3',5,6,6'-HpCB	179		X				
2,2',3,4,4',5,5'-HpCB	180	180 + 193	C X				
2,2',3,4,4',5,6-HpCB	181		X				
2,2',3,4,4',5,6'-HpCB	182		X				
2,2',3,4,4',5',6-HpCB	183	183 + 185	C X				
2,2',3,4,4',6,6'-HpCB	184		X				
2,2',3,4,5,5',6-HpCB	185	183 + 185	C183				
2,2',3,4,5,6,6'-HpCB	186		X				
2,2',3,4',5,5',6-HpCB	187		K D J	18.4	16.2 (S)	0.80	1.110
2,2',3,4',5,6,6'-HpCB	188		X				
2,3,3',4,4',5,5'-HpCB	189		X				
2,3,3',4,4',5,6-HpCB	190		X				
2,3,3',4,4',5',6-HpCB	191		X				
2,3,3',4,5,5',6-HpCB	192		X				
2,3,3',4',5,5',6-HpCB	193	180 + 193	C180				
2,2',3,3',4,4',5,5'-OcCB	194		X				
2,2',3,3',4,4',5,6-OcCB	195		X				
2,2',3,3',4,4',5,6'-OcCB	196		X				
2,2',3,3',4,4',6,6'-OcCB	197	197 + 200	C U D		11.4 (S)		
2,2',3,3',4,5,5',6-OcCB	198	198 + 199	C X				
2,2',3,3',4,5,5',6'-OcCB	199	198 + 199	C198				
2,2',3,3',4,5,6,6'-OcCB	200	197 + 200	C197				
2,2',3,3',4,5',6,6'-OcCB	201		X				
2,2',3,3',5,5',6,6'-OcCB	202		X				
2,2',3,4,4',5,5',6-OcCB	203		X				
2,2',3,4,4',5,6,6'-OcCB	204		X				
2,3,3',4,4',5,5',6-OcCB	205		X				
2,2',3,3',4,4',5,5',6-NoCB	206		X				
2,2',3,3',4,4',5,6,6'-NoCB	207		X				
2,2',3,3',4,5,5',6,6'-NoCB	208		X				
2,2',3,3',4,4',5,5',6,6'-DeCB	209		X				

(1) Where applicable, custom lab flags have been used on this report; U = not detected at RL; K = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration; D = dilution data; J = concentration less than lowest calibration equivalent; C = co-eluting congener; X = result reported separately.

(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = minimum reporting level.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_ Jason MacKenzie \_\_\_\_\_

## SGS AXYS METHOD MLA-010 Rev 12

Form 2  
PCB CONGENER ANALYSIS REPORT

## CLIENT SAMPLE NO.

Lab Blank

Sample Collection:

N/A

**SGS AXYS ANALYTICAL SERVICES**2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811**Contract No.:** 4972**Matrix:** FILTER**Sample Receipt Date:** N/A**Extraction Date:** 10-Oct-2018**Analysis Date:** 31-Oct-2018 **Time:** 00:33:45**Extract Volume (uL):** 100**Injection Volume (uL):** 1.0**Dilution Factor:** 5**Concentration Units:** pg absolute**Project No.**

N/A

**Lab Sample I.D.:**

WG65583-101 W

**Sample Size:**

0.2 sample

**Initial Calibration Date:**

07-Jul-2018

**Instrument ID:**

HR GC/MS

**GC Column ID:**

SPB OCTYL

**Sample Data Filename:** PB8C\_374 S: 5**Blank Data Filename:** PB8C\_366 S: 4**Cal. Ver. Data Filename:** PB8C\_374 S: 1

This page is part of a total report that contains information necessary for accreditation compliance.  
This test is not NELAP accredited. Sample results relate only to the sample tested.

LABELED COMPOUND	IUPAC NO. <sup>1</sup>	CO-ELUTIONS	LAB FLAG <sup>2</sup>	SPIKE CONC.	CONC. FOUND	R(%) <sup>3</sup>	ION ABUND. RATIO	RRT
13C12-2-MoCB	1L		D	4000	2250	56.3	3.21	0.720
13C12-4-MoCB	3L		D	4000	1960	49.0	3.18	0.860
13C12-2,2'-DiCB	4L		D	4000	2420	60.5	1.46	0.875
13C12-4,4'-DiCB	15L		D	4000	1790	44.8	1.46	1.253
13C12-2,2',6-TriCB	19L		D	4000	3490	87.1	1.07	1.071
13C12-3,4,4'-TriCB	37L		D	4000	1740	43.4	0.99	1.093
13C12-2,2',6,6'-TeCB	54L		D	4000	2950	73.6	0.79	0.811
13C12-3,3',4,4'-TeCB	77L		D	4000	2830	70.8	0.74	1.398
13C12-3,4,4',5-TeCB	81L		D	4000	2780	69.5	0.72	1.374
13C12-2,2',4,6,6'-PeCB	104L		D	4000	2820	70.6	1.59	0.808
13C12-2,3,3',4,4'-PeCB	105L		D	4000	3050	76.3	1.47	1.201
13C12-2,3,4,4',5-PeCB	114L		D	4000	2510	62.7	1.59	1.179
13C12-2,3',4,4',5-PeCB	118L		D	4000	2520	62.9	1.49	1.162
13C12-2',3,4,4',5-PeCB	123L		D	4000	2540	63.6	1.60	1.151
13C12-3,3',4,4',5-PeCB	126L		D	4000	2490	62.3	1.48	1.302
13C12-2,2',4,4',6,6'-HxCB	155L		D	4000	3080	77.0	1.26	0.785
13C12-2,3,3',4,4',5-HxCB	156L	156L + 157L	C D	8000	6530	81.7	1.23	1.108
13C12-2,3,3',4,4',5-HxCB	157L	156L + 157L	C156L					
13C12-2,3',4,4',5,5'-HxCB	167L		D	4000	3400	85.0	1.22	1.078
13C12-3,3',4,4',5,5'-HxCB	169L		D	4000	3020	75.6	1.25	1.192
13C12-2,2',3,3',4,4',5-HpCB	170L		D	4000	3990	99.7	1.09	0.897
13C12-2,2',3,4,4',5,5'-HpCB	180L		D	4000	3860	96.5	1.04	0.872
13C12-2,2',3,4',5,6,6'-HpCB	188L		D	4000	4300	108	1.04	0.712
13C12-2,3,3',4,4',5,5'-HpCB	189L		D	4000	2590	64.8	1.03	0.959
13C12-2,2',3,3',5,5',6,6'-OcCB	202L		D	4000	3310	82.9	0.91	0.817
13C12-2,2',3,3',4,4',5,5',6-OcCB	205L		D	4000	3660	91.5	0.90	1.009
13C12-2,2',3,3',4,4',5,5',6-NoCB	206L		X					
13C12-2,2',3,3',4,4',5,5',6-NoCB	208L		X					
13C12-2,2',3,3',4,4',5,5',6,6'-DeCB	209L		X					

**CLEANUP STANDARD**

13C12-2,4,4'-TriCB	28L	X
13C12-2,3,3',5,5'-PeCB	111L	X
13C12-2,2',3,3',5,5'-HpCB	178L	X

(1) Suffix "L" indicates labeled compound.

(2) Where applicable, custom lab flags have been used on this report; D = dilution data; C = co-eluting congener; X = result reported separately.

(3) R% = percent recovery of labeled compounds.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_ Jason MacKenzie \_\_\_\_\_

## SGS AXYS METHOD MLA-010 Rev 12

**Form 8A**  
**PCB CONGENER ONGOING PRECISION AND RECOVERY (OPR)**

**SGS AXYS ANALYTICAL SERVICES**

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

<b>Contract No.:</b>	4972	<b>Lab Sample I.D.:</b>	WG65583-102
<b>Matrix:</b>	FILTER	<b>Initial Calibration Date:</b>	07-Jul-2018
<b>Extraction Date:</b>	10-Oct-2018	<b>Instrument ID:</b>	HR GC/MS
<b>Analysis Date:</b>	24-Oct-2018 <b>Time:</b> 20:39:59	<b>GC Column ID:</b>	SPB OCTYL
<b>Extract Volume (uL):</b>	20	<b>OPR Data Filename:</b>	PB8C_366 S: 2
<b>Injection Volume (uL):</b>	1.0	<b>Blank Data Filename:</b>	PB8C_366 S: 4
<b>Dilution Factor:</b>	N/A	<b>Cal. Ver. Data Filename:</b>	PB8C_366 S: 1

**CONCENTRATIONS REPORTED ARE CONCENTRATIONS IN EXTRACT, BASED ON A 20 uL EXTRACT VOLUME.**

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG <sup>1</sup>	ION ABUND. RATIO	SPIKE CONC. (ng/mL)	CONC. FOUND (ng/mL)	OPR CONC. LIMITS (ng/mL)	% RECOVERY
2-MoCB	1		X					
4-MoCB	3		X					
2,2'-DiCB	4		X					
4,4'-DiCB	15		X					
2,2',6-TriCB	19			1.06	100	104	50.0 - 150	104
3,4,4'-TriCB	37			1.00	100	86.3	50.0 - 150	86.3
2,2',6,6'-TeCB	54			0.78	100	103	50.0 - 150	103
3,3',4,4'-TeCB	77			0.76	100	89.1	50.0 - 150	89.1
3,4,4',5-TeCB	81			0.74	100	90.0	50.0 - 150	90.0
2,2',4,6,6'-PeCB	104			1.57	100	110	50.0 - 150	110
2,3,3',4,4'-PeCB	105			1.53	100	89.8	50.0 - 150	89.8
2,3,4,4',5-PeCB	114			1.52	100	88.7	50.0 - 150	88.7
2,3',4,4',5-PeCB	118			1.50	100	87.2	50.0 - 150	87.2
2',3,4,4',5-PeCB	123		X					
3,3',4,4',5-PeCB	126			1.50	100	87.5	50.0 - 150	87.5
2,2',4,4',6,6'-HxCB	155		X					
2,3,3',4,4',5-HxCB	156	156 + 157	C X					
2,3,3',4,4',5'-HxCB	157	156 + 157	C156					
2,3',4,4',5,5'-HxCB	167		X					
3,3',4,4',5,5'-HxCB	169		X					
2,2',3,4',5,6,6'-HpCB	188			1.03	100	104	50.0 - 150	104
2,3,3',4,4',5,5'-HpCB	189			1.01	100	82.7	50.0 - 150	82.7
2,2',3,3',5,5',6,6'-OcCB	202			0.91	100	113	50.0 - 150	113
2,3,3',4,4',5,5',6-OcCB	205			0.88	100	98.8	50.0 - 150	98.8
2,2',3,3',4,4',5,5',6-NoCB	206			0.79	100	101	50.0 - 150	101
2,2',3,3',4,5,5',6,6'-NoCB	208			0.79	100	103	50.0 - 150	103
2,2',3,3',4,4',5,5',6,6'-DeCB	209			1.17	100	103	50.0 - 150	103

(1) Where applicable, custom lab flags have been used on this report; C = co-eluting congener; X = result reported separately.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_ Jason MacKenzie \_\_\_\_\_

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested.

For Axys Internal Use Only [ XSL Template: Form1668A.xsl; Created: 16-Nov-2018 10:17:08; Application: XMLTransformer-1.16.51;  
Report Filename: 1668\_PCB1668\_PCBTF\_WG65583-102\_Form8A\_SJ2455482.html; Workgroup: WG65583; Design ID: 3360 ]

## SGS AXYS METHOD MLA-010 Rev 12

## Form 8B

## PCB CONGENER ONGOING PRECISION AND RECOVERY (OPR)

## SGS AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

<b>Contract No.:</b>	4972	<b>Lab Sample I.D.:</b>	WG65583-102
<b>Matrix:</b>	FILTER	<b>Initial Calibration Date:</b>	07-Jul-2018
<b>Extraction Date:</b>	10-Oct-2018	<b>Instrument ID:</b>	HR GC/MS
<b>Analysis Date:</b>	24-Oct-2018 Time: 20:39:59	<b>GC Column ID:</b>	SPB OCTYL
<b>Extract Volume (uL):</b>	20	<b>OPR Data Filename:</b>	PB8C_366 S: 2
<b>Injection Volume (uL):</b>	1.0	<b>Blank Data Filename:</b>	PB8C_366 S: 4
<b>Dilution Factor:</b>	N/A	<b>Cal. Ver. Data Filename:</b>	PB8C_366 S: 1

**CONCENTRATIONS REPORTED ARE CONCENTRATIONS IN EXTRACT, BASED ON A 20 uL EXTRACT VOLUME.**

LABELED COMPOUND	IUPAC NO. <sup>1</sup>	CO-ELUTIONS	LAB FLAG <sup>2</sup>	ION ABUND. RATIO	SPIKE CONC. (ng/mL)	CONC. FOUND (ng/mL)	OPR CONC. LIMITS (ng/mL)	% RECOVERY
13C12-2-MoCB	1L		X					
13C12-4-MoCB	3L		X					
13C12-2,2'-DiCB	4L		X					
13C12-4,4'-DiCB	15L		X					
13C12-2,2',6-TriCB	19L			1.06	200	138	60.0 - 280	68.9
13C12-3,4,4'-TriCB	37L			1.01	200	130	60.0 - 280	65.0
13C12-2,2',6,6'-TeCB	54L			0.78	200	127	60.0 - 280	63.5
13C12-3,3',4,4'-TeCB	77L			0.76	200	156	60.0 - 280	77.8
13C12-3,4,4',5-TeCB	81L			0.75	200	157	60.0 - 280	78.7
13C12-2,2',4,6,6'-PeCB	104L			1.61	200	114	60.0 - 280	56.9
13C12-2,3,3',4,4'-PeCB	105L			1.57	200	140	60.0 - 280	70.0
13C12-2,3,4,4',5-PeCB	114L			1.58	200	143	60.0 - 280	71.7
13C12-2,3',4,4',5-PeCB	118L			1.55	200	147	60.0 - 280	73.3
13C12-2',3,4,4',5-PeCB	123L		X					
13C12-3,3',4,4',5-PeCB	126L			1.56	200	136	60.0 - 280	68.0
13C12-2,2',4,4',6,6'-HxCB	155L		X					
13C12-2,3,3',4,4',5-HxCB	156L	156L + 157L	C X					
13C12-2,3,3',4,4',5'-HxCB	157L	156L + 157L	C156L					
13C12-2,3',4,4',5,5'-HxCB	167L		X					
13C12-3,3',4,4',5,5'-HxCB	169L		X					
13C12-2,2',3,4',5,6,6'-HpCB	188L			1.04	200	134	60.0 - 280	66.8
13C12-2,3,3',4,4',5,5'-HpCB	189L			1.03	200	129	60.0 - 280	64.6
13C12-2,2',3,3',5,5',6,6'-OcCB	202L			0.90	200	103	60.0 - 280	51.6
13C12-2,3,3',4,4',5,5',6-OcCB	205L			0.89	200	147	60.0 - 280	73.6
13C12-2,2',3,3',4,4',5,5',6-NoCB	206L			0.77	200	138	60.0 - 280	68.8
13C12-2,2',3,3',4,5,5',6,6'-NoCB	208L			0.77	200	146	60.0 - 280	73.2
13C12-2,2',3,3',4,4',5,5',6,6'-DeCB	209L		X	1.20	200	115	60.0 - 280	57.6

**CLEANUP STANDARD**

13C12-2,4,4'-TriCB	28L		1.02	200	125	80.0 - 250	62.6
13C12-2,3,3',5,5'-PeCB	111L		1.62	200	142	80.0 - 250	71.1
13C12-2,2',3,3',5,5',6-HpCB	178L	X					

(1) Suffix "L" indicates labeled compound.

(2) Where applicable, custom lab flags have been used on this report; C = co-eluting congener; X = result reported separately.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_ Jason MacKenzie \_\_\_\_\_

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested.

## SGS AXYS METHOD MLA-010 Rev 12

## Form 8A

## PCB CONGENER ONGOING PRECISION AND RECOVERY (OPR)

## SGS AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	4972	Lab Sample I.D.:	WG65583-102 W
Matrix:	FILTER	Initial Calibration Date:	07-Jul-2018
Extraction Date:	10-Oct-2018	Instrument ID:	HR GC/MS
Analysis Date:	30-Oct-2018 Time: 21:22:39	GC Column ID:	SPB OCTYL
Extract Volume (uL):	100	OPR Data Filename:	PB8C_374 S: 2
Injection Volume (uL):	1.0	Blank Data Filename:	PB8C_366 S: 4
Dilution Factor:	5	Cal. Ver. Data Filename:	PB8C_374 S: 1

CONCENTRATIONS REPORTED ARE CONCENTRATIONS IN EXTRACT, BASED ON A 20 uL EXTRACT VOLUME.

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG <sup>1</sup>	ION ABUND. RATIO	SPIKE CONC. (ng/mL)	CONC. FOUND (ng/mL)	OPR CONC. LIMITS (ng/mL)	% RECOVERY
2-MoCB	1		NQ					
4-MoCB	3		NQ					
2,2'-DiCB	4		D	1.43	100	72.7	50.0 - 150	72.7
4,4'-DiCB	15		D	1.43	100	71.2	50.0 - 150	71.2
2,2',6-TriCB	19		X					
3,4,4'-TriCB	37		X					
2,2',6,6'-TeCB	54		X					
3,3',4,4'-TeCB	77		X					
3,4,4',5-TeCB	81		X					
2,2',4,6,6'-PeCB	104		X					
2,3,3',4,4'-PeCB	105		X					
2,3,4,4',5-PeCB	114		X					
2,3',4,4',5-PeCB	118		X					
2',3,4,4',5-PeCB	123		D	1.46	100	77.0	50.0 - 150	77.0
3,3',4,4',5-PeCB	126		X					
2,2',4,4',6,6'-HxCB	155		D	1.29	100	108	50.0 - 150	108
2,3,3',4,4',5-HxCB	156	156 + 157	C D	1.27	200	191	100 - 300	95.5
2,3,3',4,4',5'-HxCB	157	156 + 157	C156					
2,3',4,4',5,5'-HxCB	167		D	1.27	100	99.2	50.0 - 150	99.2
3,3',4,4',5,5'-HxCB	169		D	1.26	100	94.5	50.0 - 150	94.5
2,2',3,4,5,6,6'-HpCB	188		X					
2,3,3',4,4',5,5'-HpCB	189		X					
2,2',3,3',5,5',6,6'-OcCB	202		X					
2,3,3',4,4',5,5',6-OcCB	205		X					
2,2',3,3',4,4',5,5',6-NoCB	206		X					
2,2',3,3',4,5,5',6,6'-NoCB	208		X					
2,2',3,3',4,4',5,5',6,6'-DeCB	209		X					

(1) Where applicable, custom lab flags have been used on this report; D = dilution data; C = co-eluting congener; X = result reported separately; NQ = data not quantifiable.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_ Jason MacKenzie \_\_\_\_\_

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested.

For Axys Internal Use Only [ XSL Template: Form1668A.xls; Created: 16-Nov-2018 10:17:08; Application: XMLTransformer-1.16.51;  
Report Filename: 1668\_PCB1668\_PCBTF\_WG65583-102\_Form8A\_SJ2457642.html; Workgroup: WG65583; Design ID: 3360 ]

## SGS AXYS METHOD MLA-010 Rev 12

## Form 8B

## PCB CONGENER ONGOING PRECISION AND RECOVERY (OPR)

## SGS AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

<b>Contract No.:</b>	4972	<b>Lab Sample I.D.:</b>	WG65583-102 W
<b>Matrix:</b>	FILTER	<b>Initial Calibration Date:</b>	07-Jul-2018
<b>Extraction Date:</b>	10-Oct-2018	<b>Instrument ID:</b>	HR GC/MS
<b>Analysis Date:</b>	30-Oct-2018 Time: 21:22:39	<b>GC Column ID:</b>	SPB OCTYL
<b>Extract Volume (uL):</b>	100	<b>OPR Data Filename:</b>	PB8C_374 S: 2
<b>Injection Volume (uL):</b>	1.0	<b>Blank Data Filename:</b>	PB8C_366 S: 4
<b>Dilution Factor:</b>	5	<b>Cal. Ver. Data Filename:</b>	PB8C_374 S: 1

CONCENTRATIONS REPORTED ARE CONCENTRATIONS IN EXTRACT, BASED ON A 20 uL EXTRACT VOLUME.

LABELED COMPOUND	IUPAC NO. <sup>1</sup>	CO-ELUTIONS	LAB FLAG <sup>2</sup>	ION ABUND. RATIO	SPIKE CONC. (ng/mL)	CONC. FOUND (ng/mL)	OPR CONC. LIMITS (ng/mL)	% RECOVERY
13C12-2-MoCB	1L		NQ					
13C12-4-MoCB	3L		NQ					
13C12-2,2'-DiCB	4L		D	1.48	200	125	60.0 - 280	62.7
13C12-4,4'-DiCB	15L		D	1.54	200	144	60.0 - 280	72.2
13C12-2,2',6-TriCB	19L		X					
13C12-3,4,4'-TriCB	37L		X					
13C12-2,2',6,6'-TeCB	54L		X					
13C12-3,3',4,4'-TeCB	77L		X					
13C12-3,4,4',5-TeCB	81L		X					
13C12-2,2',4,6,6'-PeCB	104L		X					
13C12-2,3,3',4,4'-PeCB	105L		X					
13C12-2,3,4,4',5-PeCB	114L		X					
13C12-2,3',4,4',5-PeCB	118L		X					
13C12-2',3,4,4',5-PeCB	123L		D	1.54	200	158	60.0 - 280	79.0
13C12-3,3',4,4',5-PeCB	126L		X					
13C12-2,2',4,4',6,6'-HxCB	155L		D	1.28	200	117	60.0 - 280	58.4
13C12-2,3,3',4,4',5-HxCB	156L	156L + 157L	C D	1.28	400	267	120 - 560	66.8
13C12-2,3,3',4,4',5'-HxCB	157L	156L + 157L	C156L					
13C12-2,3',4,4',5,5'-HxCB	167L		D	1.27	200	133	60.0 - 280	66.7
13C12-3,3',4,4',5,5'-HxCB	169L		D	1.27	200	127	60.0 - 280	63.6
13C12-2,2',3,4',5,6,6'-HpCB	188L		X					
13C12-2,3,3',4,4',5,5'-HpCB	189L		X					
13C12-2,2',3,3',5,5',6,6'-OcCB	202L		X					
13C12-2,3,3',4,4',5,5',6-OcCB	205L		X					
13C12-2,2',3,3',4,4',5,5',6-NoCB	206L		X					
13C12-2,2',3,3',4,5,5',6,6'-NoCB	208L		X					
13C12-2,2',3,3',4,4',5,5',6,6'-DeCB	209L		X					

## CLEANUP STANDARD

13C12-2,4,4'-TriCB	28L	X						
13C12-2,3,3',5,5'-PeCB	111L	X						
13C12-2,2',3,3',5,5',6-HpCB	178L	D	1.04	200	134	80.0 - 250	67.2	

(1) Suffix "L" indicates labeled compound.

(2) Where applicable, custom lab flags have been used on this report; D = dilution data; C = co-eluting congener; X = result reported separately; NQ = data not quantifiable.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_ Jason MacKenzie \_\_\_\_\_

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested.

## SGS AXYS METHOD MLA-010 Rev 12

**Form 3A**  
**PCB CONGENERS INITIAL CALIBRATION RELATIVE RESPONSES**

**SGS AXYS ANALYTICAL SERVICES**

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

**Initial Calibration Date:** 07-Jul-2018

**Instrument ID:** HR GC/MS

**GC Column ID:** SPB OCTYL

**CS0 Data Filename:** PB8C\_220 S: 1

**CS1 Data Filename:** PB8C\_220 S: 4

**CS2 Data Filename:** PB8C\_220A S: 4

**CS3 Data Filename:** PB8C\_220A S: 3

**CS4 Data Filename:** PB8C\_220A S: 2

**CS5 Data Filename:** PB8C\_220A S: 1

**CS6 Data Filename:** PB8C\_220A S: 6

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG <sup>1</sup>	RELATIVE RESPONSE (RR)							MEAN RR	CV <sup>2</sup> (%RSD)
				CS0	CS1	CS2	CS3	CS4	CS5	CS6		
2-MoCB	1			1.07	1.05	1.11	1.09	1.10	1.02		1.07	3.46
4-MoCB	3			1.11	1.01	1.07	1.09	1.10	1.10		1.08	3.55
2,2'-DiCB	4			0.97	0.94	0.98	0.99	1.03	1.05		0.99	4.14
4,4'-DiCB	15			0.85	0.89	0.90	0.92	0.93	0.96		0.91	4.50
2,2',6-TriCB	19			1.08	1.05	1.05	1.06	1.08	1.11	1.06	1.07	2.11
3,4,4'-TriCB	37			0.98	0.98	1.00	0.99	1.03	1.05	0.96	1.00	3.27
2,2',6,6'-TeCB	54			1.04	1.02	1.06	1.07	1.08	1.10	1.03	1.06	2.71
3,3',4,4'-TeCB	77			1.05	1.01	1.01	1.02	1.03	1.06	1.03	1.03	1.99
3,4,4',5-TeCB	81			1.02	0.96	1.04	1.02	1.05	1.07	1.04	1.03	3.35
2,2',4,6,6'-PeCB	104			1.03	1.05	1.08	1.05	1.07	1.11	1.07	1.07	2.30
2,3,3',4,4'-PeCB	105			1.03	0.95	1.04	1.03	1.03	1.07	1.04	1.03	3.45
2,3,4,4',5-PeCB	114			1.00	1.01	1.07	1.07	1.07	1.11	1.08	1.06	3.55
2,3',4,4',5-PeCB	118			1.08	0.98	1.05	1.03	1.04	1.09	1.05	1.04	3.33
2',3,4,4',5-PeCB	123			0.94	0.94	0.98	0.98	0.99	1.03	1.00	0.98	3.19
3,3',4,4',5-PeCB	126			1.01	1.01	1.06	1.03	1.05	1.09	1.05	1.04	2.59
2,2',4,4',6,6'-HxCB	155			1.07	0.96	0.98	1.01	1.04	1.06	1.03	1.02	4.12
2,3,3',4,4',5-HxCB	156	156 + 157	C	1.08	1.07	1.12	1.10	1.11	1.14	1.08	1.10	2.24
2,3,3',4,4',5'-HxCB	157	156 + 157	C156									
2,3',4,4',5,5'-HxCB	167			1.03	1.05	1.14	1.12	1.14	1.17	1.14	1.11	4.67
3,3',4,4',5,5'-HxCB	169			1.05	1.01	1.06	1.05	1.06	1.09	1.06	1.05	2.32
2,2',3,4',5,6,6'-HpCB	188			0.96	0.94	0.96	0.96	1.00	1.03	0.97	0.98	2.92
2,3,3',4,4',5,5'-HpCB	189			1.16	0.95	1.09	1.03	1.06	1.08	1.05	1.06	5.83
2,2',3,3',5,5',6,6'-OcCB	202			0.89	0.83	0.86	0.86	0.88	0.91	0.89	0.87	3.14
2,3,3',4,4',5,5',6-OcCB	205			0.97	0.92	1.00	0.99	0.99	1.03	1.00	0.99	3.45
2,2',3,3',4,4',5,5',6-NoCB	206			1.09	0.96	1.00	0.99	0.99	1.02	0.97	1.00	4.46
2,2',3,3',4,4,5,5',6,6'-NoCB	208			0.95	0.90	0.94	0.94	0.96	0.98	0.95	0.95	2.57
2,2',3,3',4,4',5,5',6,6'-DeCB	209			1.22	1.04	1.07	1.01	1.04	1.05	1.02	1.06	6.55

(1) Where applicable, custom lab flags have been used on this report; C = co-eluting congener.

(2) For contract CV specifications, see Section 10.4.4, Method 1668A.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_ Bjorn Arvi \_\_\_\_\_

For Axys Internal Use Only [ XSL Template: Form16683A.xls; Created: 16-Nov-2018 10:17:08; Application: XMLTransformer-1.16.51;  
Report Filename: 1668\_PCB1668\_07-Jul-2018\_PB8C\_\_Form3A\_GS78416.html; Workgroup: WG65583; Design ID: 3360 ]

## SGS AXYS METHOD MLA-010 Rev 12

**Form 3B**  
**PCB CONGENERS INITIAL CALIBRATION RELATIVE RESPONSES**

**SGS AXYS ANALYTICAL SERVICES**

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

**Initial Calibration Date:** 07-Jul-2018

**Instrument ID:** HR GC/MS

**GC Column ID:** SPB OCTYL

**CS0 Data Filename:** PB8C\_220 S: 1

**CS1 Data Filename:** PB8C\_220 S: 4

**CS2 Data Filename:** PB8C\_220A S: 4

**CS3 Data Filename:** PB8C\_220A S: 3

**CS4 Data Filename:** PB8C\_220A S: 2

**CS5 Data Filename:** PB8C\_220A S: 1

**CS6 Data Filename:** PB8C\_220A S: 6

**RELATIVE RESPONSE (RR)**

<b>COMPOUND</b>	<b>IUPAC NO. 1</b>	<b>CO-ELUTIONS</b>	<b>LAB FLAG<sup>2</sup></b>	<b>CS0</b>	<b>CS1</b>	<b>CS2</b>	<b>CS3</b>	<b>CS4</b>	<b>CS5</b>	<b>CS6</b>	<b>MEAN RR</b>	<b>CV<sup>3</sup> (%RSD)</b>
13C12-2-MoCB	1L			1.06	1.05	1.08	1.09	1.14	1.18	1.29	1.13	7.50
13C12-4-MoCB	3L			0.99	1.00	1.00	1.02	1.07	1.13	1.31	1.07	10.6
13C12-2,2'-DiCB	4L			0.64	0.65	0.65	0.65	0.67	0.72	0.80	0.68	8.43
13C12-4,4'-DiCB	15L			1.02	1.01	0.99	1.00	1.02	1.10	1.32	1.07	11.1
13C12-2,2',6-TriCB	19L			0.53	0.52	0.54	0.54	0.56	0.58	0.67	0.56	9.42
13C12-3,4,4'-TriCB	37L			1.64	1.63	1.52	1.60	1.56	1.74	2.16	1.69	12.8
13C12-2,2',6,6'-TeCB	54L			1.40	1.41	1.42	1.43	1.48	1.53	1.70	1.48	7.14
13C12-3,3',4,4'-TeCB	77L			1.30	1.23	1.18	1.25	1.19	1.35	1.69	1.31	13.3
13C12-3,4,4',5-TeCB	81L			1.27	1.22	1.15	1.21	1.18	1.34	1.67	1.29	13.7
13C12-2,2',4,6,6'-PeCB	104L			1.36	1.32	1.40	1.45	1.52	1.57	1.70	1.47	9.00
13C12-2,3,3',4,4'-PeCB	105L			1.41	1.40	1.29	1.31	1.30	1.43	1.69	1.40	9.92
13C12-2,3,4,4',5-PeCB	114L			1.29	1.29	1.21	1.25	1.30	1.49	1.64	1.35	11.5
13C12-2,3',4,4',5-PeCB	118L			1.31	1.32	1.25	1.26	1.28	1.42	1.71	1.37	12.0
13C12-2',3,4,4',5-PeCB	123L			1.34	1.34	1.26	1.30	1.30	1.46	1.74	1.39	12.0
13C12-3,3',4,4',5-PeCB	126L			1.23	1.21	1.11	1.16	1.13	1.29	1.62	1.25	14.0
13C12-2,2',4,4',6,6'-HxCB	155L			1.50	1.51	1.59	1.60	1.74	1.79	1.90	1.66	9.04
13C12-2,3,3',4,4',5-HxCB	156L	156L + 157L	C	1.25	1.24	1.21	1.25	1.31	1.47	1.65	1.34	12.1
13C12-2,3,3',4,4',5'-HxCB	157L	156L + 157L	C156L									
13C12-2,3',4,4',5,5'-HxCB	167L			1.21	1.20	1.18	1.22	1.26	1.37	1.55	1.28	10.3
13C12-3,3',4,4',5,5'-HxCB	169L			1.22	1.30	1.23	1.29	1.27	1.38	1.64	1.33	10.9
13C12-2,2',3,4',5,6,6'-HpCB	188L			1.80	1.63	1.75	1.76	1.96	2.12	2.18	1.89	10.9
13C12-2,3,3',4,4',5,5'-HpCB	189L			1.48	1.39	1.40	1.42	1.47	1.60	1.85	1.52	10.8
13C12-2,2',3,3',5,5',6,6'-OcCB	202L			1.69	1.54	1.71	1.72	1.88	1.91	2.03	1.78	9.16
13C12-2,3,3',4,4',5,5',6-OcCB	205L			1.42	1.43	1.42	1.41	1.52	1.61	1.72	1.50	7.96
13C12-2,2',3,3',4,4',5,5',6-NoCB	206L			1.02	1.03	1.04	1.04	1.11	1.18	1.26	1.10	8.51
13C12-2,2',3,3',4,5,5',6,6'-NoCB	208L			1.26	1.25	1.28	1.25	1.36	1.44	1.60	1.35	9.73
13C12-2,2',3,3',4,4',5,5',6,6'-DeCB	209L			1.29	1.28	1.29	1.31	1.42	1.50	1.55	1.38	8.22
<b>CLEAN-UP STANDARD</b>												
13C12-2,4,4'-TriCB	28L			1.74	1.76	1.69	1.73	1.67	1.66	1.65	1.70	2.52
13C12-2,3,3',5,5'-PeCB	111L			1.28	1.28	1.25	1.29	1.29	1.39	1.60	1.34	9.12
13C12-2,2',3,3',5,5',6-HpCB	178L			0.94	0.91	0.94	0.96	0.98	0.96	0.97	0.95	2.57

(1) Suffix "L" indicates labeled compound.

(2) Where applicable, custom lab flags have been used on this report; C = co-eluting congener.

(3) For contract CV specifications, see Section 10.4.4, Method 1668A.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_ Bjorn Arvi \_\_\_\_\_

For Axys Internal Use Only [ XSL Template: Form16683B.xsl; Created: 16-Nov-2018 10:17:08; Application: XMLTransformer-1.16.51; Report Filename: 1668\_PCB1668\_07-Jul-2018\_PB8C\_\_Form3B\_GS78416.html; Workgroup: WG65583; Design ID: 3360 ]

## SGS AXYS METHOD MLA-010 Rev 12

Form 3C  
PCB CONGENER INITIAL CALIBRATION ION ABUNDANCE RATIOS

**SGS AXYS ANALYTICAL SERVICES**

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

**Initial Calibration Date:** 07-Jul-2018

**Instrument ID:** HR GC/MS

**GC Column ID:** SPB OCTYL

**CS0 Data Filename:** PB8C\_220 S: 1

**CS1 Data Filename:** PB8C\_220 S: 4

**CS2 Data Filename:** PB8C\_220A S: 4

**CS3 Data Filename:** PB8C\_220A S: 3

**CS4 Data Filename:** PB8C\_220A S: 2

**CS5 Data Filename:** PB8C\_220A S: 1

**CS6 Data Filename:** PB8C\_220A S: 6

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG <sup>1</sup>	M/Z's FORMING RATIO <sup>2</sup>	ION ABUNDANCE RATIO						QC LIMITS <sup>2</sup>	
					CS0	CS1	CS2	CS3	CS4	CS5	CS6	
2-MoCB	1			M/M+2	3.33	3.15	3.15	3.14	3.12	2.71		2.66-3.60
4-MoCB	3			M/M+2	3.27	3.06	3.15	3.12	3.12	3.06		2.66-3.60
2,2'-DiCB	4			M/M+2	1.52	1.59	1.58	1.54	1.54	1.54		1.33-1.79
4,4'-DiCB	15			M/M+2	1.56	1.49	1.56	1.55	1.54	1.54		1.33-1.79
2,2',6-TriCB	19			M/M+2	0.99	1.06	1.05	1.06	1.07	1.07	1.04	0.88-1.20
3,4,4'-TriCB	37			M/M+2	0.99	1.03	1.03	1.02	1.03	1.04	1.02	0.88-1.20
2,2',6,6'-TeCB	54			M/M+2	0.74	0.80	0.76	0.78	0.79	0.78	0.85	0.65-0.89
3,3',4,4'-TeCB	77			M/M+2	0.79	0.78	0.77	0.80	0.77	0.77	0.81	0.65-0.89
3,4,4',5-TeCB	81			M/M+2	0.83	0.80	0.78	0.77	0.77	0.77	0.78	0.65-0.89
2,2',4,6,6'-PeCB	104			M+2/M+4	1.57	1.68	1.56	1.57	1.56	1.55	1.52	1.32-1.78
2,3,3',4,4'-PeCB	105			M+2/M+4	1.52	1.53	1.53	1.57	1.53	1.56	1.56	1.32-1.78
2,3,4,4',5-PeCB	114			M+2/M+4	1.41	1.55	1.60	1.56	1.57	1.56	1.56	1.32-1.78
2,3',4,4',5-PeCB	118			M+2/M+4	1.47	1.51	1.59	1.53	1.52	1.56	1.55	1.32-1.78
2',3,4,4',5-PeCB	123			M+2/M+4	1.67	1.51	1.60	1.55	1.55	1.55	1.55	1.32-1.78
3,3',4,4',5-PeCB	126			M+2/M+4	1.49	1.62	1.53	1.56	1.54	1.55	1.57	1.32-1.78
2,2',4,4',6,6'-HxCB	155			M+2/M+4	1.42	1.26	1.24	1.28	1.26	1.24	1.28	1.05-1.43
2,3,3',4,4',5-HxCB	156	156 + 157	C	M+2/M+4	1.24	1.23	1.25	1.25	1.25	1.25	1.21	1.05-1.43
2,3,3',4,4',5'-HxCB	157	156 + 157	C156									
2,3',4,4',5,5'-HxCB	167			M+2/M+4	1.02	1.22	1.22	1.26	1.25	1.25	1.25	1.05-1.43
3,3',4,4',5,5'-HxCB	169			M+2/M+4	1.39	1.32	1.23	1.26	1.26	1.27	1.26	1.05-1.43
2,2',3,4',5,6,6'-HpCB	188			M+2/M+4	0.94	1.02	1.02	1.05	1.04	1.05	1.04	0.89-1.21
2,3,3',4,4',5,5'-HpCB	189			M+2/M+4	1.10	0.99	1.07	1.03	1.05	1.05	1.05	0.89-1.21
2,2',3,3',5,5',6,6'-OcCB	202			M+2/M+4	0.79	0.94	0.89	0.88	0.89	0.90	0.88	0.76-1.02
2,3,3',4,4',5,5',6-OcCB	205			M+2/M+4	0.85	0.91	0.91	0.90	0.88	0.90	0.90	0.76-1.02
2,2',3,3',4,4',5,5',6-NoCB	206			M+2/M+4	0.76	0.82	0.79	0.78	0.77	0.78	0.78	0.65-0.89
2,2',3,3',4,5,5',6,6'-NoCB	208			M+2/M+4	0.82	0.78	0.79	0.78	0.79	0.79	0.79	0.65-0.89
2,2',3,3',4,4',5,5',6,6'-DeCB	209			M+4/M+6	1.08	1.14	1.16	1.16	1.17	1.17	1.18	0.99-1.33

(1) Where applicable, custom lab flags have been used on this report; C = co-eluting congener.

(2) See Table 8 Method 1668A for m/z specifications and ion abundance ratio control limits.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_ Bjorn Arvi \_\_\_\_\_

For Axys Internal Use Only [ XSL Template: Form16683C.xlsx; Created: 16-Nov-2018 10:17:08; Application: XMLTransformer-1.16.51;  
Report Filename: 1668\_PCB1668\_07-Jul-2018\_PB8C\_\_Form3C\_GS78416.html; Workgroup: WG65583; Design ID: 3360 ]

## SGS AXYS METHOD MLA-010 Rev 12

Form 3D  
PCB CONGENER INITIAL CALIBRATION ION ABUNDANCE RATIOS

**SGS AXYS ANALYTICAL SERVICES**

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

**Initial Calibration Date:** 07-Jul-2018

**Instrument ID:** HR GC/MS

**GC Column ID:** SPB OCTYL

**CS0 Data Filename:** PB8C\_220 S: 1

**CS1 Data Filename:** PB8C\_220 S: 4

**CS2 Data Filename:** PB8C\_220A S: 4

**CS3 Data Filename:** PB8C\_220A S: 3

**CS4 Data Filename:** PB8C\_220A S: 2

**CS5 Data Filename:** PB8C\_220A S: 1

**CS6 Data Filename:** PB8C\_220A S: 6

LABELED COMPOUND	IUPAC NO. <sup>1</sup>	CO- ELUTIONS	LAB FLAG <sup>2</sup>	M/Z's FORMING RATIO <sup>3</sup>	ION ABUNDANCE RATIO							QC LIMITS <sup>3</sup>
					CS0	CS1	CS2	CS3	CS4	CS5	CS6	
13C12-2-MoCB	1L			M/M+2	3.21	3.14	3.13	3.21	3.17	3.12	3.06	2.66-3.60
13C12-4-MoCB	3L			M/M+2	3.14	3.18	3.11	3.09	3.17	3.17	3.14	2.66-3.60
13C12-2,2'-DiCB	4L			M/M+2	1.57	1.59	1.57	1.60	1.58	1.59	1.59	1.33-1.79
13C12-4,4'-DiCB	15L			M/M+2	1.58	1.57	1.58	1.58	1.57	1.59	1.57	1.33-1.79
13C12-2,2',6-TriCB	19L			M/M+2	1.05	1.06	1.06	1.06	1.05	1.06	1.05	0.88-1.20
13C12-3,4,4'-TriCB	37L			M/M+2	1.04	1.05	1.04	1.05	1.06	1.06	1.04	0.88-1.20
13C12-2,2',6,6'-TeCB	54L			M/M+2	0.79	0.80	0.80	0.79	0.80	0.79	0.80	0.65-0.89
13C12-3,3',4,4'-TeCB	77L			M/M+2	0.74	0.76	0.72	0.77	0.71	0.74	0.77	0.65-0.89
13C12-3,4,4',5-TeCB	81L			M/M+2	0.77	0.72	0.76	0.72	0.73	0.74	0.74	0.65-0.89
13C12-2,2',4,6,6'-PeCB	104L			M+2/M+4	1.59	1.56	1.55	1.57	1.57	1.58	1.53	1.32-1.78
13C12-2,3,3',4,4'-PeCB	105L			M+2/M+4	1.58	1.58	1.59	1.54	1.60	1.59	1.58	1.32-1.78
13C12-2,3,4,4',5-PeCB	114L			M+2/M+4	1.57	1.62	1.60	1.58	1.61	1.58	1.59	1.32-1.78
13C12-2,3',4,4',5-PeCB	118L			M+2/M+4	1.53	1.59	1.58	1.55	1.58	1.56	1.57	1.32-1.78
13C12-2',3,4,4',5-PeCB	123L			M+2/M+4	1.59	1.59	1.55	1.57	1.56	1.57	1.58	1.32-1.78
13C12-3,3',4,4',5-PeCB	126L			M+2/M+4	1.55	1.59	1.54	1.57	1.60	1.57	1.56	1.32-1.78
13C12-2,2',4,4',6,6'-HxCB	155L			M+2/M+4	1.27	1.25	1.27	1.27	1.24	1.23	1.28	1.05-1.43
13C12-2,3,3',4,4',5-HxCB	156L	156L + 157L	C	M+2/M+4	1.28	1.22	1.27	1.27	1.26	1.27	1.26	1.05-1.43
13C12-2,3,3',4,4',5'-HxCB	157L	156L + 157L	C156L									
13C12-2,3',4,4',5,5'-HxCB	167L			M+2/M+4	1.26	1.26	1.26	1.23	1.24	1.25	1.27	1.05-1.43
13C12-3,3',4,4',5,5'-HxCB	169L			M+2/M+4	1.27	1.24	1.25	1.24	1.25	1.25	1.27	1.05-1.43
13C12-2,2',3,4',5,6,6'-HpCB	188L			M+2/M+4	1.05	1.04	1.06	1.07	1.02	1.05	1.05	0.89-1.21
13C12-2,3,3',4,4',5,5'-HpCB	189L			M+2/M+4	1.02	1.04	1.02	1.05	1.05	1.01	1.05	0.89-1.21
13C12-2,2',3,3',5,5',6,6'-OcCB	202L			M+2/M+4	0.91	0.91	0.90	0.90	0.89	0.90	0.91	0.76-1.02
13C12-2,3,3',4,4',5,5',6-OcCB	205L			M+2/M+4	0.87	0.89	0.87	0.88	0.88	0.89	0.86	0.76-1.02
13C12-2,2',3,3',4,4',5,5',6-NoCB	206L			M+2/M+4	0.76	0.76	0.78	0.79	0.79	0.79	0.79	0.65-0.89
13C12-2,2',3,3',4,5,5',6,6'-NoCB	208L			M+2/M+4	0.77	0.75	0.78	0.78	0.78	0.77	0.79	0.65-0.89
13C12-2,2',3,3',4,4',5,5',6,6'-DeCB	209L			M+4/M+6	1.19	1.15	1.19	1.17	1.16	1.18	1.18	0.99-1.33
<b>CLEAN-UP STANDARD</b>												
13C12-2,4,4'-TriCB	28L			M/M+2	1.06	1.05	1.06	1.05	1.07	1.06	1.05	0.88-1.20
13C12-2,3,3',5,5'-PeCB	111L			M+2/M+4	1.60	1.62	1.63	1.63	1.58	1.57	1.62	1.32-1.78
13C12-2,2',3,3',5,5',6-HpCB	178L			M+2/M+4	1.01	1.03	1.03	1.04	1.06	1.05	1.03	0.89-1.21

(1) Suffix "L" indicates labeled compound.

(2) Where applicable, custom lab flags have been used on this report; C = co-eluting congener.

(3) See Table 8 Method 1668A for m/z specifications and ion abundance ratio control limits.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_ Bjorn Arvi \_\_\_\_\_

For Axys Internal Use Only [ XSL Template: Form16683D.xlsx; Created: 16-Nov-2018 10:17:08; Application: XMLTransformer-1.16.51;  
Report Filename: 1668\_PCB1668\_07-Jul-2018\_PB8C\_Form3D\_GS78416.html; Workgroup: WG65583; Design ID: 3360 ]

## SGS AXYS METHOD MLA-010 Rev 12

**Form 4A**  
**PCB CONGENER CALIBRATION VERIFICATION**

**SGS AXYS ANALYTICAL SERVICES**  
 2045 MILLS RD., SIDNEY, B.C., CANADA  
 V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

<b>Initial Calibration Date:</b>	07-Jul-2018	<b>VER Data Filename:</b>	PB8C_366 S: 1
<b>Instrument ID:</b>	HR GC/MS	<b>Analysis Date:</b>	24-Oct-2018
<b>GC Column ID:</b>	SPB OCTYL	<b>Analysis Time:</b>	19:36:09

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG <sup>1</sup>	MZ's FORMING RATIO <sup>2</sup>	ION ABUND. RATIO	QC LIMITS <sup>3</sup>	CONC. FOUND (ng/mL)	CONC. RANGE (ng/mL)
2-MoCB	1			M/M+2	3.02	2.66-3.60	21.4	17.5 - 32.5
4-MoCB	3			M/M+2	3.02	2.66-3.60	22.6	17.5 - 32.5
2,2'-DiCB	4			M/M+2	1.52	1.33-1.79	21.5	17.5 - 32.5
4,4'-DiCB	15			M/M+2	1.51	1.33-1.79	25.5	19.6 - 36.4
2,2',6-TriCB	19			M/M+2	1.07	0.88-1.20	27.2	17.5 - 32.5
3,4,4'-TriCB	37			M/M+2	0.98	0.88-1.20	21.8	17.5 - 32.5
2,2',6,6'-TeCB	54			M/M+2	0.79	0.65-0.89	52.3	35.0 - 65.0
3,3',4,4'-TeCB	77			M/M+2	0.76	0.65-0.89	44.8	35.0 - 65.0
3,4,4',5-TeCB	81			M/M+2	0.76	0.65-0.89	48.3	35.0 - 65.0
2,2',4,6,6'-PeCB	104			M+2/M+4	1.58	1.32-1.78	55.2	35.0 - 65.0
2,3,3',4,4'-PeCB	105			M+2/M+4	1.50	1.32-1.78	47.6	35.0 - 65.0
2,3,4,4',5-PeCB	114			M+2/M+4	1.53	1.32-1.78	47.5	35.0 - 65.0
2,3',4,4',5-PeCB	118			M+2/M+4	1.52	1.32-1.78	44.6	35.0 - 65.0
2',3,4,4',5-PeCB	123			M+2/M+4	1.52	1.32-1.78	44.5	35.0 - 65.0
3,3',4,4',5-PeCB	126			M+2/M+4	1.52	1.32-1.78	49.3	39.0 - 72.4
2,2',4,4',6,6'-HxCB	155			M+2/M+4	1.24	1.05-1.43	53.7	35.0 - 65.0
2,3,3',4,4',5-HxCB	156	156 + 157	C	M+2/M+4	1.27	1.05-1.43	107	70.0 - 130
2,3,3',4,4',5'-HxCB	157	156 + 157	C156					
2,3',4,4',5,5'-HxCB	167			M+2/M+4	1.25	1.05-1.43	56.2	35.0 - 65.0
3,3',4,4',5,5'-HxCB	169			M+2/M+4	1.33	1.05-1.43	57.6	35.0 - 65.0
2,2',3,4',5,6,6'-HpCB	188			M+2/M+4	1.06	0.89-1.21	50.9	35.0 - 65.0
2,3,3',4,4',5,5'-HpCB	189			M+2/M+4	1.04	0.89-1.21	44.6	35.0 - 65.0
2,2',3,3',5,5',6,6'-OcCB	202			M+2/M+4	0.91	0.76-1.02	87.0	58.9 - 110
2,3,3',4,4',5,5',6-OcCB	205			M+2/M+4	0.88	0.76-1.02	75.6	52.5 - 97.5
2,2',3,3',4,4',5,5',6-NoCB	206			M+2/M+4	0.78	0.65-0.89	76.4	52.5 - 97.5
2,2',3,3',4,5,5',6,6'-NoCB	208			M+2/M+4	0.78	0.65-0.89	87.9	58.7 - 109
2,2',3,3',4,4',5,5',6,6'-DeCB	209			M+4/M+6	1.20	0.99-1.33	75.6	52.5 - 97.5

(1) Where applicable, custom lab flags have been used on this report; C = co-eluting congener.

(2) See Table 8, Method 1668A, for m/z specifications.

(3) Ion Abundance Ratio Control Limits as specified in Table 8, Method 1668A.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_ Rhonda Stoddard \_\_\_\_\_

For Axys Internal Use Only [ XSL Template: Form16684A.xsl; Created: 16-Nov-2018 10:17:08; Application: XMLTransformer-1.16.51;  
 Report Filename: 1668\_PCB1668\_PB8C\_366S1\_\_Form4A\_SJ2455480.html; Workgroup: WG65583; Design ID: 3360 ]

## SGS AXYS METHOD MLA-010 Rev 12

**Form 4B**  
**PCB CONGENER CALIBRATION VERIFICATION**

**SGS AXYS ANALYTICAL SERVICES**

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Initial Calibration Date:	07-Jul-2018	VER Data Filename:	PB8C_366 S: 1
Instrument ID:	HR GC/MS	Analysis Date:	24-Oct-2018
GC Column ID:	SPB OCTYL	Analysis Time:	19:36:09

LABELED COMPOUND	IUPAC NO. <sup>1</sup>	CO-ELUTIONS	LAB FLAG <sup>2</sup>	MZ's FORMING RATIO <sup>3</sup>	ION ABUND. RATIO	QC LIMITS <sup>4</sup>	CONC. FOUND (ng/mL)	CONC. RANGE (ng/mL)
13C12-2-MoCB	1L			M/M+2	3.17	2.66-3.60	93.9	50.0 - 150
13C12-4-MoCB	3L			M/M+2	3.10	2.66-3.60	93.1	50.0 - 150
13C12-2,2'-DiCB	4L			M/M+2	1.54	1.33-1.79	91.4	50.0 - 150
13C12-4,4'-DiCB	15L			M/M+2	1.52	1.33-1.79	87.8	50.0 - 150
13C12-2,2',6-TriCB	19L			M/M+2	1.06	0.88-1.20	95.8	50.0 - 150
13C12-3,4,4'-TriCB	37L			M/M+2	1.04	0.88-1.20	79.1	50.0 - 150
13C12-2,2',6,6'-TeCB	54L			M/M+2	0.79	0.65-0.89	92.1	50.0 - 150
13C12-3,3',4,4'-TeCB	77L			M/M+2	0.76	0.65-0.89	88.5	50.0 - 150
13C12-3,4,4',5-TeCB	81L			M/M+2	0.75	0.65-0.89	88.7	50.0 - 150
13C12-2,2',4,6,6'-PeCB	104L			M+2/M+4	1.62	1.32-1.78	74.7	50.0 - 150
13C12-2,3,3',4,4'-PeCB	105L			M+2/M+4	1.54	1.32-1.78	82.4	50.0 - 150
13C12-2,3,4,4',5-PeCB	114L			M+2/M+4	1.63	1.32-1.78	82.6	50.0 - 150
13C12-2,3',4,4',5-PeCB	118L			M+2/M+4	1.55	1.32-1.78	82.1	50.0 - 150
13C12-2',3,4,4',5-PeCB	123L			M+2/M+4	1.58	1.32-1.78	82.6	50.0 - 150
13C12-3,3',4,4',5-PeCB	126L			M+2/M+4	1.55	1.32-1.78	82.0	50.0 - 150
13C12-2,2',4,4',6,6'-HxCB	155L			M+2/M+4	1.27	1.05-1.43	75.5	50.0 - 150
13C12-2,3,3',4,4',5-HxCB	156L	156L + 157L	C	M+2/M+4	1.24	1.05-1.43	176	100 - 300
13C12-2,3,3',4,4',5'-HxCB	157L	156L + 157L	C156L					
13C12-2,3',4,4',5,5'-HxCB	167L			M+2/M+4	1.25	1.05-1.43	91.1	50.0 - 150
13C12-3,3',4,4',5,5'-HxCB	169L			M+2/M+4	1.24	1.05-1.43	85.7	50.0 - 150
13C12-2,2',3,4',5,6,6'-HpCB	188L			M+2/M+4	1.08	0.89-1.21	90.9	50.0 - 150
13C12-2,3,3',4,4',5,5'-HpCB	189L			M+2/M+4	1.03	0.89-1.21	83.2	50.0 - 150
13C12-2,2',3,3',5,5',6,6'-OcCB	202L			M+2/M+4	0.90	0.76-1.02	71.9	50.0 - 150
13C12-2,3,3',4,4',5,5',6-OcCB	205L			M+2/M+4	0.88	0.76-1.02	92.4	50.0 - 150
13C12-2,2',3,3',4,4',5,5',6-NoCB	206L			M+2/M+4	0.77	0.65-0.89	85.7	50.0 - 150
13C12-2,2',3,3',4,4',5,5',6,6'-NoCB	208L			M+2/M+4	0.77	0.65-0.89	89.9	50.0 - 150
13C12-2,2',3,3',4,4',5,5',6,6'-DeCB	209L			M+4/M+6	1.18	0.99-1.33	69.4	50.0 - 150

**CLEAN-UP STANDARD**

13C12-2,4,4'-TriCB	28L		M/M+2	1.03	0.88-1.20	90.3	60.0 - 130
13C12-2,3,3',5,5'-PeCB	111L		M+2/M+4	1.57	1.32-1.78	87.6	60.0 - 130
13C12-2,2',3,3',5,5',6-HpCB	178L		M+2/M+4	1.05	0.89-1.21	85.1	60.0 - 130

(1) Suffix "L" indicates labeled compound.

(2) Where applicable, custom lab flags have been used on this report; C = co-eluting congener.

(3) See Table 8, Method 1668A, for m/z specifications.

(4) Ion Abundance Ratio Control Limits as specified in Table 8, Method 1668A.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_ Rhonda Stoddard \_\_\_\_\_

For Axys Internal Use Only [ XSL Template: Form16684B.xlsx; Created: 16-Nov-2018 10:17:08; Application: XMLTransformer-1.16.51;  
Report Filename: 1668\_PCB1668\_PB8C\_366S1\_\_Form4B\_SJ2455480.html; Workgroup: WG65583; Design ID: 3360 ]

## SGS AXYS METHOD MLA-010 Rev 12

**Form 6A**  
**PCB CONGENER RELATIVE RETENTION TIMES**

**SGS AXYS ANALYTICAL SERVICES**

2045 MILLS RD., SIDNEY, B.C., CANADA  
 V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

<b>Initial Calibration Date:</b>	07-Jul-2018	<b>VER Data Filename:</b>	PB8C_366 S: 1
<b>Instrument ID:</b>	HR GC/MS	<b>Analysis Date:</b>	24-Oct-2018
<b>GC Column ID:</b>	SPB OCTYL	<b>Analysis Time:</b>	19:36:09

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG <sup>1</sup>	RETENTION TIME REFERENCE	IUPAC NO. <sup>2</sup>	RRT	RRT QC LIMITS
2-MoCB	1			13C12-2-MoCB	1L	1.001	0.999-1.004
4-MoCB	3			13C12-4-MoCB	3L	1.001	0.999-1.004
2,2'-DiCB	4			13C12-2,2'-DiCB	4L	1.001	0.999-1.004
4,4'-DiCB	15			13C12-4,4'-DiCB	15L	1.001	0.999-1.002
2,2',6-TriCB	19			13C12-2,2',6-TriCB	19L	1.001	0.999-1.003
3,4,4'-TriCB	37			13C12-3,4,4'-TriCB	37L	1.001	0.999-1.002
2,2',6,6'-TeCB	54			13C12-2,2',6,6'-TeCB	54L	1.001	0.999-1.002
3,3',4,4'-TeCB	77			13C12-3,3',4,4'-TeCB	77L	1.000	1.000-1.001
3,4,4',5-TeCB	81			13C12-3,4,4',5-TeCB	81L	1.000	1.000-1.001
2,2',4,6,6'-PeCB	104			13C12-2,2',4,6,6'-PeCB	104L	1.001	0.999-1.002
2,3,3',4,4'-PeCB	105			13C12-2,3,3',4,4'-PeCB	105L	1.001	1.000-1.001
2,3,4,4',5-PeCB	114			13C12-2,3,4,4',5-PeCB	114L	1.000	1.000-1.001
2,3',4,4',5-PeCB	118			13C12-2,3',4,4',5-PeCB	118L	1.000	1.000-1.001
2',3,4,4',5-PeCB	123			13C12-2',3,4,4',5-PeCB	123L	1.000	1.000-1.001
3,3',4,4',5-PeCB	126			13C12-3,3',4,4',5-PeCB	126L	1.000	1.000-1.001
2,2',4,4',6,6'-HxCB	155			13C12-2,2',4,4',6,6'-HxCB	155L	1.001	0.999-1.002
2,3,3',4,4',5-HxCB	156	156 + 157	C	13C12-2,3,3',4,4',5-HxCB and 13C12-2,3,3',4,4',5-HxCB	156L/157L	1.000	0.998-1.003
2,3,3',4,4',5-HxCB	157	156 + 157	C156				
2,3',4,4',5,5'-HxCB	167			13C12-2,3',4,4',5,5'-HxCB	167L	1.001	1.000-1.001
3,3',4,4',5,5'-HxCB	169			13C12-3,3',4,4',5,5'-HxCB	169L	1.000	1.000-1.001
2,2',3,4',5,6,6'-HpCB	188			13C12-2,2',3,4',5,6,6'-HpCB	188L	1.000	1.000-1.001
2,3,3',4,4',5,5'-HpCB	189			13C12-2,3,3',4,4',5,5'-HpCB	189L	1.001	1.000-1.001
2,2',3,3',5,5',6,6'-OcCB	202			13C12-2,2',3,3',5,5',6,6'-OcCB	202L	1.001	1.000-1.001
2,3,3',4,4',5,5',6-OcCB	205			13C12-2,3,3',4,4',5,5',6-OcCB	205L	1.000	1.000-1.001
2,2',3,3',4,4',5,5',6-NoCB	206			13C12-2,2',3,3',4,4',5,5',6-NoCB	206L	1.000	1.000-1.001
2,2',3,3',4,5,5',6,6'-NoCB	208			13C12-2,2',3,3',4,5,5',6,6'-NoCB	208L	1.000	1.000-1.001
2,2',3,3',4,4',5,5',6,6'-DeCB	209			13C12-2,2',3,3',4,4',5,5',6,6'-DeCB	209L	1.000	1.000-1.001

(1) Where applicable, custom lab flags have been used on this report; C = co-eluting congener.

(2) Suffix "L" indicates labeled compound

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_ Rhonda Stoddard \_\_\_\_\_

For Axys Internal Use Only [ XSL Template: Form1668A.xsl; Created: 16-Nov-2018 10:17:08; Application: XMLTransformer-1.16.51; Report Filename: 1668\_PCB1668\_PB8C\_366S1\_\_Form6A\_SJ2455480.html; Workgroup: WG65583; Design ID: 3360 ]

## SGS AXYS METHOD MLA-010 Rev 12

**Form 6B**  
**PCB CONGENER RELATIVE RETENTION TIMES**

**SGS AXYS ANALYTICAL SERVICES**

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Initial Calibration Date:	07-Jul-2018	VER Data Filename:	PB8C_366 S: 1
Instrument ID:	HR GC/MS	Analysis Date:	24-Oct-2018
GC Column ID:	SPB OCTYL	Analysis Time:	19:36:09

LABELED COMPOUND	IUPAC NO. <sup>1</sup>	CO-ELUTIONS	LAB FLAG <sup>2</sup>	RETENTION TIME REFERENCE	IUPAC NO. <sup>1</sup>	RRT	RRT QC LIMITS
13C12-2-MoCB	1L			13C12-2,5-DiCB	9L	0.719	0.688-0.751
13C12-4-MoCB	3L			13C12-2,5-DiCB	9L	0.859	0.828-0.891
13C12-2,2'-DiCB	4L			13C12-2,5-DiCB	9L	0.874	0.843-0.905
13C12-4,4'-DiCB	15L			13C12-2,5-DiCB	9L	1.253	1.222-1.285
13C12-2,2',6-TriCB	19L			13C12-2,5-DiCB	9L	1.072	1.041-1.103
13C12-3,4,4'-TriCB	37L			13C12-2,2',5,5'-TeCB	52L	1.092	1.072-1.112
13C12-2,2',6,6'-TeCB	54L			13C12-2,2',5,5'-TeCB	52L	0.811	0.797-0.824
13C12-3,3',4,4'-TeCB	77L			13C12-2,2',5,5'-TeCB	52L	1.397	1.384-1.410
13C12-3,4,4',5-TeCB	81L			13C12-2,2',5,5'-TeCB	52L	1.373	1.360-1.386
13C12-2,2',4,6,6'-PeCB	104L			13C12-2,2',4,5,5'-PeCB	101L	0.808	0.798-0.818
13C12-2,3,3',4,4'-PeCB	105L			13C12-2,2',4,5,5'-PeCB	101L	1.200	1.190-1.211
13C12-2,3,4,4',5-PeCB	114L			13C12-2,2',4,5,5'-PeCB	101L	1.179	1.169-1.190
13C12-2,3',4,4',5-PeCB	118L			13C12-2,2',4,5,5'-PeCB	101L	1.162	1.152-1.173
13C12-2',3,4,4',5-PeCB	123L			13C12-2,2',4,5,5'-PeCB	101L	1.151	1.141-1.162
13C12-3,3',4,4',5-PeCB	126L			13C12-2,2',4,5,5'-PeCB	101L	1.302	1.291-1.312
13C12-2,2',4,4',6,6'-HxCB	155L			13C12-2,2',3,4,4',5'-HxCB	138L	0.786	0.777-0.794
13C12-2,3,3',4,4',5-HxCB	156L	156L + 157L	C	13C12-2,2',3,4,4',5'-HxCB	138L	1.108	1.100-1.116
13C12-2,3,3',4,4',5'-HxCB	157L	156L + 157L	C156L				
13C12-2,3',4,4',5,5'-HxCB	167L			13C12-2,2',3,4,4',5'-HxCB	138L	1.078	1.070-1.086
13C12-3,3',4,4',5,5'-HxCB	169L			13C12-2,2',3,4,4',5'-HxCB	138L	1.192	1.184-1.200
13C12-2,2',3,4',5,6,6'-HpCB	188L			13C12-2,2',3,3',4,4',5,5'-OcCB	194L	0.712	0.706-0.718
13C12-2,3,3',4,4',5,5'-HpCB	189L			13C12-2,2',3,3',4,4',5,5'-OcCB	194L	0.959	0.953-0.965
13C12-2,2',3,3',5,5',6,6'-OcCB	202L			13C12-2,2',3,3',4,4',5,5'-OcCB	194L	0.817	0.811-0.824
13C12-2,3,3',4,4',5,5',6-OcCB	205L			13C12-2,2',3,3',4,4',5,5'-OcCB	194L	1.009	1.000-1.019
13C12-2,2',3,3',4,4',5,5',6-NoCB	206L			13C12-2,2',3,3',4,4',5,5'-OcCB	194L	1.043	1.034-1.053
13C12-2,2',3,3',4,5,5',6,6'-NoCB	208L			13C12-2,2',3,3',4,4',5,5'-OcCB	194L	0.949	0.943-0.955
13C12-2,2',3,3',4,4',5,5',6,6'-DeCB	209L			13C12-2,2',3,3',4,4',5,5'-OcCB	194L	1.075	1.065-1.084

**CLEANUP STANDARD**

13C12-2,4,4'-TriCB	28L	13C12-2,2',5,5'-TeCB	52L	0.925	0.911-0.938
13C12-2,3,3',5,5'-PeCB	111L	13C12-2,2',4,5,5'-PeCB	101L	1.088	1.077-1.098
13C12-2,2',3,3',5,5',6-HpCB	178L	13C12-2,2',3,4,4',5'-HxCB	138L	1.012	1.004-1.020

(1) Suffix "L" indicates labeled compound

(2) Where applicable, custom lab flags have been used on this report; C = co-eluting congener.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_ Rhonda Stoddard \_\_\_\_\_

For Axys Internal Use Only [ XSL Template: Form16686B.xlsx; Created: 16-Nov-2018 10:17:08; Application: XMLTransformer-1.16.51; Report Filename: 1668\_PCB1668\_PB8C\_366S1\_Form6B\_SJ2455480.html; Workgroup: WG65583; Design ID: 3360 ]

## SGS AXYS METHOD MLA-010 Rev 12

## Form 3A

PCB CONGENER INITIAL CALIBRATION RELATIVE RESPONSES,  
ION ABUNDANCE RATIOS, AND RELATIVE RETENTION TIMES

## SGS AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

**Initial Calibration Date:** 07-Jul-2018

**CAL Data Filename:** PB8C\_366 S: 1

**Instrument ID:** HR GC/MS

**Analysis Date:** 24-Oct-2018

**GC Column ID:** SPB OCTYL

**Analysis Time:** 19:36:09

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG <sup>1</sup>	RRF	MZ's FORMING RATIO <sup>2</sup>	ION ABUND. RATIO	RATIO QC LIMITS <sup>3</sup>	RRT	RRT QC LIMITS
3-MoCB	2			0.94	M/M+2	3.09	2.66-3.60	0.988	0.984 - 0.992
2,3-DiCB	5			0.99	M/M+2	1.52	1.33-1.79	1.198	1.195 - 1.202
2,3'-DiCB	6			1.10	M/M+2	1.51	1.33-1.79	1.175	1.172 - 1.179
2,4-DiCB	7			1.09	M/M+2	1.51	1.33-1.79	1.158	1.154 - 1.161
2,4'-DiCB	8			1.22	M/M+2	1.51	1.33-1.79	1.208	1.204 - 1.211
2,5-DiCB	9			1.10	M/M+2	1.52	1.33-1.79	1.146	1.142 - 1.149
2,6-DiCB	10			1.09	M/M+2	1.50	1.33-1.79	1.014	1.011 - 1.018
3,3'-DiCB	11			1.05	M/M+2	1.52	1.33-1.79	0.969	0.967 - 0.972
3,4-DiCB	12	12 + 13	C	1.04	M/M+2	1.50	1.33-1.79	0.985	0.983 - 0.988
3,4'-DiCB	13	12 + 13	C12						
3,5-DiCB	14			1.08	M/M+2	1.51	1.33-1.79	0.925	0.923 - 0.928
2,2',3-TriCB	16			0.91	M/M+2	1.07	0.88-1.20	1.165	1.162 - 1.168
2,2',4-TriCB	17			1.05	M/M+2	1.05	0.88-1.20	1.138	1.135 - 1.141
2,2',5-TriCB	18	18 + 30	C	1.23	M/M+2	1.06	0.88-1.20	1.112	1.109 - 1.115
2,3,3'-TriCB	20	20 + 28	C	1.13	M/M+2	1.02	0.88-1.20	0.849	0.846 - 0.852
2,3,4-TriCB	21	21 + 33	C	1.15	M/M+2	1.00	0.88-1.20	0.855	0.852 - 0.858
2,3,4'-TriCB	22			1.00	M/M+2	1.02	0.88-1.20	0.872	0.870 - 0.874
2,3,5-TriCB	23			1.06	M/M+2	1.00	0.88-1.20	1.282	1.279 - 1.285
2,3,6-TriCB	24			1.36	M/M+2	1.05	0.88-1.20	1.159	1.156 - 1.161
2,3',4-TriCB	25			1.32	M/M+2	1.01	0.88-1.20	0.825	0.823 - 0.827
2,3',5-TriCB	26	26 + 29	C	1.10	M/M+2	0.99	0.88-1.20	1.302	1.297 - 1.306
2,3',6-TriCB	27			1.51	M/M+2	1.07	0.88-1.20	1.151	1.148 - 1.154
2,4,4'-TriCB	28	20 + 28	C20						
2,4,5-TriCB	29	26 + 29	C26						
2,4,6-TriCB	30	18 + 30	C18						
2,4',5-TriCB	31			1.20	M/M+2	1.02	0.88-1.20	0.836	0.835 - 0.838
2,4',6-TriCB	32			1.13	M/M+2	0.99	0.88-1.20	1.197	1.195 - 1.200
2',3,4-TriCB	33	21 + 33	C21						
2',3,5-TriCB	34			1.07	M/M+2	0.98	0.88-1.20	1.273	1.270 - 1.276
3,3',4-TriCB	35			1.08	M/M+2	1.00	0.88-1.20	0.986	0.984 - 0.988
3,3',5-TriCB	36			1.17	M/M+2	1.01	0.88-1.20	0.932	0.930 - 0.933
3,4,5-TriCB	38			1.10	M/M+2	1.01	0.88-1.20	0.967	0.965 - 0.969
3,4',5-TriCB	39			1.10	M/M+2	0.98	0.88-1.20	0.946	0.944 - 0.948
2,2',3,3'-TeCB	40	40 + 41 + 71	C	0.89	M/M+2	0.79	0.65-0.89	1.335	1.331 - 1.339
2,2',3,4-TeCB	41	40 + 41 + 71	C40						
2,2',3,4'-TeCB	42			0.86	M/M+2	0.79	0.65-0.89	1.312	1.310 - 1.315
2,2',3,5-TeCB	43			0.82	M/M+2	0.79	0.65-0.89	1.247	1.244 - 1.249
2,2',3,5'-TeCB	44	44 + 47 + 65	C	0.98	M/M+2	0.78	0.65-0.89	1.286	1.282 - 1.290
2,2',3,6-TeCB	45	45 + 51	C	0.91	M/M+2	0.78	0.65-0.89	1.147	1.143 - 1.151
2,2',3,6'-TeCB	46			0.79	M/M+2	0.77	0.65-0.89	1.161	1.159 - 1.164
2,2',4,4'-TeCB	47	44 + 47 + 65	C44						
2,2',4,5-TeCB	48			0.89	M/M+2	0.77	0.65-0.89	1.273	1.270 - 1.275
2,2',4,5'-TeCB	49	49 + 69	C	1.05	M/M+2	0.78	0.65-0.89	1.257	1.253 - 1.261
2,2',4,6-TeCB	50	50 + 53	C	0.94	M/M+2	0.78	0.65-0.89	1.112	1.108 - 1.116
2,2',4,6'-TeCB	51	45 + 51	C45						
2,2',5,5'-TeCB	52			0.95	M/M+2	0.78	0.65-0.89	1.234	1.232 - 1.237
2,2',5,6'-TeCB	53	50 + 53	C50						
2,3,3',4-TeCB	55			0.90	M/M+2	0.75	0.65-0.89	0.889	0.887 - 0.890
2,3,3',4'-TeCB	56			0.90	M/M+2	0.77	0.65-0.89	0.904	0.903 - 0.906

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG <sup>1</sup>	RRF	MZ's FORMING RATIO <sup>2</sup>	ION ABUND. RATIO	RATIO QC LIMITS <sup>3</sup>	RRT	RRT QC LIMITS
2,3,3',5-TeCB	57			1.00	M/M+2	0.74	0.65-0.89	0.844	0.842 - 0.845
2,3,3',5'-TeCB	58			0.98	M/M+2	0.76	0.65-0.89	0.851	0.849 - 0.852
2,3,3',6-TeCB	59	59 + 62 + 75	C	1.21	M/M+2	0.79	0.65-0.89	1.302	1.297 - 1.306
2,3,4,4'-TeCB	60			0.90	M/M+2	0.77	0.65-0.89	0.911	0.909 - 0.912
2,3,4,5-TeCB	61	61 + 70 + 74 + 76	C	1.00	M/M+2	0.76	0.65-0.89	0.874	0.871 - 0.877
2,3,4,6-TeCB	62	59 + 62 + 75	C59						
2,3,4',5-TeCB	63			1.00	M/M+2	0.76	0.65-0.89	0.864	0.863 - 0.866
2,3,4',6-TeCB	64			1.23	M/M+2	0.78	0.65-0.89	1.348	1.346 - 1.351
2,3,5,6-TeCB	65	44 + 47 + 65	C44						
2,3',4,4'-TeCB	66			1.00	M/M+2	0.76	0.65-0.89	0.884	0.883 - 0.885
2,3',4,5-TeCB	67			1.16	M/M+2	0.75	0.65-0.89	0.856	0.854 - 0.857
2,3',4,5'-TeCB	68			1.00	M/M+2	0.77	0.65-0.89	0.831	0.829 - 0.832
2,3',4,6-TeCB	69	49 + 69	C49						
2,3',4',5-TeCB	70	61 + 70 + 74 + 76	C61						
2,3',4',6-TeCB	71	40 + 41 + 71	C40						
2,3',5,5'-TeCB	72			1.03	M/M+2	0.75	0.65-0.89	0.822	0.821 - 0.824
2,3',5',6-TeCB	73			1.12	M/M+2	0.78	0.65-0.89	1.241	1.238 - 1.243
2,4,4',5-TeCB	74	61 + 70 + 74 + 76	C61						
2,4,4',6-TeCB	75	59 + 62 + 75	C59						
2',3,4,5-TeCB	76	61 + 70 + 74 + 76	C61						
3,3',4,5-TeCB	78			0.92	M/M+2	0.78	0.65-0.89	0.987	0.985 - 0.988
3,3',4,5'-TeCB	79			1.12	M/M+2	0.78	0.65-0.89	0.970	0.969 - 0.972
3,3',5,5'-TeCB	80			1.00	M/M+2	0.80	0.65-0.89	0.923	0.922 - 0.925
2,2',3,3',4-PeCB	82			0.80	M+2/M+4	1.57	1.32-1.78	0.934	0.932 - 0.935
2,2',3,3',5-PeCB	83	83 + 99	C	0.87	M+2/M+4	1.58	1.32-1.78	0.884	0.882 - 0.887
2,2',3,3',6-PeCB	84			0.81	M+2/M+4	1.59	1.32-1.78	1.164	1.162 - 1.166
2,2',3,4,4'-PeCB	85	85 + 116 + 117	C	1.05	M+2/M+4	1.60	1.32-1.78	0.919	0.917 - 0.922
2,2',3,4,5-PeCB	86	86 + 87 + 97 + 108 + 119 + 125	C	1.02	M+2/M+4	1.57	1.32-1.78	0.900	0.897 - 0.904
2,2',3,4,5'-PeCB	87	86 + 87 + 97 + 108 + 119 + 125	C86						
2,2',3,4,6-PeCB	88	88 + 91	C	0.92	M+2/M+4	1.58	1.32-1.78	1.153	1.149 - 1.157
2,2',3,4,6'-PeCB	89			0.86	M+2/M+4	1.58	1.32-1.78	1.183	1.181 - 1.185
2,2',3,4',5-PeCB	90	90 + 101 + 113	C	1.02	M+2/M+4	1.59	1.32-1.78	0.868	0.866 - 0.871
2,2',3,4',6-PeCB	91	88 + 91	C88						
2,2',3,5,5'-PeCB	92			0.88	M+2/M+4	1.57	1.32-1.78	0.853	0.851 - 0.854
2,2',3,5,6-PeCB	93	93 + 95 + 98 + 100 + 102	C	0.95	M+2/M+4	1.56	1.32-1.78	1.130	1.119 - 1.141
2,2',3,5,6'-PeCB	94			0.85	M+2/M+4	1.59	1.32-1.78	1.102	1.100 - 1.104
2,2',3,5',6-PeCB	95	93 + 95 + 98 + 100 + 102	C93						
2,2',3,6,6'-PeCB	96			1.15	M+2/M+4	1.58	1.32-1.78	1.016	1.013 - 1.019
2,2',3',4,5-PeCB	97	86 + 87 + 97 + 108 + 119 + 125	C86						
2,2',3',4,6-PeCB	98	93 + 95 + 98 + 100 + 102	C93						
2,2',4,4',5-PeCB	99	83 + 99	C83						
2,2',4,4',6-PeCB	100	93 + 95 + 98 + 100 + 102	C93						
2,2',4,5,5'-PeCB	101	90 + 101 + 113	C90						
2,2',4,5,6'-PeCB	102	93 + 95 + 98 + 100 + 102	C93						
2,2',4,5',6-PeCB	103			1.04	M+2/M+4	1.58	1.32-1.78	1.094	1.092 - 1.096
2,3,3',4,5-PeCB	106			1.00	M+2/M+4	1.48	1.32-1.78	1.004	1.002 - 1.005
2,3,3',4',5-PeCB	107	107 + 124	C	0.94	M+2/M+4	1.50	1.32-1.78	0.991	0.988 - 0.993
2,3,3',4,5'-PeCB	108	86 + 87 + 97 + 108 + 119 + 125	C86						
2,3,3',4,6-PeCB	109			1.03	M+2/M+4	1.50	1.32-1.78	0.997	0.996 - 0.999
2,3,3',4',6-PeCB	110	110 + 115	C	1.18	M+2/M+4	1.58	1.32-1.78	0.926	0.924 - 0.928
2,3,3',5,5'-PeCB	111			1.18	M+2/M+4	1.55	1.32-1.78	0.945	0.944 - 0.946
2,3,3',5,6-PeCB	112			1.21	M+2/M+4	1.56	1.32-1.78	0.889	0.887 - 0.890
2,3,3',5',6-PeCB	113	90 + 101 + 113	C90						
2,3,4,4',6-PeCB	115	110 + 115	C110						
2,3,4,5,6-PeCB	116	85 + 116 + 117	C85						
2,3,4',5,6-PeCB	117	85 + 116 + 117	C85						
2,3',4,4',6-PeCB	119	86 + 87 + 97 + 108 + 119 + 125	C86						
2,3',4,5,5'-PeCB	120			1.22	M+2/M+4	1.58	1.32-1.78	0.958	0.957 - 0.959
2,3',4,5,6-PeCB	121			1.15	M+2/M+4	1.58	1.32-1.78	1.200	1.198 - 1.202
2',3,3',4,5-PeCB	122			0.85	M+2/M+4	1.55	1.32-1.78	1.010	1.008 - 1.011
2',3,4,5,5'-PeCB	124	107 + 124	C107						
2',3,4,5,6'-PeCB	125	86 + 87 + 97 + 108 + 119 + 125	C86						

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG <sup>1</sup>	RRF	MZ's FORMING RATIO <sup>2</sup>	ION ABUND. RATIO	RATIO QC LIMITS <sup>3</sup>	RRT	RRT QC LIMITS
3,3',4,5,5'-PeCB	127			0.88	M+2/M+4	1.51	1.32-1.78	1.041	1.040 - 1.042
2,2',3,3',4,4'-HxCB	128	128 + 166	C	1.01	M+2/M+4	1.24	1.05-1.43	0.958	0.957 - 0.960
2,2',3,3',4,5-HxCB	129	129 + 138 + 160 + 163	C	1.00	M+2/M+4	1.26	1.05-1.43	0.930	0.927 - 0.933
2,2',3,3',4,5'-HxCB	130			0.77	M+2/M+4	1.26	1.05-1.43	0.913	0.912 - 0.914
2,2',3,3',4,6-HxCB	131			0.85	M+2/M+4	1.32	1.05-1.43	1.160	1.158 - 1.162
2,2',3,3',4,6'-HxCB	132			0.80	M+2/M+4	1.21	1.05-1.43	1.175	1.173 - 1.178
2,2',3,3',5,5'-HxCB	133			0.87	M+2/M+4	1.26	1.05-1.43	1.191	1.190 - 1.193
2,2',3,3',5,6-HxCB	134	134 + 143	C	0.85	M+2/M+4	1.25	1.05-1.43	1.142	1.139 - 1.144
2,2',3,3',5,6'-HxCB	135	135 + 151 + 154	C	0.85	M+2/M+4	1.27	1.05-1.43	1.107	1.101 - 1.112
2,2',3,3',6,6'-HxCB	136			1.13	M+2/M+4	1.32	1.05-1.43	1.025	1.024 - 1.027
2,2',3,4,4',5-HxCB	137			0.79	M+2/M+4	1.24	1.05-1.43	0.918	0.917 - 0.919
2,2',3,4,4',5'-HxCB	138	129 + 138 + 160 + 163	C129						
2,2',3,4,4',6-HxCB	139	139 + 140	C	0.94	M+2/M+4	1.25	1.05-1.43	1.153	1.151 - 1.156
2,2',3,4,4',6'-HxCB	140	139 + 140	C139						
2,2',3,4,5,5'-HxCB	141			0.86	M+2/M+4	1.21	1.05-1.43	0.903	0.902 - 0.904
2,2',3,4,5,6-HxCB	142			0.84	M+2/M+4	1.19	1.05-1.43	1.165	1.163 - 1.166
2,2',3,4,5,6'-HxCB	143	134 + 143	C134						
2,2',3,4,5',6-HxCB	144			0.82	M+2/M+4	1.28	1.05-1.43	1.122	1.120 - 1.123
2,2',3,4,6,6'-HxCB	145			1.05	M+2/M+4	1.26	1.05-1.43	1.034	1.032 - 1.036
2,2',3,4',5,5'-HxCB	146			0.99	M+2/M+4	1.26	1.05-1.43	0.884	0.883 - 0.885
2,2',3,4',5,6-HxCB	147	147 + 149	C	0.96	M+2/M+4	1.26	1.05-1.43	1.134	1.131 - 1.137
2,2',3,4',5,6'-HxCB	148			0.82	M+2/M+4	1.24	1.05-1.43	1.084	1.082 - 1.085
2,2',3,4',5,6-HxCB	149	147 + 149	C147						
2,2',3,4',6,6'-HxCB	150			1.09	M+2/M+4	1.33	1.05-1.43	1.013	1.011 - 1.014
2,2',3,5,5',6-HxCB	151	135 + 151 + 154	C135						
2,2',3,5,6,6'-HxCB	152			1.18	M+2/M+4	1.26	1.05-1.43	1.007	1.006 - 1.009
2,2',4,4',5,5'-HxCB	153	153 + 168	C	1.12	M+2/M+4	1.23	1.05-1.43	0.899	0.897 - 0.901
2,2',4,4',5,6'-HxCB	154	135 + 151 + 154	C135						
2,3,3',4,4',6-HxCB	158			1.31	M+2/M+4	1.24	1.05-1.43	0.938	0.936 - 0.939
2,3,3',4,5,5'-HxCB	159			1.15	M+2/M+4	1.23	1.05-1.43	0.982	0.981 - 0.983
2,3,3',4,5,6-HxCB	160	129 + 138 + 160 + 163	C129						
2,3,3',4,5',6-HxCB	161			1.23	M+2/M+4	1.27	1.05-1.43	0.887	0.886 - 0.888
2,3,3',4',5,5'-HxCB	162			1.26	M+2/M+4	1.18	1.05-1.43	0.989	0.988 - 0.990
2,3,3',4',5,6-HxCB	163	129 + 138 + 160 + 163	C129						
2,3,3',4',5',6-HxCB	164			1.21	M+2/M+4	1.27	1.05-1.43	0.921	0.920 - 0.922
2,3,3',5,5',6-HxCB	165			1.04	M+2/M+4	1.29	1.05-1.43	0.878	0.877 - 0.879
2,3,4,4',5,6-HxCB	166	128 + 166	C128						
2,3',4,4',5,6-HxCB	168	153 + 168	C153						
2,2',3,3',4,4',5-HpCB	170			1.17	M+2/M+4	1.06	0.89-1.21	1.000	0.999 - 1.001
2,2',3,3',4,4',6-HpCB	171	171 + 173	C	0.75	M+2/M+4	1.05	0.89-1.21	1.163	1.161 - 1.165
2,2',3,3',4,5,5'-HpCB	172			0.71	M+2/M+4	1.08	0.89-1.21	0.897	0.896 - 0.898
2,2',3,3',4,5,6-HpCB	173	171 + 173	C171						
2,2',3,3',4,5,6'-HpCB	174			0.80	M+2/M+4	1.02	0.89-1.21	1.133	1.132 - 1.135
2,2',3,3',4,5',6-HpCB	175			0.83	M+2/M+4	1.06	0.89-1.21	1.103	1.101 - 1.104
2,2',3,3',4,6,6'-HpCB	176			1.11	M+2/M+4	1.08	0.89-1.21	1.034	1.033 - 1.036
2,2',3,3',4',5,6-HpCB	177			1.04	M+2/M+4	1.06	0.89-1.21	1.146	1.145 - 1.148
2,2',3,3',5,5',6-HpCB	178			0.81	M+2/M+4	1.05	0.89-1.21	1.085	1.084 - 1.087
2,2',3,3',5,6,6'-HpCB	179			1.16	M+2/M+4	1.06	0.89-1.21	1.010	1.009 - 1.011
2,2',3,4,4',5,5'-HpCB	180	180 + 193	C	1.01	M+2/M+4	1.07	0.89-1.21	1.000	0.999 - 1.001
2,2',3,4,4',5,6-HpCB	181			0.78	M+2/M+4	1.07	0.89-1.21	1.157	1.156 - 1.158
2,2',3,4,4',5,6'-HpCB	182			0.85	M+2/M+4	1.03	0.89-1.21	1.116	1.115 - 1.117
2,2',3,4,4',5,6-HpCB	183	183 + 185	C	0.83	M+2/M+4	1.05	0.89-1.21	1.128	1.127 - 1.130
2,2',3,4,4',6,6'-HpCB	184			1.17	M+2/M+4	1.02	0.89-1.21	1.025	1.023 - 1.026
2,2',3,4,5,5',6-HpCB	185	183 + 185	C183						
2,2',3,4,5,6,6'-HpCB	186			1.05	M+2/M+4	1.06	0.89-1.21	1.047	1.046 - 1.048
2,2',3,4',5,5',6-HpCB	187			0.88	M+2/M+4	1.06	0.89-1.21	1.110	1.109 - 1.111
2,3,3',4,4',5,6-HpCB	190			0.97	M+2/M+4	1.07	0.89-1.21	0.947	0.946 - 0.948
2,3,3',4,4',5,6'-HpCB	191			0.94	M+2/M+4	1.03	0.89-1.21	0.917	0.916 - 0.918
2,3,3',4,5,5',6-HpCB	192			0.86	M+2/M+4	1.05	0.89-1.21	0.903	0.902 - 0.904
2,3,3',4',5,5',6-HpCB	193	180 + 193	C180						
2,2',3,3',4,4',5,5'-OcCB	194			0.87	M+2/M+4	0.88	0.76-1.02	0.991	0.990 - 0.992
2,2',3,3',4,4',5,6-OcCB	195			0.81	M+2/M+4	0.90	0.76-1.02	0.946	0.945 - 0.947
2,2',3,3',4,4',5,6'-OcCB	196			0.69	M+2/M+4	0.90	0.76-1.02	0.916	0.915 - 0.916

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG <sup>1</sup>	RRF	MZ's FORMING RATIO <sup>2</sup>	ION ABUND. RATIO	RATIO QC LIMITS <sup>3</sup>	RRT	RRT QC LIMITS
2,2',3,3',4,4',6,6'-OcCB	197	197 + 200	C	1.00	<b>M+2/M+4</b>	0.91	0.76-1.02	1.046	1.043 - 1.048
2,2',3,3',4,5,5',6-OcCB	198	198 + 199	C	0.68	<b>M+2/M+4</b>	0.90	0.76-1.02	1.114	1.112 - 1.116
2,2',3,3',4,5,5',6'-OcCB	199	198 + 199	C198						
2,2',3,3',4,5,6,6'-OcCB	200	197 + 200	C197						
2,2',3,3',4,5',6,6'-OcCB	201			1.02	<b>M+2/M+4</b>	0.90	0.76-1.02	1.023	1.021 - 1.025
2,2',3,4,4',5,5',6-OcCB	203			0.73	<b>M+2/M+4</b>	0.91	0.76-1.02	0.919	0.918 - 0.920
2,2',3,4,4',5,6,6'-OcCB	204			0.98	<b>M+2/M+4</b>	0.90	0.76-1.02	1.039	1.038 - 1.040
2,2',3,3',4,4',5,6,6'-NoCB	207			1.26	<b>M+2/M+4</b>	0.80	0.65-0.89	1.020	1.019 - 1.021

(1) Where applicable, custom lab flags have been used on this report.

(2) See Table 8, Method 1668A, for m/z specifications.

(3) Ion Abundance Ratio Control Limits as specified in Table 8, Method 1668A.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_ Rhonda Stoddard \_\_\_\_\_

For Axys Internal Use Only [ XSL Template: Form1668346A.xls; Created: 16-Nov-2018 10:17:08; Application: XMLTransformer-1.16.51;  
Report Filename: 1668\_PCB1668\_PB8C\_366S1\_\_Form346A\_SJ2455469\_GS78416.html; Workgroup: WG65583; Design ID: 3360 ]

## SGS AXYS METHOD MLA-010 Rev 12

## Form 3B

PCB CONGENER INITIAL CALIBRATION RELATIVE RESPONSES,  
ION ABUNDANCE RATIOS, AND RELATIVE RETENTION TIMES

## SGS AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

**Initial Calibration Date:** 07-Jul-2018

**CAL Data Filename:** PB8C\_366 S: 1

**Instrument ID:** HR GC/MS

**Analysis Date:** 24-Oct-2018

**GC Column ID:** SPB OCTYL

**Analysis Time:** 19:36:09

LABELED COMPOUND	IUPAC NO. <sup>1</sup>	CO-ELUTIONS	LAB FLAG <sup>2</sup>	RRF	MZ's FORMING RATIO <sup>3</sup>	ION ABUND. RATIO	RATIO QC LIMITS <sup>4</sup>	RRT	RRT QC LIMITS
13C12-2-MoCB	1L			1.06	M/M+2	3.17	2.66-3.60	0.719	0.704 - 0.735
13C12-4-MoCB	3L			1.00	M/M+2	3.10	2.66-3.60	0.859	0.844 - 0.875
13C12-2,2'-DiCB	4L			0.62	M/M+2	1.54	1.33-1.79	0.874	0.858 - 0.889
13C12-4,4'-DiCB	15L			0.94	M/M+2	1.52	1.33-1.79	1.253	1.238 - 1.269
13C12-2,2',6-TriCB	19L			0.54	M/M+2	1.06	0.88-1.20	1.072	1.056 - 1.088
13C12-3,4,4'-TriCB	37L			1.34	M/M+2	1.04	0.88-1.20	1.092	1.082 - 1.102
13C12-2,2',6,6'-TeCB	54L			1.36	M/M+2	0.79	0.65-0.89	0.811	0.804 - 0.817
13C12-3,3',4,4'-TeCB	77L			1.16	M/M+2	0.76	0.65-0.89	1.397	1.390 - 1.404
13C12-3,4,4',5-TeCB	81L			1.15	M/M+2	0.75	0.65-0.89	1.373	1.366 - 1.380
13C12-2,2',4,6,6'-PeCB	104L			1.10	M+2/M+4	1.62	1.32-1.78	0.808	0.803 - 0.813
13C12-2,3,3',4,4'-PeCB	105L			1.16	M+2/M+4	1.54	1.32-1.78	1.200	1.195 - 1.205
13C12-2,3,4,4',5-PeCB	114L			1.12	M+2/M+4	1.63	1.32-1.78	1.179	1.174 - 1.185
13C12-2,3',4,4',5-PeCB	118L			1.12	M+2/M+4	1.55	1.32-1.78	1.162	1.157 - 1.168
13C12-2',3,4,4',5-PeCB	123L			1.15	M+2/M+4	1.58	1.32-1.78	1.151	1.146 - 1.157
13C12-3,3',4,4',5-PeCB	126L			1.03	M+2/M+4	1.55	1.32-1.78	1.302	1.297 - 1.307
13C12-2,2',4,4',6,6'-HxCB	155L			1.26	M+2/M+4	1.27	1.05-1.43	0.786	0.781 - 0.790
13C12-2,3,3',4,4',5-HxCB	156L	156L + 157L	C	1.18	M+2/M+4	1.24	1.05-1.43	1.108	1.104 - 1.112
13C12-2,3,3',4,4',5'-HxCB	157L	156L + 157L	C156L						
13C12-2,3',4,4',5,5'-HxCB	167L			1.17	M+2/M+4	1.25	1.05-1.43	1.078	1.074 - 1.082
13C12-3,3',4,4',5,5'-HxCB	169L			1.14	M+2/M+4	1.24	1.05-1.43	1.192	1.188 - 1.196
13C12-2,2',3,3',4,4',5-HpCB	170L			0.92	M+2/M+4	1.06	0.89-1.21	0.897	0.894 - 0.901
13C12-2,2',3,4,4',5,5'-HpCB	180L			1.14	M+2/M+4	1.08	0.89-1.21	0.873	0.870 - 0.876
13C12-2,2',3,4',5,6,6'-HpCB	188L			1.71	M+2/M+4	1.08	0.89-1.21	0.712	0.709 - 0.715
13C12-2,3,3',4,4',5,5'-HpCB	189L			1.26	M+2/M+4	1.03	0.89-1.21	0.959	0.956 - 0.962
13C12-2,2',3,3',5,5',6,6'-OcCB	202L			1.28	M+2/M+4	0.90	0.76-1.02	0.817	0.814 - 0.821
13C12-2,3,3',4,4',5,5',6-OcCB	205L			1.39	M+2/M+4	0.88	0.76-1.02	1.009	1.005 - 1.014
13C12-2,2',3,3',4,4',5,5',6-NoCB	206L			0.94	M+2/M+4	0.77	0.65-0.89	1.043	1.039 - 1.048
13C12-2,2',3,3',4,5,5',6-NoCB	208L			1.21	M+2/M+4	0.77	0.65-0.89	0.949	0.946 - 0.952

(1) Suffix "L" indicates labeled compound

(2) Where applicable, custom lab flags have been used on this report.

(3) See Table 8, Method 1668A, for m/z specifications.

(4) Ion Abundance Ratio Control Limits as specified in Table 8, Method 1668A.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_ Rhonda Stoddard \_\_\_\_\_

For Axys Internal Use Only [ XSL Template: Form1668346B.xsl; Created: 16-Nov-2018 10:17:08; Application: XMLTransformer-1.16.51;  
Report Filename: 1668\_PCB1668\_PB8C\_366S1\_\_Form346B\_SJ2455469\_GS78416.html; Workgroup: WG65583; Design ID: 3360 ]

## SGS AXYS METHOD MLA-010 Rev 12

**Form 4A**  
**PCB CONGENER CALIBRATION VERIFICATION**

**SGS AXYS ANALYTICAL SERVICES**  
 2045 MILLS RD., SIDNEY, B.C., CANADA  
 V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

<b>Initial Calibration Date:</b>	07-Jul-2018	<b>VER Data Filename:</b>	PB8C_366 S: 11
<b>Instrument ID:</b>	HR GC/MS	<b>Analysis Date:</b>	25-Oct-2018
<b>GC Column ID:</b>	SPB OCTYL	<b>Analysis Time:</b>	06:14:15

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG <sup>1</sup>	MZ's FORMING RATIO <sup>2</sup>	ION ABUND. RATIO	QC LIMITS <sup>3</sup>	CONC. FOUND (ng/mL)	CONC. RANGE (ng/mL)
2-MoCB	1			M/M+2	3.01	2.66-3.60	21.5	17.5 - 32.5
4-MoCB	3			M/M+2	3.01	2.66-3.60	22.9	17.5 - 32.5
2,2'-DiCB	4			M/M+2	1.49	1.33-1.79	21.2	17.5 - 32.5
4,4'-DiCB	15			M/M+2	1.50	1.33-1.79	24.9	19.6 - 36.4
2,2',6-TriCB	19			M/M+2	1.06	0.88-1.20	27.0	17.5 - 32.5
3,4,4'-TriCB	37			M/M+2	1.00	0.88-1.20	21.4	17.5 - 32.5
2,2',6,6'-TeCB	54			M/M+2	0.79	0.65-0.89	52.0	35.0 - 65.0
3,3',4,4'-TeCB	77			M/M+2	0.77	0.65-0.89	44.3	35.0 - 65.0
3,4,4',5-TeCB	81			M/M+2	0.76	0.65-0.89	47.5	35.0 - 65.0
2,2',4,6,6'-PeCB	104			M+2/M+4	1.57	1.32-1.78	54.6	35.0 - 65.0
2,3,3',4,4'-PeCB	105			M+2/M+4	1.53	1.32-1.78	45.8	35.0 - 65.0
2,3,4,4',5-PeCB	114			M+2/M+4	1.54	1.32-1.78	47.1	35.0 - 65.0
2,3',4,4',5-PeCB	118			M+2/M+4	1.53	1.32-1.78	44.9	35.0 - 65.0
2',3,4,4',5-PeCB	123			M+2/M+4	1.47	1.32-1.78	43.3	35.0 - 65.0
3,3',4,4',5-PeCB	126			M+2/M+4	1.45	1.32-1.78	45.2	39.0 - 72.4
2,2',4,4',6,6'-HxCB	155			M+2/M+4	1.33	1.05-1.43	53.4	35.0 - 65.0
2,3,3',4,4',5-HxCB	156	156 + 157	C	M+2/M+4	1.29	1.05-1.43	108	70.0 - 130
2,3,3',4,4',5'-HxCB	157	156 + 157	C156					
2,3',4,4',5,5'-HxCB	167			M+2/M+4	1.25	1.05-1.43	57.7	35.0 - 65.0
3,3',4,4',5,5'-HxCB	169			M+2/M+4	1.31	1.05-1.43	58.8	35.0 - 65.0
2,2',3,4',5,6,6'-HpCB	188			M+2/M+4	1.07	0.89-1.21	51.3	35.0 - 65.0
2,3,3',4,4',5,5'-HpCB	189			M+2/M+4	1.02	0.89-1.21	42.8	35.0 - 65.0
2,2',3,3',5,5',6,6'-OcCB	202			M+2/M+4	0.90	0.76-1.02	89.6	58.9 - 110
2,3,3',4,4',5,5',6-OcCB	205			M+2/M+4	0.88	0.76-1.02	76.2	52.5 - 97.5
2,2',3,3',4,4',5,5',6-NoCB	206			M+2/M+4	0.78	0.65-0.89	77.0	52.5 - 97.5
2,2',3,3',4,5,5',6,6'-NoCB	208			M+2/M+4	0.79	0.65-0.89	85.0	58.7 - 109
2,2',3,3',4,4',5,5',6,6'-DeCB	209			M+4/M+6	1.18	0.99-1.33	75.2	52.5 - 97.5

(1) Where applicable, custom lab flags have been used on this report; C = co-eluting congener.

(2) See Table 8, Method 1668A, for m/z specifications.

(3) Ion Abundance Ratio Control Limits as specified in Table 8, Method 1668A.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_ Rhonda Stoddard \_\_\_\_\_

For Axys Internal Use Only [ XSL Template: Form16684A.xsl; Created: 16-Nov-2018 10:17:08; Application: XMLTransformer-1.16.51;  
 Report Filename: 1668\_PCB1668\_PB8C\_366S11\_Form4A\_SJ2455500.html; Workgroup: WG65583; Design ID: 3360 ]

## SGS AXYS METHOD MLA-010 Rev 12

**Form 4B**  
**PCB CONGENER CALIBRATION VERIFICATION**

**SGS AXYS ANALYTICAL SERVICES**

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Initial Calibration Date:	07-Jul-2018	VER Data Filename:	PB8C_366 S: 11
Instrument ID:	HR GC/MS	Analysis Date:	25-Oct-2018
GC Column ID:	SPB OCTYL	Analysis Time:	06:14:15

LABELED COMPOUND	IUPAC NO. <sup>1</sup>	CO-ELUTIONS	LAB FLAG <sup>2</sup>	MZ's FORMING RATIO <sup>3</sup>	ION ABUND. RATIO	QC LIMITS <sup>4</sup>	CONC. FOUND (ng/mL)	CONC. RANGE (ng/mL)
13C12-2-MoCB	1L			M/M+2	3.15	2.66-3.60	93.9	50.0 - 150
13C12-4-MoCB	3L			M/M+2	3.13	2.66-3.60	94.3	50.0 - 150
13C12-2,2'-DiCB	4L			M/M+2	1.56	1.33-1.79	90.5	50.0 - 150
13C12-4,4'-DiCB	15L			M/M+2	1.58	1.33-1.79	92.7	50.0 - 150
13C12-2,2',6-TriCB	19L			M/M+2	1.06	0.88-1.20	94.7	50.0 - 150
13C12-3,4,4'-TriCB	37L			M/M+2	1.02	0.88-1.20	85.4	50.0 - 150
13C12-2,2',6,6'-TeCB	54L			M/M+2	0.79	0.65-0.89	94.5	50.0 - 150
13C12-3,3',4,4'-TeCB	77L			M/M+2	0.76	0.65-0.89	98.4	50.0 - 150
13C12-3,4,4',5-TeCB	81L			M/M+2	0.76	0.65-0.89	97.1	50.0 - 150
13C12-2,2',4,6,6'-PeCB	104L			M+2/M+4	1.58	1.32-1.78	74.4	50.0 - 150
13C12-2,3,3',4,4'-PeCB	105L			M+2/M+4	1.59	1.32-1.78	85.4	50.0 - 150
13C12-2,3,4,4',5-PeCB	114L			M+2/M+4	1.59	1.32-1.78	85.2	50.0 - 150
13C12-2,3',4,4',5-PeCB	118L			M+2/M+4	1.55	1.32-1.78	85.7	50.0 - 150
13C12-2',3,4,4',5-PeCB	123L			M+2/M+4	1.58	1.32-1.78	89.8	50.0 - 150
13C12-3,3',4,4',5-PeCB	126L			M+2/M+4	1.56	1.32-1.78	86.6	50.0 - 150
13C12-2,2',4,4',6,6'-HxCB	155L			M+2/M+4	1.29	1.05-1.43	73.2	50.0 - 150
13C12-2,3,3',4,4',5-HxCB	156L	156L + 157L	C	M+2/M+4	1.25	1.05-1.43	187	100 - 300
13C12-2,3,3',4,4',5'-HxCB	157L	156L + 157L	C156L					
13C12-2,3',4,4',5,5'-HxCB	167L			M+2/M+4	1.26	1.05-1.43	92.8	50.0 - 150
13C12-3,3',4,4',5,5'-HxCB	169L			M+2/M+4	1.27	1.05-1.43	91.9	50.0 - 150
13C12-2,2',3,4',5,6,6'-HpCB	188L			M+2/M+4	1.06	0.89-1.21	82.3	50.0 - 150
13C12-2,3,3',4,4',5,5'-HpCB	189L			M+2/M+4	1.01	0.89-1.21	104	50.0 - 150
13C12-2,2',3,3',5,5',6,6'-OcCB	202L			M+2/M+4	0.89	0.76-1.02	65.7	50.0 - 150
13C12-2,3,3',4,4',5,5',6-OcCB	205L			M+2/M+4	0.88	0.76-1.02	91.4	50.0 - 150
13C12-2,2',3,3',4,4',5,5',6-NoCB	206L			M+2/M+4	0.76	0.65-0.89	84.8	50.0 - 150
13C12-2,2',3,3',4,4',5,5',6,6'-NoCB	208L			M+2/M+4	0.77	0.65-0.89	89.5	50.0 - 150
13C12-2,2',3,3',4,4',5,5',6,6'-DeCB	209L			M+4/M+6	1.21	0.99-1.33	73.0	50.0 - 150

**CLEAN-UP STANDARD**

13C12-2,4,4'-TriCB	28L		M/M+2	1.04	0.88-1.20	91.2	60.0 - 130
13C12-2,3,3',5,5'-PeCB	111L		M+2/M+4	1.61	1.32-1.78	87.2	60.0 - 130
13C12-2,2',3,3',5,5',6-HpCB	178L		M+2/M+4	1.05	0.89-1.21	83.4	60.0 - 130

(1) Suffix "L" indicates labeled compound.

(2) Where applicable, custom lab flags have been used on this report; C = co-eluting congener.

(3) See Table 8, Method 1668A, for m/z specifications.

(4) Ion Abundance Ratio Control Limits as specified in Table 8, Method 1668A.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_ Rhonda Stoddard \_\_\_\_\_

For Axys Internal Use Only [ XSL Template: Form16684B.xlsx; Created: 16-Nov-2018 10:17:08; Application: XMLTransformer-1.16.51;  
Report Filename: 1668\_PCB1668\_PB8C\_366S11\_\_Form4B\_SJ2455500.html; Workgroup: WG65583; Design ID: 3360 ]

## SGS AXYS METHOD MLA-010 Rev 12

**Form 6A**  
**PCB CONGENER RELATIVE RETENTION TIMES**

**SGS AXYS ANALYTICAL SERVICES**

2045 MILLS RD., SIDNEY, B.C., CANADA  
 V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

<b>Initial Calibration Date:</b>	07-Jul-2018	<b>VER Data Filename:</b>	PB8C_366 S: 11
<b>Instrument ID:</b>	HR GC/MS	<b>Analysis Date:</b>	25-Oct-2018
<b>GC Column ID:</b>	SPB OCTYL	<b>Analysis Time:</b>	06:14:15

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG <sup>1</sup>	RETENTION TIME REFERENCE	IUPAC NO. <sup>2</sup>	RRT	RRT QC LIMITS
2-MoCB	1			13C12-2-MoCB	1L	1.001	0.999-1.004
4-MoCB	3			13C12-4-MoCB	3L	1.000	0.999-1.004
2,2'-DiCB	4			13C12-2,2'-DiCB	4L	1.001	0.999-1.004
4,4'-DiCB	15			13C12-4,4'-DiCB	15L	1.001	0.999-1.002
2,2',6-TriCB	19			13C12-2,2',6-TriCB	19L	1.002	0.999-1.003
3,4,4'-TriCB	37			13C12-3,4,4'-TriCB	37L	1.001	0.999-1.002
2,2',6,6'-TeCB	54			13C12-2,2',6,6'-TeCB	54L	1.002	0.999-1.002
3,3',4,4'-TeCB	77			13C12-3,3',4,4'-TeCB	77L	1.000	1.000-1.001
3,4,4',5-TeCB	81			13C12-3,4,4',5-TeCB	81L	1.000	1.000-1.001
2,2',4,6,6'-PeCB	104			13C12-2,2',4,6,6'-PeCB	104L	1.001	0.999-1.002
2,3,3',4,4'-PeCB	105			13C12-2,3,3',4,4'-PeCB	105L	1.001	1.000-1.001
2,3,4,4',5-PeCB	114			13C12-2,3,4,4',5-PeCB	114L	1.001	1.000-1.001
2,3',4,4',5-PeCB	118			13C12-2,3',4,4',5-PeCB	118L	1.000	1.000-1.001
2',3,4,4',5-PeCB	123			13C12-2',3,4,4',5-PeCB	123L	1.001	1.000-1.001
3,3',4,4',5-PeCB	126			13C12-3,3',4,4',5-PeCB	126L	1.000	1.000-1.001
2,2',4,4',6,6'-HxCB	155			13C12-2,2',4,4',6,6'-HxCB	155L	1.001	0.999-1.002
2,3,3',4,4',5-HxCB	156	156 + 157	C	13C12-2,3,3',4,4',5-HxCB and 13C12-2,3,3',4,4',5'-HxCB	156L/157L	1.000	0.998-1.003
2,3,3',4,4',5'-HxCB	157	156 + 157	C156				
2,3',4,4',5,5'-HxCB	167			13C12-2,3',4,4',5,5'-HxCB	167L	1.001	1.000-1.001
3,3',4,4',5,5'-HxCB	169			13C12-3,3',4,4',5,5'-HxCB	169L	1.000	1.000-1.001
2,2',3,4',5,6,6'-HpCB	188			13C12-2,2',3,4',5,6,6'-HpCB	188L	1.000	1.000-1.001
2,3,3',4,4',5,5'-HpCB	189			13C12-2,3,3',4,4',5,5'-HpCB	189L	1.000	1.000-1.001
2,2',3,3',5,5',6,6'-OcCB	202			13C12-2,2',3,3',5,5',6,6'-OcCB	202L	1.000	1.000-1.001
2,3,3',4,4',5,5',6-OcCB	205			13C12-2,3,3',4,4',5,5',6-OcCB	205L	1.000	1.000-1.001
2,2',3,3',4,4',5,5',6-NoCB	206			13C12-2,2',3,3',4,4',5,5',6-NoCB	206L	1.001	1.000-1.001
2,2',3,3',4,5,5',6,6'-NoCB	208			13C12-2,2',3,3',4,5,5',6,6'-NoCB	208L	1.001	1.000-1.001
2,2',3,3',4,4',5,5',6,6'-DeCB	209			13C12-2,2',3,3',4,4',5,5',6,6'-DeCB	209L	1.000	1.000-1.001

(1) Where applicable, custom lab flags have been used on this report; C = co-eluting congener.

(2) Suffix "L" indicates labeled compound

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_ Rhonda Stoddard \_\_\_\_\_

For Axys Internal Use Only [ XSL Template: Form1668A.xsl; Created: 16-Nov-2018 10:17:08; Application: XMLTransformer-1.16.51; Report Filename: 1668\_PCB1668\_PB8C\_366S11\_Form6A\_SJ2455500.html; Workgroup: WG65583; Design ID: 3360 ]

## SGS AXYS METHOD MLA-010 Rev 12

**Form 6B**  
**PCB CONGENER RELATIVE RETENTION TIMES**

**SGS AXYS ANALYTICAL SERVICES**

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Initial Calibration Date:	07-Jul-2018	VER Data Filename:	PB8C_366 S: 11
Instrument ID:	HR GC/MS	Analysis Date:	25-Oct-2018
GC Column ID:	SPB OCTYL	Analysis Time:	06:14:15

LABELED COMPOUND	IUPAC NO. <sup>1</sup>	CO-ELUTIONS	LAB FLAG <sup>2</sup>	RETENTION TIME REFERENCE	IUPAC NO. <sup>1</sup>	RRT	RRT QC LIMITS
13C12-2-MoCB	1L			13C12-2,5-DiCB	9L	0.719	0.688-0.751
13C12-4-MoCB	3L			13C12-2,5-DiCB	9L	0.859	0.828-0.890
13C12-2,2'-DiCB	4L			13C12-2,5-DiCB	9L	0.874	0.842-0.905
13C12-4,4'-DiCB	15L			13C12-2,5-DiCB	9L	1.254	1.222-1.285
13C12-2,2',6-TriCB	19L			13C12-2,5-DiCB	9L	1.071	1.040-1.102
13C12-3,4,4'-TriCB	37L			13C12-2,2',5,5'-TeCB	52L	1.092	1.072-1.112
13C12-2,2',6,6'-TeCB	54L			13C12-2,2',5,5'-TeCB	52L	0.811	0.797-0.824
13C12-3,3',4,4'-TeCB	77L			13C12-2,2',5,5'-TeCB	52L	1.397	1.384-1.411
13C12-3,4,4',5-TeCB	81L			13C12-2,2',5,5'-TeCB	52L	1.374	1.361-1.387
13C12-2,2',4,6,6'-PeCB	104L			13C12-2,2',4,5,5'-PeCB	101L	0.808	0.798-0.818
13C12-2,3,3',4,4'-PeCB	105L			13C12-2,2',4,5,5'-PeCB	101L	1.201	1.190-1.211
13C12-2,3,4,4',5-PeCB	114L			13C12-2,2',4,5,5'-PeCB	101L	1.180	1.169-1.190
13C12-2,3',4,4',5-PeCB	118L			13C12-2,2',4,5,5'-PeCB	101L	1.162	1.152-1.173
13C12-2',3,4,4',5-PeCB	123L			13C12-2,2',4,5,5'-PeCB	101L	1.152	1.141-1.162
13C12-3,3',4,4',5-PeCB	126L			13C12-2,2',4,5,5'-PeCB	101L	1.303	1.292-1.313
13C12-2,2',4,4',6,6'-HxCB	155L			13C12-2,2',3,4,4',5'-HxCB	138L	0.785	0.777-0.793
13C12-2,3,3',4,4',5-HxCB	156L	156L + 157L	C	13C12-2,2',3,4,4',5'-HxCB	138L	1.108	1.100-1.116
13C12-2,3,3',4,4',5'-HxCB	157L	156L + 157L	C156L				
13C12-2,3',4,4',5,5'-HxCB	167L			13C12-2,2',3,4,4',5'-HxCB	138L	1.078	1.070-1.086
13C12-3,3',4,4',5,5'-HxCB	169L			13C12-2,2',3,4,4',5'-HxCB	138L	1.192	1.184-1.200
13C12-2,2',3,4',5,6,6'-HpCB	188L			13C12-2,2',3,3',4,4',5,5'-OcCB	194L	0.712	0.705-0.718
13C12-2,3,3',4,4',5,5'-HpCB	189L			13C12-2,2',3,3',4,4',5,5'-OcCB	194L	0.959	0.953-0.965
13C12-2,2',3,3',5,5',6,6'-OcCB	202L			13C12-2,2',3,3',4,4',5,5'-OcCB	194L	0.817	0.811-0.824
13C12-2,3,3',4,4',5,5',6-OcCB	205L			13C12-2,2',3,3',4,4',5,5'-OcCB	194L	1.009	1.000-1.019
13C12-2,2',3,3',4,4',5,5',6-NoCB	206L			13C12-2,2',3,3',4,4',5,5'-OcCB	194L	1.043	1.034-1.052
13C12-2,2',3,3',4,5,5',6,6'-NoCB	208L			13C12-2,2',3,3',4,4',5,5'-OcCB	194L	0.949	0.942-0.955
13C12-2,2',3,3',4,4',5,5',6,6'-DeCB	209L			13C12-2,2',3,3',4,4',5,5'-OcCB	194L	1.074	1.065-1.084

**CLEANUP STANDARD**

13C12-2,4,4'-TriCB	28L	13C12-2,2',5,5'-TeCB	52L	0.925	0.911-0.938
13C12-2,3,3',5,5'-PeCB	111L	13C12-2,2',4,5,5'-PeCB	101L	1.088	1.077-1.098
13C12-2,2',3,3',5,5',6-HpCB	178L	13C12-2,2',3,4,4',5'-HxCB	138L	1.012	1.003-1.020

(1) Suffix "L" indicates labeled compound

(2) Where applicable, custom lab flags have been used on this report; C = co-eluting congener.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_ Rhonda Stoddard \_\_\_\_\_

For Axys Internal Use Only [ XSL Template: Form16686B.xlsx; Created: 16-Nov-2018 10:17:08; Application: XMLTransformer-1.16.51; Report Filename: 1668\_PCB1668\_PB8C\_366S11\_Form6B\_SJ2455500.html; Workgroup: WG65583; Design ID: 3360 ]

## SGS AXYS METHOD MLA-010 Rev 12

**Form 4A**  
**PCB CONGENER CALIBRATION VERIFICATION**

**SGS AXYS ANALYTICAL SERVICES**  
 2045 MILLS RD., SIDNEY, B.C., CANADA  
 V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

<b>Initial Calibration Date:</b>	07-Jul-2018	<b>VER Data Filename:</b>	PB8C_367 S: 1
<b>Instrument ID:</b>	HR GC/MS	<b>Analysis Date:</b>	25-Oct-2018
<b>GC Column ID:</b>	SPB OCTYL	<b>Analysis Time:</b>	07:33:58

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG <sup>1</sup>	MZ's FORMING RATIO <sup>2</sup>	ION ABUND. RATIO	QC LIMITS <sup>3</sup>	CONC. FOUND (ng/mL)	CONC. RANGE (ng/mL)
2-MoCB	1			M/M+2	3.05	2.66-3.60	21.3	17.5 - 32.5
4-MoCB	3			M/M+2	3.04	2.66-3.60	22.6	17.5 - 32.5
2,2'-DiCB	4			M/M+2	1.50	1.33-1.79	20.8	17.5 - 32.5
4,4'-DiCB	15			M/M+2	1.47	1.33-1.79	24.9	19.6 - 36.4
2,2',6-TriCB	19			M/M+2	1.07	0.88-1.20	27.5	17.5 - 32.5
3,4,4'-TriCB	37			M/M+2	1.01	0.88-1.20	21.8	17.5 - 32.5
2,2',6,6'-TeCB	54			M/M+2	0.80	0.65-0.89	51.7	35.0 - 65.0
3,3',4,4'-TeCB	77			M/M+2	0.77	0.65-0.89	44.9	35.0 - 65.0
3,4,4',5-TeCB	81			M/M+2	0.78	0.65-0.89	47.3	35.0 - 65.0
2,2',4,6,6'-PeCB	104			M+2/M+4	1.56	1.32-1.78	55.2	35.0 - 65.0
2,3,3',4,4'-PeCB	105			M+2/M+4	1.54	1.32-1.78	46.5	35.0 - 65.0
2,3,4,4',5-PeCB	114			M+2/M+4	1.51	1.32-1.78	46.6	35.0 - 65.0
2,3',4,4',5-PeCB	118			M+2/M+4	1.52	1.32-1.78	44.7	35.0 - 65.0
2',3,4,4',5-PeCB	123			M+2/M+4	1.52	1.32-1.78	44.3	35.0 - 65.0
3,3',4,4',5-PeCB	126			M+2/M+4	1.55	1.32-1.78	48.4	39.0 - 72.4
2,2',4,4',6,6'-HxCB	155			M+2/M+4	1.25	1.05-1.43	54.3	35.0 - 65.0
2,3,3',4,4',5-HxCB	156	156 + 157	C	M+2/M+4	1.25	1.05-1.43	104	70.0 - 130
2,3,3',4,4',5'-HxCB	157	156 + 157	C156					
2,3',4,4',5,5'-HxCB	167			M+2/M+4	1.28	1.05-1.43	56.6	35.0 - 65.0
3,3',4,4',5,5'-HxCB	169			M+2/M+4	1.29	1.05-1.43	54.8	35.0 - 65.0
2,2',3,4',5,6,6'-HpCB	188			M+2/M+4	1.07	0.89-1.21	52.8	35.0 - 65.0
2,3,3',4,4',5,5'-HpCB	189			M+2/M+4	1.04	0.89-1.21	41.7	35.0 - 65.0
2,2',3,3',5,5',6,6'-OcCB	202			M+2/M+4	0.89	0.76-1.02	87.4	58.9 - 110
2,3,3',4,4',5,5',6-OcCB	205			M+2/M+4	0.88	0.76-1.02	76.6	52.5 - 97.5
2,2',3,3',4,4',5,5',6-NoCB	206			M+2/M+4	0.79	0.65-0.89	75.2	52.5 - 97.5
2,2',3,3',4,5,5',6,6'-NoCB	208			M+2/M+4	0.78	0.65-0.89	84.0	58.7 - 109
2,2',3,3',4,4',5,5',6,6'-DeCB	209			M+4/M+6	1.16	0.99-1.33	75.6	52.5 - 97.5

(1) Where applicable, custom lab flags have been used on this report; C = co-eluting congener.

(2) See Table 8, Method 1668A, for m/z specifications.

(3) Ion Abundance Ratio Control Limits as specified in Table 8, Method 1668A.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_ Rhonda Stoddard \_\_\_\_\_

For Axys Internal Use Only [ XSL Template: Form16684A.xsl; Created: 16-Nov-2018 10:17:08; Application: XMLTransformer-1.16.51;  
 Report Filename: 1668\_PCB1668\_PB8C\_367S1\_\_Form4A\_SJ2455505.html; Workgroup: WG65583; Design ID: 3360 ]

## SGS AXYS METHOD MLA-010 Rev 12

**Form 4B**  
**PCB CONGENER CALIBRATION VERIFICATION**

**SGS AXYS ANALYTICAL SERVICES**

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Initial Calibration Date:	07-Jul-2018	VER Data Filename:	PB8C_367 S: 1
Instrument ID:	HR GC/MS	Analysis Date:	25-Oct-2018
GC Column ID:	SPB OCTYL	Analysis Time:	07:33:58

LABELED COMPOUND	IUPAC NO. <sup>1</sup>	CO-ELUTIONS	LAB FLAG <sup>2</sup>	MZ's FORMING RATIO <sup>3</sup>	ION ABUND. RATIO	QC LIMITS <sup>4</sup>	CONC. FOUND (ng/mL)	CONC. RANGE (ng/mL)
13C12-2-MoCB	1L			M/M+2	3.14	2.66-3.60	92.3	50.0 - 150
13C12-4-MoCB	3L			M/M+2	3.13	2.66-3.60	91.9	50.0 - 150
13C12-2,2'-DiCB	4L			M/M+2	1.56	1.33-1.79	90.9	50.0 - 150
13C12-4,4'-DiCB	15L			M/M+2	1.54	1.33-1.79	89.3	50.0 - 150
13C12-2,2',6-TriCB	19L			M/M+2	1.07	0.88-1.20	96.8	50.0 - 150
13C12-3,4,4'-TriCB	37L			M/M+2	1.03	0.88-1.20	78.6	50.0 - 150
13C12-2,2',6,6'-TeCB	54L			M/M+2	0.79	0.65-0.89	92.4	50.0 - 150
13C12-3,3',4,4'-TeCB	77L			M/M+2	0.75	0.65-0.89	85.4	50.0 - 150
13C12-3,4,4',5-TeCB	81L			M/M+2	0.75	0.65-0.89	86.1	50.0 - 150
13C12-2,2',4,6,6'-PeCB	104L			M+2/M+4	1.56	1.32-1.78	75.3	50.0 - 150
13C12-2,3,3',4,4'-PeCB	105L			M+2/M+4	1.54	1.32-1.78	84.0	50.0 - 150
13C12-2,3,4,4',5-PeCB	114L			M+2/M+4	1.55	1.32-1.78	81.0	50.0 - 150
13C12-2,3',4,4',5-PeCB	118L			M+2/M+4	1.58	1.32-1.78	83.2	50.0 - 150
13C12-2',3,4,4',5-PeCB	123L			M+2/M+4	1.58	1.32-1.78	84.8	50.0 - 150
13C12-3,3',4,4',5-PeCB	126L			M+2/M+4	1.59	1.32-1.78	80.8	50.0 - 150
13C12-2,2',4,4',6,6'-HxCB	155L			M+2/M+4	1.25	1.05-1.43	74.8	50.0 - 150
13C12-2,3,3',4,4',5-HxCB	156L	156L + 157L	C	M+2/M+4	1.25	1.05-1.43	179	100 - 300
13C12-2,3,3',4,4',5'-HxCB	157L	156L + 157L	C156L					
13C12-2,3',4,4',5,5'-HxCB	167L			M+2/M+4	1.23	1.05-1.43	90.4	50.0 - 150
13C12-3,3',4,4',5,5'-HxCB	169L			M+2/M+4	1.27	1.05-1.43	85.3	50.0 - 150
13C12-2,2',3,4',5,6,6'-HpCB	188L			M+2/M+4	1.05	0.89-1.21	92.5	50.0 - 150
13C12-2,3,3',4,4',5,5'-HpCB	189L			M+2/M+4	1.00	0.89-1.21	83.7	50.0 - 150
13C12-2,2',3,3',5,5',6,6'-OcCB	202L			M+2/M+4	0.89	0.76-1.02	76.0	50.0 - 150
13C12-2,3,3',4,4',5,5',6-OcCB	205L			M+2/M+4	0.88	0.76-1.02	90.6	50.0 - 150
13C12-2,2',3,3',4,4',5,5',6-NoCB	206L			M+2/M+4	0.76	0.65-0.89	87.2	50.0 - 150
13C12-2,2',3,3',4,4',5,5',6,6'-NoCB	208L			M+2/M+4	0.77	0.65-0.89	95.8	50.0 - 150
13C12-2,2',3,3',4,4',5,5',6,6'-DeCB	209L			M+4/M+6	1.20	0.99-1.33	72.3	50.0 - 150

**CLEAN-UP STANDARD**

13C12-2,4,4'-TriCB	28L		M/M+2	1.05	0.88-1.20	88.4	60.0 - 130
13C12-2,3,3',5,5'-PeCB	111L		M+2/M+4	1.61	1.32-1.78	88.4	60.0 - 130
13C12-2,2',3,3',5,5',6-HpCB	178L		M+2/M+4	1.07	0.89-1.21	80.9	60.0 - 130

(1) Suffix "L" indicates labeled compound.

(2) Where applicable, custom lab flags have been used on this report; C = co-eluting congener.

(3) See Table 8, Method 1668A, for m/z specifications.

(4) Ion Abundance Ratio Control Limits as specified in Table 8, Method 1668A.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_ Rhonda Stoddard \_\_\_\_\_

For Axys Internal Use Only [ XSL Template: Form16684B.xlsx; Created: 16-Nov-2018 10:17:08; Application: XMLTransformer-1.16.51;  
Report Filename: 1668\_PCB1668\_PB8C\_367S1\_\_Form4B\_SJ2455505.html; Workgroup: WG65583; Design ID: 3360 ]

## SGS AXYS METHOD MLA-010 Rev 12

**Form 6A**  
**PCB CONGENER RELATIVE RETENTION TIMES**

**SGS AXYS ANALYTICAL SERVICES**

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

<b>Initial Calibration Date:</b>	07-Jul-2018	<b>VER Data Filename:</b>	PB8C_367 S: 1
<b>Instrument ID:</b>	HR GC/MS	<b>Analysis Date:</b>	25-Oct-2018
<b>GC Column ID:</b>	SPB OCTYL	<b>Analysis Time:</b>	07:33:58

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG <sup>1</sup>	RETENTION TIME REFERENCE	IUPAC NO. <sup>2</sup>	RRT	RRT QC LIMITS
2-MoCB	1			13C12-2-MoCB	1L	1.000	0.999-1.004
4-MoCB	3			13C12-4-MoCB	3L	1.001	0.999-1.004
2,2'-DiCB	4			13C12-2,2'-DiCB	4L	1.000	0.999-1.004
4,4'-DiCB	15			13C12-4,4'-DiCB	15L	1.001	0.999-1.002
2,2',6-TriCB	19			13C12-2,2',6-TriCB	19L	1.001	0.999-1.003
3,4,4'-TriCB	37			13C12-3,4,4'-TriCB	37L	1.000	0.999-1.002
2,2',6,6'-TeCB	54			13C12-2,2',6,6'-TeCB	54L	1.001	0.999-1.002
3,3',4,4'-TeCB	77			13C12-3,3',4,4'-TeCB	77L	1.000	1.000-1.001
3,4,4',5-TeCB	81			13C12-3,4,4',5-TeCB	81L	1.000	1.000-1.001
2,2',4,6,6'-PeCB	104			13C12-2,2',4,6,6'-PeCB	104L	1.001	0.999-1.002
2,3,3',4,4'-PeCB	105			13C12-2,3,3',4,4'-PeCB	105L	1.001	1.000-1.001
2,3,4,4',5-PeCB	114			13C12-2,3,4,4',5-PeCB	114L	1.000	1.000-1.001
2,3',4,4',5-PeCB	118			13C12-2,3',4,4',5-PeCB	118L	1.000	1.000-1.001
2',3,4,4',5-PeCB	123			13C12-2',3,4,4',5-PeCB	123L	1.000	1.000-1.001
3,3',4,4',5-PeCB	126			13C12-3,3',4,4',5-PeCB	126L	1.000	1.000-1.001
2,2',4,4',6,6'-HxCB	155			13C12-2,2',4,4',6,6'-HxCB	155L	1.001	0.999-1.002
2,3,3',4,4',5-HxCB	156	156 + 157	C	13C12-2,3,3',4,4',5-HxCB and 13C12-2,3,3',4,4',5-HxCB	156L/157L	1.000	0.998-1.003
2,3,3',4,4',5-HxCB	157	156 + 157	C156				
2,3',4,4',5,5'-HxCB	167			13C12-2,3',4,4',5,5'-HxCB	167L	1.000	1.000-1.001
3,3',4,4',5,5'-HxCB	169			13C12-3,3',4,4',5,5'-HxCB	169L	1.000	1.000-1.001
2,2',3,4',5,6,6'-HpCB	188			13C12-2,2',3,4',5,6,6'-HpCB	188L	1.001	1.000-1.001
2,3,3',4,4',5,5'-HpCB	189			13C12-2,3,3',4,4',5,5'-HpCB	189L	1.000	1.000-1.001
2,2',3,3',5,5',6,6'-OcCB	202			13C12-2,2',3,3',5,5',6,6'-OcCB	202L	1.000	1.000-1.001
2,3,3',4,4',5,5',6-OcCB	205			13C12-2,3,3',4,4',5,5',6-OcCB	205L	1.001	1.000-1.001
2,2',3,3',4,4',5,5',6-NoCB	206			13C12-2,2',3,3',4,4',5,5',6-NoCB	206L	1.000	1.000-1.001
2,2',3,3',4,5,5',6,6'-NoCB	208			13C12-2,2',3,3',4,5,5',6,6'-NoCB	208L	1.001	1.000-1.001
2,2',3,3',4,4',5,5',6,6'-DeCB	209			13C12-2,2',3,3',4,4',5,5',6,6'-DeCB	209L	1.000	1.000-1.001

(1) Where applicable, custom lab flags have been used on this report; C = co-eluting congener.

(2) Suffix "L" indicates labeled compound

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_ Rhonda Stoddard \_\_\_\_\_

For Axys Internal Use Only [ XSL Template: Form1668A.xsl; Created: 16-Nov-2018 10:17:08; Application: XMLTransformer-1.16.51; Report Filename: 1668\_PCB1668\_PB8C\_367S1\_\_Form6A\_SJ2455505.html; Workgroup: WG65583; Design ID: 3360 ]

## SGS AXYS METHOD MLA-010 Rev 12

**Form 6B**  
**PCB CONGENER RELATIVE RETENTION TIMES**

**SGS AXYS ANALYTICAL SERVICES**

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Initial Calibration Date:	07-Jul-2018	VER Data Filename:	PB8C_367 S: 1
Instrument ID:	HR GC/MS	Analysis Date:	25-Oct-2018
GC Column ID:	SPB OCTYL	Analysis Time:	07:33:58

LABELED COMPOUND	IUPAC NO. <sup>1</sup>	CO-ELUTIONS	LAB FLAG <sup>2</sup>	RETENTION TIME REFERENCE	IUPAC NO. <sup>1</sup>	RRT	RRT QC LIMITS
13C12-2-MoCB	1L			13C12-2,5-DiCB	9L	0.720	0.689-0.752
13C12-4-MoCB	3L			13C12-2,5-DiCB	9L	0.859	0.828-0.890
13C12-2,2'-DiCB	4L			13C12-2,5-DiCB	9L	0.875	0.843-0.906
13C12-4,4'-DiCB	15L			13C12-2,5-DiCB	9L	1.254	1.222-1.285
13C12-2,2',6-TriCB	19L			13C12-2,5-DiCB	9L	1.072	1.041-1.103
13C12-3,4,4'-TriCB	37L			13C12-2,2',5,5'-TeCB	52L	1.093	1.073-1.113
13C12-2,2',6,6'-TeCB	54L			13C12-2,2',5,5'-TeCB	52L	0.811	0.798-0.825
13C12-3,3',4,4'-TeCB	77L			13C12-2,2',5,5'-TeCB	52L	1.397	1.384-1.411
13C12-3,4,4',5-TeCB	81L			13C12-2,2',5,5'-TeCB	52L	1.374	1.361-1.387
13C12-2,2',4,6,6'-PeCB	104L			13C12-2,2',4,5,5'-PeCB	101L	0.808	0.797-0.818
13C12-2,3,3',4,4'-PeCB	105L			13C12-2,2',4,5,5'-PeCB	101L	1.200	1.190-1.211
13C12-2,3,4,4',5-PeCB	114L			13C12-2,2',4,5,5'-PeCB	101L	1.179	1.169-1.189
13C12-2,3',4,4',5-PeCB	118L			13C12-2,2',4,5,5'-PeCB	101L	1.162	1.151-1.172
13C12-2',3,4,4',5-PeCB	123L			13C12-2,2',4,5,5'-PeCB	101L	1.151	1.141-1.162
13C12-3,3',4,4',5-PeCB	126L			13C12-2,2',4,5,5'-PeCB	101L	1.301	1.291-1.312
13C12-2,2',4,4',6,6'-HxCB	155L			13C12-2,2',3,4,4',5'-HxCB	138L	0.785	0.777-0.793
13C12-2,3,3',4,4',5-HxCB	156L	156L + 157L	C	13C12-2,2',3,4,4',5'-HxCB	138L	1.108	1.100-1.116
13C12-2,3,3',4,4',5'-HxCB	157L	156L + 157L	C156L				
13C12-2,3',4,4',5,5'-HxCB	167L			13C12-2,2',3,4,4',5'-HxCB	138L	1.078	1.070-1.086
13C12-3,3',4,4',5,5'-HxCB	169L			13C12-2,2',3,4,4',5'-HxCB	138L	1.192	1.184-1.200
13C12-2,2',3,4',5,6,6'-HpCB	188L			13C12-2,2',3,3',4,4',5,5'-OcCB	194L	0.712	0.705-0.718
13C12-2,3,3',4,4',5,5'-HpCB	189L			13C12-2,2',3,3',4,4',5,5'-OcCB	194L	0.959	0.953-0.966
13C12-2,2',3,3',5,5',6,6'-OcCB	202L			13C12-2,2',3,3',4,4',5,5'-OcCB	194L	0.817	0.811-0.824
13C12-2,3,3',4,4',5,5',6-OcCB	205L			13C12-2,2',3,3',4,4',5,5'-OcCB	194L	1.009	1.000-1.019
13C12-2,2',3,3',4,4',5,5',6-NoCB	206L			13C12-2,2',3,3',4,4',5,5'-OcCB	194L	1.043	1.034-1.053
13C12-2,2',3,3',4,5,5',6,6'-NoCB	208L			13C12-2,2',3,3',4,4',5,5'-OcCB	194L	0.949	0.942-0.955
13C12-2,2',3,3',4,4',5,5',6,6'-DeCB	209L			13C12-2,2',3,3',4,4',5,5'-OcCB	194L	1.074	1.065-1.084

**CLEANUP STANDARD**

13C12-2,4,4'-TriCB	28L	13C12-2,2',5,5'-TeCB	52L	0.925	0.911-0.938
13C12-2,3,3',5,5'-PeCB	111L	13C12-2,2',4,5,5'-PeCB	101L	1.087	1.077-1.098
13C12-2,2',3,3',5,5',6-HpCB	178L	13C12-2,2',3,4,4',5'-HxCB	138L	1.012	1.003-1.020

(1) Suffix "L" indicates labeled compound

(2) Where applicable, custom lab flags have been used on this report; C = co-eluting congener.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_ Rhonda Stoddard \_\_\_\_\_

For Axys Internal Use Only [ XSL Template: Form16686B.xlsx; Created: 16-Nov-2018 10:17:08; Application: XMLTransformer-1.16.51; Report Filename: 1668\_PCB1668\_PB8C\_367S1\_Form6B\_SJ2455505.html; Workgroup: WG65583; Design ID: 3360 ]

## SGS AXYS METHOD MLA-010 Rev 12

## Form 3A

PCB CONGENER INITIAL CALIBRATION RELATIVE RESPONSES,  
ION ABUNDANCE RATIOS, AND RELATIVE RETENTION TIMES

## SGS AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

**Initial Calibration Date:** 07-Jul-2018

**CAL Data Filename:** PB8C\_367 S: 1

**Instrument ID:** HR GC/MS

**Analysis Date:** 25-Oct-2018

**GC Column ID:** SPB OCTYL

**Analysis Time:** 07:33:58

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG <sup>1</sup>	RRF	MZ's FORMING RATIO <sup>2</sup>	ION ABUND. RATIO	RATIO QC LIMITS <sup>3</sup>	RRT	RRT QC LIMITS
3-MoCB	2			0.92	M/M+2	3.04	2.66-3.60	0.988	0.984 - 0.991
2,3-DiCB	5			0.94	M/M+2	1.48	1.33-1.79	1.197	1.193 - 1.200
2,3'-DiCB	6			1.06	M/M+2	1.46	1.33-1.79	1.175	1.172 - 1.179
2,4-DiCB	7			1.06	M/M+2	1.49	1.33-1.79	1.158	1.154 - 1.161
2,4'-DiCB	8			1.17	M/M+2	1.52	1.33-1.79	1.206	1.203 - 1.210
2,5-DiCB	9			1.06	M/M+2	1.48	1.33-1.79	1.144	1.141 - 1.148
2,6-DiCB	10			1.03	M/M+2	1.47	1.33-1.79	1.013	1.010 - 1.017
3,3'-DiCB	11			1.02	M/M+2	1.51	1.33-1.79	0.970	0.968 - 0.973
3,4-DiCB	12	12 + 13	C	1.01	M/M+2	1.48	1.33-1.79	0.986	0.983 - 0.988
3,4'-DiCB	13	12 + 13	C12						
3,5-DiCB	14			1.02	M/M+2	1.49	1.33-1.79	0.926	0.923 - 0.928
2,2',3-TriCB	16			0.93	M/M+2	1.07	0.88-1.20	1.166	1.163 - 1.168
2,2',4-TriCB	17			1.06	M/M+2	1.06	0.88-1.20	1.138	1.135 - 1.141
2,2',5-TriCB	18	18 + 30	C	1.23	M/M+2	1.06	0.88-1.20	1.112	1.109 - 1.115
2,3,3'-TriCB	20	20 + 28	C	1.10	M/M+2	1.00	0.88-1.20	0.848	0.845 - 0.851
2,3,4-TriCB	21	21 + 33	C	1.16	M/M+2	1.00	0.88-1.20	0.855	0.852 - 0.858
2,3,4'-TriCB	22			1.02	M/M+2	1.02	0.88-1.20	0.872	0.870 - 0.874
2,3,5-TriCB	23			1.07	M/M+2	1.01	0.88-1.20	1.282	1.279 - 1.285
2,3,6-TriCB	24			1.36	M/M+2	1.05	0.88-1.20	1.159	1.156 - 1.162
2,3',4-TriCB	25			1.29	M/M+2	1.01	0.88-1.20	0.824	0.822 - 0.826
2,3',5-TriCB	26	26 + 29	C	1.09	M/M+2	1.01	0.88-1.20	1.302	1.297 - 1.307
2,3',6-TriCB	27			1.51	M/M+2	1.08	0.88-1.20	1.152	1.149 - 1.155
2,4,4'-TriCB	28	20 + 28	C20						
2,4,5-TriCB	29	26 + 29	C26						
2,4,6-TriCB	30	18 + 30	C18						
2,4',5-TriCB	31			1.19	M/M+2	1.03	0.88-1.20	0.836	0.835 - 0.838
2,4',6-TriCB	32			1.16	M/M+2	1.01	0.88-1.20	1.198	1.195 - 1.201
2',3,4-TriCB	33	21 + 33	C21						
2',3,5-TriCB	34			1.03	M/M+2	1.00	0.88-1.20	1.274	1.271 - 1.277
3,3',4-TriCB	35			1.08	M/M+2	1.01	0.88-1.20	0.985	0.984 - 0.987
3,3',5-TriCB	36			1.18	M/M+2	1.01	0.88-1.20	0.932	0.930 - 0.933
3,4,5-TriCB	38			1.09	M/M+2	0.99	0.88-1.20	0.966	0.965 - 0.968
3,4',5-TriCB	39			1.11	M/M+2	1.01	0.88-1.20	0.945	0.943 - 0.947
2,2',3,3'-TeCB	40	40 + 41 + 71	C	0.89	M/M+2	0.79	0.65-0.89	1.334	1.330 - 1.339
2,2',3,4-TeCB	41	40 + 41 + 71	C40						
2,2',3,4'-TeCB	42			0.88	M/M+2	0.79	0.65-0.89	1.311	1.309 - 1.314
2,2',3,5-TeCB	43			0.84	M/M+2	0.78	0.65-0.89	1.246	1.243 - 1.248
2,2',3,5'-TeCB	44	44 + 47 + 65	C	0.98	M/M+2	0.79	0.65-0.89	1.286	1.282 - 1.290
2,2',3,6-TeCB	45	45 + 51	C	0.93	M/M+2	0.78	0.65-0.89	1.146	1.142 - 1.150
2,2',3,6'-TeCB	46			0.81	M/M+2	0.79	0.65-0.89	1.160	1.158 - 1.163
2,2',4,4'-TeCB	47	44 + 47 + 65	C44						
2,2',4,5-TeCB	48			0.91	M/M+2	0.78	0.65-0.89	1.273	1.270 - 1.275
2,2',4,5'-TeCB	49	49 + 69	C	1.06	M/M+2	0.78	0.65-0.89	1.257	1.253 - 1.261
2,2',4,6-TeCB	50	50 + 53	C	0.95	M/M+2	0.78	0.65-0.89	1.111	1.107 - 1.115
2,2',4,6'-TeCB	51	45 + 51	C45						
2,2',5,5'-TeCB	52			0.95	M/M+2	0.79	0.65-0.89	1.234	1.232 - 1.237
2,2',5,6'-TeCB	53	50 + 53	C50						
2,3,3',4-TeCB	55			0.89	M/M+2	0.76	0.65-0.89	0.889	0.887 - 0.890
2,3,3',4'-TeCB	56			0.87	M/M+2	0.78	0.65-0.89	0.904	0.903 - 0.906

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG <sup>1</sup>	RRF	MZ's FORMING RATIO <sup>2</sup>	ION ABUND. RATIO	RATIO QC LIMITS <sup>3</sup>	RRT	RRT QC LIMITS
2,3,3',5-TeCB	57			0.98	M/M+2	0.75	0.65-0.89	0.843	0.842 - 0.845
2,3,3',5'-TeCB	58			0.91	M/M+2	0.79	0.65-0.89	0.851	0.849 - 0.852
2,3,3',6-TeCB	59	59 + 62 + 75	C	1.21	M/M+2	0.79	0.65-0.89	1.302	1.297 - 1.306
2,3,4,4'-TeCB	60			0.86	M/M+2	0.78	0.65-0.89	0.911	0.909 - 0.912
2,3,4,5-TeCB	61	61 + 70 + 74 + 76	C	0.96	M/M+2	0.76	0.65-0.89	0.873	0.870 - 0.876
2,3,4,6-TeCB	62	59 + 62 + 75	C59						
2,3,4',5-TeCB	63			0.98	M/M+2	0.76	0.65-0.89	0.864	0.862 - 0.865
2,3,4',6-TeCB	64			1.24	M/M+2	0.78	0.65-0.89	1.348	1.345 - 1.350
2,3,5,6-TeCB	65	44 + 47 + 65	C44						
2,3',4,4'-TeCB	66			0.95	M/M+2	0.78	0.65-0.89	0.884	0.882 - 0.885
2,3',4,5-TeCB	67			1.12	M/M+2	0.77	0.65-0.89	0.855	0.854 - 0.857
2,3',4,5'-TeCB	68			1.02	M/M+2	0.79	0.65-0.89	0.831	0.829 - 0.832
2,3',4,6-TeCB	69	49 + 69	C49						
2,3',4',5-TeCB	70	61 + 70 + 74 + 76	C61						
2,3',4',6-TeCB	71	40 + 41 + 71	C40						
2,3',5,5'-TeCB	72			1.03	M/M+2	0.79	0.65-0.89	0.822	0.820 - 0.823
2,3',5',6-TeCB	73			1.13	M/M+2	0.78	0.65-0.89	1.241	1.238 - 1.243
2,4,4',5-TeCB	74	61 + 70 + 74 + 76	C61						
2,4,4',6-TeCB	75	59 + 62 + 75	C59						
2',3,4,5-TeCB	76	61 + 70 + 74 + 76	C61						
3,3',4,5-TeCB	78			0.91	M/M+2	0.76	0.65-0.89	0.987	0.985 - 0.988
3,3',4,5'-TeCB	79			1.09	M/M+2	0.77	0.65-0.89	0.970	0.968 - 0.971
3,3',5,5'-TeCB	80			1.01	M/M+2	0.78	0.65-0.89	0.923	0.922 - 0.925
2,2',3,3',4-PeCB	82			0.78	M+2/M+4	1.64	1.32-1.78	0.934	0.932 - 0.935
2,2',3,3',5-PeCB	83	83 + 99	C	0.87	M+2/M+4	1.59	1.32-1.78	0.884	0.881 - 0.886
2,2',3,3',6-PeCB	84			0.79	M+2/M+4	1.60	1.32-1.78	1.164	1.162 - 1.166
2,2',3,4,4'-PeCB	85	85 + 116 + 117	C	1.02	M+2/M+4	1.57	1.32-1.78	0.919	0.916 - 0.922
2,2',3,4,5-PeCB	86	86 + 87 + 97 + 108 + 119 + 125	C	1.02	M+2/M+4	1.58	1.32-1.78	0.900	0.896 - 0.904
2,2',3,4,5'-PeCB	87	86 + 87 + 97 + 108 + 119 + 125	C86						
2,2',3,4,6-PeCB	88	88 + 91	C	0.91	M+2/M+4	1.57	1.32-1.78	1.154	1.150 - 1.157
2,2',3,4,6'-PeCB	89			0.84	M+2/M+4	1.56	1.32-1.78	1.183	1.181 - 1.185
2,2',3,4',5-PeCB	90	90 + 101 + 113	C	1.02	M+2/M+4	1.60	1.32-1.78	0.868	0.866 - 0.870
2,2',3,4',6-PeCB	91	88 + 91	C88						
2,2',3,5,5'-PeCB	92			0.87	M+2/M+4	1.61	1.32-1.78	0.852	0.851 - 0.854
2,2',3,5,6-PeCB	93	93 + 95 + 98 + 100 + 102	C	0.94	M+2/M+4	1.57	1.32-1.78	1.130	1.119 - 1.141
2,2',3,5,6'-PeCB	94			0.84	M+2/M+4	1.55	1.32-1.78	1.103	1.101 - 1.105
2,2',3,5',6-PeCB	95	93 + 95 + 98 + 100 + 102	C93						
2,2',3,6,6'-PeCB	96			1.16	M+2/M+4	1.57	1.32-1.78	1.017	1.013 - 1.020
2,2',3',4,5-PeCB	97	86 + 87 + 97 + 108 + 119 + 125	C86						
2,2',3',4,6-PeCB	98	93 + 95 + 98 + 100 + 102	C93						
2,2',4,4',5-PeCB	99	83 + 99	C83						
2,2',4,4',6-PeCB	100	93 + 95 + 98 + 100 + 102	C93						
2,2',4,5,5'-PeCB	101	90 + 101 + 113	C90						
2,2',4,5,6'-PeCB	102	93 + 95 + 98 + 100 + 102	C93						
2,2',4,5',6-PeCB	103			1.04	M+2/M+4	1.56	1.32-1.78	1.094	1.092 - 1.096
2,3,3',4,5-PeCB	106			1.03	M+2/M+4	1.52	1.32-1.78	1.004	1.002 - 1.005
2,3,3',4',5-PeCB	107	107 + 124	C	0.94	M+2/M+4	1.52	1.32-1.78	0.990	0.988 - 0.992
2,3,3',4,5'-PeCB	108	86 + 87 + 97 + 108 + 119 + 125	C86						
2,3,3',4,6-PeCB	109			0.99	M+2/M+4	1.50	1.32-1.78	0.997	0.995 - 0.998
2,3,3',4',6-PeCB	110	110 + 115	C	1.17	M+2/M+4	1.59	1.32-1.78	0.926	0.923 - 0.928
2,3,3',5,5'-PeCB	111			1.16	M+2/M+4	1.55	1.32-1.78	0.945	0.944 - 0.946
2,3,3',5,6-PeCB	112			1.20	M+2/M+4	1.60	1.32-1.78	0.889	0.887 - 0.890
2,3,3',5',6-PeCB	113	90 + 101 + 113	C90						
2,3,4,4',6-PeCB	115	110 + 115	C110						
2,3,4,5,6-PeCB	116	85 + 116 + 117	C85						
2,3,4',5,6-PeCB	117	85 + 116 + 117	C85						
2,3',4,4',6-PeCB	119	86 + 87 + 97 + 108 + 119 + 125	C86						
2,3',4,5,5'-PeCB	120			1.19	M+2/M+4	1.58	1.32-1.78	0.958	0.957 - 0.959
2,3',4,5,6-PeCB	121			1.15	M+2/M+4	1.56	1.32-1.78	1.200	1.198 - 1.202
2',3,3',4,5-PeCB	122			0.85	M+2/M+4	1.53	1.32-1.78	1.010	1.009 - 1.012
2',3,4,5,5'-PeCB	124	107 + 124	C107						
2',3,4,5,6'-PeCB	125	86 + 87 + 97 + 108 + 119 + 125	C86						

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG <sup>1</sup>	RRF	MZ's FORMING RATIO <sup>2</sup>	ION ABUND. RATIO	RATIO QC LIMITS <sup>3</sup>	RRT	RRT QC LIMITS
3,3',4,5,5'-PeCB	127			0.92	M+2/M+4	1.53	1.32-1.78	1.041	1.040 - 1.042
2,2',3,3',4,4'-HxCB	128	128 + 166	C	0.97	M+2/M+4	1.27	1.05-1.43	0.958	0.956 - 0.960
2,2',3,3',4,5-HxCB	129	129 + 138 + 160 + 163	C	0.98	M+2/M+4	1.25	1.05-1.43	0.929	0.927 - 0.932
2,2',3,3',4,5'-HxCB	130			0.77	M+2/M+4	1.24	1.05-1.43	0.913	0.912 - 0.914
2,2',3,3',4,6-HxCB	131			0.85	M+2/M+4	1.28	1.05-1.43	1.160	1.159 - 1.162
2,2',3,3',4,6'-HxCB	132			0.79	M+2/M+4	1.27	1.05-1.43	1.176	1.173 - 1.178
2,2',3,3',5,5'-HxCB	133			0.85	M+2/M+4	1.26	1.05-1.43	1.192	1.190 - 1.194
2,2',3,3',5,6-HxCB	134	134 + 143	C	0.83	M+2/M+4	1.27	1.05-1.43	1.142	1.140 - 1.145
2,2',3,3',5,6'-HxCB	135	135 + 151 + 154	C	0.84	M+2/M+4	1.26	1.05-1.43	1.107	1.102 - 1.113
2,2',3,3',6,6'-HxCB	136			1.13	M+2/M+4	1.29	1.05-1.43	1.025	1.024 - 1.027
2,2',3,4,4',5-HxCB	137			0.84	M+2/M+4	1.26	1.05-1.43	0.918	0.917 - 0.919
2,2',3,4,4',5'-HxCB	138	129 + 138 + 160 + 163	C129						
2,2',3,4,4',6-HxCB	139	139 + 140	C	0.92	M+2/M+4	1.26	1.05-1.43	1.154	1.151 - 1.156
2,2',3,4,4',6'-HxCB	140	139 + 140	C139						
2,2',3,4,5,5'-HxCB	141			0.88	M+2/M+4	1.25	1.05-1.43	0.903	0.902 - 0.904
2,2',3,4,5,6-HxCB	142			0.83	M+2/M+4	1.26	1.05-1.43	1.166	1.164 - 1.167
2,2',3,4,5,6'-HxCB	143	134 + 143	C134						
2,2',3,4,5',6-HxCB	144			0.80	M+2/M+4	1.27	1.05-1.43	1.122	1.121 - 1.124
2,2',3,4,6,6'-HxCB	145			1.03	M+2/M+4	1.27	1.05-1.43	1.035	1.033 - 1.036
2,2',3,4',5,5'-HxCB	146			0.98	M+2/M+4	1.38	1.05-1.43	0.883	0.882 - 0.885
2,2',3,4',5,6-HxCB	147	147 + 149	C	0.95	M+2/M+4	1.26	1.05-1.43	1.134	1.132 - 1.137
2,2',3,4',5,6'-HxCB	148			0.82	M+2/M+4	1.28	1.05-1.43	1.084	1.083 - 1.086
2,2',3,4',5,6-HxCB	149	147 + 149	C147						
2,2',3,4',6,6'-HxCB	150			1.08	M+2/M+4	1.29	1.05-1.43	1.013	1.011 - 1.014
2,2',3,5,5',6-HxCB	151	135 + 151 + 154	C135						
2,2',3,5,6,6'-HxCB	152			1.16	M+2/M+4	1.28	1.05-1.43	1.007	1.006 - 1.009
2,2',4,4',5,5'-HxCB	153	153 + 168	C	1.11	M+2/M+4	1.26	1.05-1.43	0.899	0.897 - 0.901
2,2',4,4',5,6'-HxCB	154	135 + 151 + 154	C135						
2,3,3',4,4',6-HxCB	158			1.24	M+2/M+4	1.26	1.05-1.43	0.938	0.937 - 0.939
2,3,3',4,5,5'-HxCB	159			1.16	M+2/M+4	1.26	1.05-1.43	0.982	0.981 - 0.983
2,3,3',4,5,6-HxCB	160	129 + 138 + 160 + 163	C129						
2,3,3',4,5',6-HxCB	161			1.17	M+2/M+4	1.17	1.05-1.43	0.887	0.886 - 0.888
2,3,3',4',5,5'-HxCB	162			1.29	M+2/M+4	1.30	1.05-1.43	0.989	0.988 - 0.990
2,3,3',4',5,6-HxCB	163	129 + 138 + 160 + 163	C129						
2,3,3',4',5',6-HxCB	164			1.13	M+2/M+4	1.26	1.05-1.43	0.921	0.920 - 0.922
2,3,3',5,5',6-HxCB	165			1.04	M+2/M+4	1.30	1.05-1.43	0.878	0.877 - 0.879
2,3,4,4',5,6-HxCB	166	128 + 166	C128						
2,3',4,4',5,6-HxCB	168	153 + 168	C153						
2,2',3,3',4,4',5-HpCB	170			1.17	M+2/M+4	1.04	0.89-1.21	1.000	0.999 - 1.001
2,2',3,3',4,4',6-HpCB	171	171 + 173	C	0.80	M+2/M+4	1.05	0.89-1.21	1.163	1.161 - 1.165
2,2',3,3',4,5,5'-HpCB	172			0.78	M+2/M+4	1.07	0.89-1.21	0.896	0.895 - 0.897
2,2',3,3',4,5,6-HpCB	173	171 + 173	C171						
2,2',3,3',4,5,6'-HpCB	174			0.87	M+2/M+4	1.03	0.89-1.21	1.134	1.133 - 1.136
2,2',3,3',4,5',6-HpCB	175			0.84	M+2/M+4	1.04	0.89-1.21	1.103	1.101 - 1.104
2,2',3,3',4,6,6'-HpCB	176			1.12	M+2/M+4	1.06	0.89-1.21	1.034	1.033 - 1.036
2,2',3,3',4',5,6-HpCB	177			1.13	M+2/M+4	1.06	0.89-1.21	1.146	1.145 - 1.148
2,2',3,3',5,5',6-HpCB	178			0.84	M+2/M+4	1.08	0.89-1.21	1.086	1.084 - 1.087
2,2',3,3',5,6,6'-HpCB	179			1.19	M+2/M+4	1.04	0.89-1.21	1.011	1.009 - 1.012
2,2',3,4,4',5,5'-HpCB	180	180 + 193	C	1.04	M+2/M+4	1.05	0.89-1.21	1.000	0.999 - 1.001
2,2',3,4,4',5,6-HpCB	181			0.84	M+2/M+4	1.05	0.89-1.21	1.157	1.156 - 1.159
2,2',3,4,4',5,6'-HpCB	182			0.87	M+2/M+4	1.03	0.89-1.21	1.116	1.115 - 1.117
2,2',3,4,4',5,6-HpCB	183	183 + 185	C	0.83	M+2/M+4	1.05	0.89-1.21	1.129	1.127 - 1.130
2,2',3,4,4',6,6'-HpCB	184			1.18	M+2/M+4	1.05	0.89-1.21	1.025	1.023 - 1.026
2,2',3,4,5,5',6-HpCB	185	183 + 185	C183						
2,2',3,4,5,6,6'-HpCB	186			1.08	M+2/M+4	1.06	0.89-1.21	1.047	1.046 - 1.048
2,2',3,4',5,5',6-HpCB	187			0.92	M+2/M+4	1.06	0.89-1.21	1.110	1.109 - 1.112
2,3,3',4,4',5,6-HpCB	190			1.06	M+2/M+4	1.04	0.89-1.21	0.947	0.946 - 0.948
2,3,3',4,4',5,6'-HpCB	191			1.04	M+2/M+4	1.06	0.89-1.21	0.917	0.916 - 0.918
2,3,3',4,4',5,5',6-HpCB	192			0.94	M+2/M+4	1.08	0.89-1.21	0.902	0.901 - 0.903
2,3,3',4',5,5',6-HpCB	193	180 + 193	C180						
2,2',3,3',4,4',5,5'-OcCB	194			0.87	M+2/M+4	0.89	0.76-1.02	0.991	0.990 - 0.992
2,2',3,3',4,4',5,6-OcCB	195			0.81	M+2/M+4	0.88	0.76-1.02	0.946	0.945 - 0.947
2,2',3,3',4,4',5,6'-OcCB	196			0.71	M+2/M+4	0.89	0.76-1.02	0.916	0.915 - 0.916

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG <sup>1</sup>	RRF	MZ's FORMING RATIO <sup>2</sup>	ION ABUND. RATIO	RATIO QC LIMITS <sup>3</sup>	RRT	RRT QC LIMITS
2,2',3,3',4,4',6,6'-OcCB	197	197 + 200	C	1.04	<b>M+2/M+4</b>	0.90	0.76-1.02	1.045	1.043 - 1.048
2,2',3,3',4,5,5',6-OcCB	198	198 + 199	C	0.70	<b>M+2/M+4</b>	0.92	0.76-1.02	1.114	1.112 - 1.116
2,2',3,3',4,5,5',6'-OcCB	199	198 + 199	C198						
2,2',3,3',4,5,6,6'-OcCB	200	197 + 200	C197						
2,2',3,3',4,5',6,6'-OcCB	201			1.04	<b>M+2/M+4</b>	0.89	0.76-1.02	1.022	1.020 - 1.024
2,2',3,4,4',5,5',6-OcCB	203			0.73	<b>M+2/M+4</b>	0.94	0.76-1.02	0.920	0.919 - 0.920
2,2',3,4,4',5,6,6'-OcCB	204			1.02	<b>M+2/M+4</b>	0.89	0.76-1.02	1.038	1.037 - 1.040
2,2',3,3',4,4',5,6,6'-NoCB	207			1.26	<b>M+2/M+4</b>	0.78	0.65-0.89	1.020	1.019 - 1.021

(1) Where applicable, custom lab flags have been used on this report.

(2) See Table 8, Method 1668A, for m/z specifications.

(3) Ion Abundance Ratio Control Limits as specified in Table 8, Method 1668A.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_ Leanne Henley \_\_\_\_\_

For Axys Internal Use Only [ XSL Template: Form1668346A.xsl; Created: 16-Nov-2018 10:17:08; Application: XMLTransformer-1.16.51;  
Report Filename: 1668\_PCB1668\_PB8C\_367S1\_\_Form346A\_SJ2455287\_GS78417.html; Workgroup: WG65583; Design ID: 3360 ]

## SGS AXYS METHOD MLA-010 Rev 12

## Form 3B

PCB CONGENER INITIAL CALIBRATION RELATIVE RESPONSES,  
ION ABUNDANCE RATIOS, AND RELATIVE RETENTION TIMES

## SGS AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

**Initial Calibration Date:** 07-Jul-2018

**CAL Data Filename:** PB8C\_367 S: 1

**Instrument ID:** HR GC/MS

**Analysis Date:** 25-Oct-2018

**GC Column ID:** SPB OCTYL

**Analysis Time:** 07:33:58

LABELED COMPOUND	IUPAC NO. <sup>1</sup>	CO-ELUTIONS	LAB FLAG <sup>2</sup>	RRF	MZ's FORMING RATIO <sup>3</sup>	ION ABUND. RATIO	RATIO QC LIMITS <sup>4</sup>	RRT	RRT QC LIMITS
13C12-2-MoCB	1L			1.04	M/M+2	3.14	2.66-3.60	0.720	0.705 - 0.736
13C12-4-MoCB	3L			0.99	M/M+2	3.13	2.66-3.60	0.859	0.843 - 0.875
13C12-2,2'-DiCB	4L			0.62	M/M+2	1.56	1.33-1.79	0.875	0.859 - 0.890
13C12-4,4'-DiCB	15L			0.95	M/M+2	1.54	1.33-1.79	1.254	1.238 - 1.269
13C12-2,2',6-TriCB	19L			0.54	M/M+2	1.07	0.88-1.20	1.072	1.056 - 1.088
13C12-3,4,4'-TriCB	37L			1.33	M/M+2	1.03	0.88-1.20	1.093	1.083 - 1.103
13C12-2,2',6,6'-TeCB	54L			1.37	M/M+2	0.79	0.65-0.89	0.811	0.805 - 0.818
13C12-3,3',4,4'-TeCB	77L			1.12	M/M+2	0.75	0.65-0.89	1.397	1.391 - 1.404
13C12-3,4,4',5-TeCB	81L			1.11	M/M+2	0.75	0.65-0.89	1.374	1.367 - 1.381
13C12-2,2',4,6,6'-PeCB	104L			1.11	M+2/M+4	1.56	1.32-1.78	0.808	0.802 - 0.813
13C12-2,3,3',4,4'-PeCB	105L			1.18	M+2/M+4	1.54	1.32-1.78	1.200	1.195 - 1.205
13C12-2,3,4,4',5-PeCB	114L			1.10	M+2/M+4	1.55	1.32-1.78	1.179	1.174 - 1.184
13C12-2,3',4,4',5-PeCB	118L			1.14	M+2/M+4	1.58	1.32-1.78	1.162	1.157 - 1.167
13C12-2',3,4,4',5-PeCB	123L			1.18	M+2/M+4	1.58	1.32-1.78	1.151	1.146 - 1.157
13C12-3,3',4,4',5-PeCB	126L			1.01	M+2/M+4	1.59	1.32-1.78	1.301	1.296 - 1.307
13C12-2,2',4,4',6,6'-HxCB	155L			1.24	M+2/M+4	1.25	1.05-1.43	0.785	0.781 - 0.789
13C12-2,3,3',4,4',5-HxCB	156L	156L + 157L	C	1.20	M+2/M+4	1.25	1.05-1.43	1.108	1.104 - 1.112
13C12-2,3,3',4,4',5'-HxCB	157L	156L + 157L	C156L						
13C12-2,3',4,4',5,5'-HxCB	167L			1.16	M+2/M+4	1.23	1.05-1.43	1.078	1.074 - 1.082
13C12-3,3',4,4',5,5'-HxCB	169L			1.13	M+2/M+4	1.27	1.05-1.43	1.192	1.188 - 1.196
13C12-2,2',3,3',4,4',5-HpCB	170L			0.97	M+2/M+4	1.07	0.89-1.21	0.897	0.894 - 0.901
13C12-2,2',3,4,4',5,5'-HpCB	180L			1.21	M+2/M+4	1.08	0.89-1.21	0.872	0.869 - 0.876
13C12-2,2',3,4',5,6,6'-HpCB	188L			1.74	M+2/M+4	1.05	0.89-1.21	0.712	0.708 - 0.715
13C12-2,3,3',4,4',5,5'-HpCB	189L			1.27	M+2/M+4	1.00	0.89-1.21	0.959	0.956 - 0.962
13C12-2,2',3,3',5,5',6,6'-OcCB	202L			1.36	M+2/M+4	0.89	0.76-1.02	0.817	0.814 - 0.821
13C12-2,3,3',4,4',5,5',6-OcCB	205L			1.36	M+2/M+4	0.88	0.76-1.02	1.009	1.005 - 1.014
13C12-2,2',3,3',4,4',5,5',6-NoCB	206L			0.96	M+2/M+4	0.76	0.65-0.89	1.043	1.039 - 1.048
13C12-2,2',3,3',4,5,5',6-NoCB	208L			1.29	M+2/M+4	0.77	0.65-0.89	0.949	0.945 - 0.952

(1) Suffix "L" indicates labeled compound

(2) Where applicable, custom lab flags have been used on this report.

(3) See Table 8, Method 1668A, for m/z specifications.

(4) Ion Abundance Ratio Control Limits as specified in Table 8, Method 1668A.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_ Leanne Henley \_\_\_\_\_

For Axys Internal Use Only [ XSL Template: Form1668346B.xsl; Created: 16-Nov-2018 10:17:08; Application: XMLTransformer-1.16.51;  
Report Filename: 1668\_PCB1668\_PB8C\_367S1\_\_Form346B\_SJ2455287\_GS78417.html; Workgroup: WG65583; Design ID: 3360 ]

## SGS AXYS METHOD MLA-010 Rev 12

**Form 4A**  
**PCB CONGENER CALIBRATION VERIFICATION**

**SGS AXYS ANALYTICAL SERVICES**

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Initial Calibration Date:	07-Jul-2018	VER Data Filename:	PB8C_367 S: 11
Instrument ID:	HR GC/MS	Analysis Date:	25-Oct-2018
GC Column ID:	SPB OCTYL	Analysis Time:	18:11:56

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG <sup>1</sup>	MZ's FORMING RATIO <sup>2</sup>	ION ABUND. RATIO	QC LIMITS <sup>3</sup>	CONC. FOUND (ng/mL)	CONC. RANGE (ng/mL)
2-MoCB	1			M/M+2	3.02	2.66-3.60	21.2	17.5 - 32.5
4-MoCB	3			M/M+2	3.08	2.66-3.60	22.8	17.5 - 32.5
2,2'-DiCB	4			M/M+2	1.50	1.33-1.79	20.7	17.5 - 32.5
4,4'-DiCB	15			M/M+2	1.47	1.33-1.79	24.6	19.6 - 36.4
2,2',6-TriCB	19			M/M+2	1.07	0.88-1.20	27.0	17.5 - 32.5
3,4,4'-TriCB	37			M/M+2	1.00	0.88-1.20	21.7	17.5 - 32.5
2,2',6,6'-TeCB	54			M/M+2	0.79	0.65-0.89	51.8	35.0 - 65.0
3,3',4,4'-TeCB	77			M/M+2	0.76	0.65-0.89	44.2	35.0 - 65.0
3,4,4',5-TeCB	81			M/M+2	0.75	0.65-0.89	46.7	35.0 - 65.0
2,2',4,6,6'-PeCB	104			M+2/M+4	1.58	1.32-1.78	54.4	35.0 - 65.0
2,3,3',4,4'-PeCB	105			M+2/M+4	1.49	1.32-1.78	46.8	35.0 - 65.0
2,3,4,4',5-PeCB	114			M+2/M+4	1.53	1.32-1.78	46.4	35.0 - 65.0
2,3',4,4',5-PeCB	118			M+2/M+4	1.52	1.32-1.78	44.1	35.0 - 65.0
2',3,4,4',5-PeCB	123			M+2/M+4	1.48	1.32-1.78	45.6	35.0 - 65.0
3,3',4,4',5-PeCB	126			M+2/M+4	1.52	1.32-1.78	46.3	39.0 - 72.4
2,2',4,4',6,6'-HxCB	155			M+2/M+4	1.28	1.05-1.43	54.2	35.0 - 65.0
2,3,3',4,4',5-HxCB	156	156 + 157	C	M+2/M+4	1.28	1.05-1.43	104	70.0 - 130
2,3,3',4,4',5'-HxCB	157	156 + 157	C156					
2,3',4,4',5,5'-HxCB	167			M+2/M+4	1.25	1.05-1.43	55.6	35.0 - 65.0
3,3',4,4',5,5'-HxCB	169			M+2/M+4	1.33	1.05-1.43	55.1	35.0 - 65.0
2,2',3,4',5,6,6'-HpCB	188			M+2/M+4	1.04	0.89-1.21	51.4	35.0 - 65.0
2,3,3',4,4',5,5'-HpCB	189			M+2/M+4	1.00	0.89-1.21	39.4	35.0 - 65.0
2,2',3,3',5,5',6,6'-OcCB	202			M+2/M+4	0.91	0.76-1.02	88.8	58.9 - 110
2,3,3',4,4',5,5',6-OcCB	205			M+2/M+4	0.88	0.76-1.02	75.3	52.5 - 97.5
2,2',3,3',4,4',5,5',6-NoCB	206			M+2/M+4	0.80	0.65-0.89	76.0	52.5 - 97.5
2,2',3,3',4,5,5',6,6'-NoCB	208			M+2/M+4	0.80	0.65-0.89	84.8	58.7 - 109
2,2',3,3',4,4',5,5',6,6'-DeCB	209			M+4/M+6	1.17	0.99-1.33	76.1	52.5 - 97.5

(1) Where applicable, custom lab flags have been used on this report; C = co-eluting congener.

(2) See Table 8, Method 1668A, for m/z specifications.

(3) Ion Abundance Ratio Control Limits as specified in Table 8, Method 1668A.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_ Rhonda Stoddard \_\_\_\_\_

For Axys Internal Use Only [ XSL Template: Form16684A.xsl; Created: 16-Nov-2018 10:17:08; Application: XMLTransformer-1.16.51;  
Report Filename: 1668\_PCB1668\_PB8C\_367S11\_Form4A\_SJ2455511.html; Workgroup: WG65583; Design ID: 3360 ]

## SGS AXYS METHOD MLA-010 Rev 12

**Form 4B**  
**PCB CONGENER CALIBRATION VERIFICATION**

**SGS AXYS ANALYTICAL SERVICES**

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Initial Calibration Date:	07-Jul-2018	VER Data Filename:	PB8C_367 S: 11
Instrument ID:	HR GC/MS	Analysis Date:	25-Oct-2018
GC Column ID:	SPB OCTYL	Analysis Time:	18:11:56

LABELED COMPOUND	IUPAC NO. <sup>1</sup>	CO-ELUTIONS	LAB FLAG <sup>2</sup>	MZ's FORMING RATIO <sup>3</sup>	ION ABUND. RATIO	QC LIMITS <sup>4</sup>	CONC. FOUND (ng/mL)	CONC. RANGE (ng/mL)
13C12-2-MoCB	1L			M/M+2	3.15	2.66-3.60	94.9	50.0 - 150
13C12-4-MoCB	3L			M/M+2	3.12	2.66-3.60	94.3	50.0 - 150
13C12-2,2'-DiCB	4L			M/M+2	1.55	1.33-1.79	91.6	50.0 - 150
13C12-4,4'-DiCB	15L			M/M+2	1.54	1.33-1.79	92.2	50.0 - 150
13C12-2,2',6-TriCB	19L			M/M+2	1.07	0.88-1.20	97.1	50.0 - 150
13C12-3,4,4'-TriCB	37L			M/M+2	1.03	0.88-1.20	80.5	50.0 - 150
13C12-2,2',6,6'-TeCB	54L			M/M+2	0.79	0.65-0.89	92.0	50.0 - 150
13C12-3,3',4,4'-TeCB	77L			M/M+2	0.76	0.65-0.89	88.6	50.0 - 150
13C12-3,4,4',5-TeCB	81L			M/M+2	0.74	0.65-0.89	89.2	50.0 - 150
13C12-2,2',4,6,6'-PeCB	104L			M+2/M+4	1.58	1.32-1.78	76.2	50.0 - 150
13C12-2,3,3',4,4'-PeCB	105L			M+2/M+4	1.55	1.32-1.78	87.9	50.0 - 150
13C12-2,3,4,4',5-PeCB	114L			M+2/M+4	1.58	1.32-1.78	87.3	50.0 - 150
13C12-2,3',4,4',5-PeCB	118L			M+2/M+4	1.55	1.32-1.78	92.1	50.0 - 150
13C12-2',3,4,4',5-PeCB	123L			M+2/M+4	1.55	1.32-1.78	94.9	50.0 - 150
13C12-3,3',4,4',5-PeCB	126L			M+2/M+4	1.56	1.32-1.78	87.3	50.0 - 150
13C12-2,2',4,4',6,6'-HxCB	155L			M+2/M+4	1.28	1.05-1.43	74.8	50.0 - 150
13C12-2,3,3',4,4',5-HxCB	156L	156L + 157L	C	M+2/M+4	1.25	1.05-1.43	195	100 - 300
13C12-2,3,3',4,4',5'-HxCB	157L	156L + 157L	C156L					
13C12-2,3',4,4',5,5'-HxCB	167L			M+2/M+4	1.26	1.05-1.43	97.9	50.0 - 150
13C12-3,3',4,4',5,5'-HxCB	169L			M+2/M+4	1.25	1.05-1.43	96.1	50.0 - 150
13C12-2,2',3,4',5,6,6'-HpCB	188L			M+2/M+4	1.06	0.89-1.21	85.7	50.0 - 150
13C12-2,3,3',4,4',5,5'-HpCB	189L			M+2/M+4	1.03	0.89-1.21	93.8	50.0 - 150
13C12-2,2',3,3',5,5',6,6'-OcCB	202L			M+2/M+4	0.91	0.76-1.02	68.1	50.0 - 150
13C12-2,3,3',4,4',5,5',6-OcCB	205L			M+2/M+4	0.86	0.76-1.02	92.8	50.0 - 150
13C12-2,2',3,3',4,4',5,5',6-NoCB	206L			M+2/M+4	0.76	0.65-0.89	85.8	50.0 - 150
13C12-2,2',3,3',4,4',5,5',6,6'-NoCB	208L			M+2/M+4	0.77	0.65-0.89	87.3	50.0 - 150
13C12-2,2',3,3',4,4',5,5',6,6'-DeCB	209L			M+4/M+6	1.18	0.99-1.33	72.8	50.0 - 150

**CLEAN-UP STANDARD**

13C12-2,4,4'-TriCB	28L		M/M+2	1.05	0.88-1.20	88.1	60.0 - 130
13C12-2,3,3',5,5'-PeCB	111L		M+2/M+4	1.61	1.32-1.78	88.2	60.0 - 130
13C12-2,2',3,3',5,5',6-HpCB	178L		M+2/M+4	1.05	0.89-1.21	84.0	60.0 - 130

(1) Suffix "L" indicates labeled compound.

(2) Where applicable, custom lab flags have been used on this report; C = co-eluting congener.

(3) See Table 8, Method 1668A, for m/z specifications.

(4) Ion Abundance Ratio Control Limits as specified in Table 8, Method 1668A.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_ Rhonda Stoddard \_\_\_\_\_

For Axys Internal Use Only [ XSL Template: Form16684B.xlsx; Created: 16-Nov-2018 10:17:08; Application: XMLTransformer-1.16.51;  
Report Filename: 1668\_PCB1668\_PB8C\_367S11\_Form4B\_SJ2455511.html; Workgroup: WG65583; Design ID: 3360 ]

## SGS AXYS METHOD MLA-010 Rev 12

**Form 6A**  
**PCB CONGENER RELATIVE RETENTION TIMES**

**SGS AXYS ANALYTICAL SERVICES**

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

<b>Initial Calibration Date:</b>	07-Jul-2018	<b>VER Data Filename:</b>	PB8C_367 S: 11
<b>Instrument ID:</b>	HR GC/MS	<b>Analysis Date:</b>	25-Oct-2018
<b>GC Column ID:</b>	SPB OCTYL	<b>Analysis Time:</b>	18:11:56

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG <sup>1</sup>	RETENTION TIME REFERENCE	IUPAC NO. <sup>2</sup>	RRT	RRT QC LIMITS
2-MoCB	1			13C12-2-MoCB	1L	1.001	0.999-1.004
4-MoCB	3			13C12-4-MoCB	3L	1.001	0.999-1.004
2,2'-DiCB	4			13C12-2,2'-DiCB	4L	1.001	0.999-1.004
4,4'-DiCB	15			13C12-4,4'-DiCB	15L	1.001	0.999-1.002
2,2',6-TriCB	19			13C12-2,2',6-TriCB	19L	1.001	0.999-1.003
3,4,4'-TriCB	37			13C12-3,4,4'-TriCB	37L	1.001	0.999-1.002
2,2',6,6'-TeCB	54			13C12-2,2',6,6'-TeCB	54L	1.002	0.999-1.002
3,3',4,4'-TeCB	77			13C12-3,3',4,4'-TeCB	77L	1.001	1.000-1.001
3,4,4',5-TeCB	81			13C12-3,4,4',5-TeCB	81L	1.000	1.000-1.001
2,2',4,6,6'-PeCB	104			13C12-2,2',4,6,6'-PeCB	104L	1.001	0.999-1.002
2,3,3',4,4'-PeCB	105			13C12-2,3,3',4,4'-PeCB	105L	1.001	1.000-1.001
2,3,4,4',5-PeCB	114			13C12-2,3,4,4',5-PeCB	114L	1.000	1.000-1.001
2,3',4,4',5-PeCB	118			13C12-2,3',4,4',5-PeCB	118L	1.001	1.000-1.001
2',3,4,4',5-PeCB	123			13C12-2',3,4,4',5-PeCB	123L	1.001	1.000-1.001
3,3',4,4',5-PeCB	126			13C12-3,3',4,4',5-PeCB	126L	1.000	1.000-1.001
2,2',4,4',6,6'-HxCB	155			13C12-2,2',4,4',6,6'-HxCB	155L	1.001	0.999-1.002
2,3,3',4,4',5-HxCB	156	156 + 157	C	13C12-2,3,3',4,4',5-HxCB and 13C12-2,3,3',4,4',5'-HxCB	156L/157L	1.001	0.999-1.003
2,3,3',4,4',5'-HxCB	157	156 + 157	C156				
2,3',4,4',5,5'-HxCB	167			13C12-2,3',4,4',5,5'-HxCB	167L	1.001	1.000-1.001
3,3',4,4',5,5'-HxCB	169			13C12-3,3',4,4',5,5'-HxCB	169L	1.000	1.000-1.001
2,2',3,4',5,6,6'-HpCB	188			13C12-2,2',3,4',5,6,6'-HpCB	188L	1.000	1.000-1.001
2,3,3',4,4',5,5'-HpCB	189			13C12-2,3,3',4,4',5,5'-HpCB	189L	1.000	1.000-1.001
2,2',3,3',5,5',6,6'-OcCB	202			13C12-2,2',3,3',5,5',6,6'-OcCB	202L	1.001	1.000-1.001
2,3,3',4,4',5,5',6-OcCB	205			13C12-2,3,3',4,4',5,5',6-OcCB	205L	1.001	1.000-1.001
2,2',3,3',4,4',5,5',6-NoCB	206			13C12-2,2',3,3',4,4',5,5',6-NoCB	206L	1.001	1.000-1.001
2,2',3,3',4,5,5',6,6'-NoCB	208			13C12-2,2',3,3',4,5,5',6,6'-NoCB	208L	1.001	1.000-1.001
2,2',3,3',4,4',5,5',6,6'-DeCB	209			13C12-2,2',3,3',4,4',5,5',6,6'-DeCB	209L	1.000	1.000-1.001

(1) Where applicable, custom lab flags have been used on this report; C = co-eluting congener.

(2) Suffix "L" indicates labeled compound

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_ Rhonda Stoddard \_\_\_\_\_

For Axys Internal Use Only [ XSL Template: Form1668A.xsl; Created: 16-Nov-2018 10:17:08; Application: XMLTransformer-1.16.51; Report Filename: 1668\_PCB1668\_PB8C\_367S11\_Form6A\_SJ2455511.html; Workgroup: WG65583; Design ID: 3360 ]

## SGS AXYS METHOD MLA-010 Rev 12

**Form 6B**  
**PCB CONGENER RELATIVE RETENTION TIMES**

**SGS AXYS ANALYTICAL SERVICES**

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Initial Calibration Date:	07-Jul-2018	VER Data Filename:	PB8C_367 S: 11
Instrument ID:	HR GC/MS	Analysis Date:	25-Oct-2018
GC Column ID:	SPB OCTYL	Analysis Time:	18:11:56

LABELED COMPOUND	IUPAC NO. <sup>1</sup>	CO-ELUTIONS	LAB FLAG <sup>2</sup>	RETENTION TIME REFERENCE	IUPAC NO. <sup>1</sup>	RRT	RRT QC LIMITS
13C12-2-MoCB	1L			13C12-2,5-DiCB	9L	0.719	0.688-0.751
13C12-4-MoCB	3L			13C12-2,5-DiCB	9L	0.859	0.828-0.890
13C12-2,2'-DiCB	4L			13C12-2,5-DiCB	9L	0.874	0.842-0.905
13C12-4,4'-DiCB	15L			13C12-2,5-DiCB	9L	1.254	1.222-1.285
13C12-2,2',6-TriCB	19L			13C12-2,5-DiCB	9L	1.072	1.041-1.103
13C12-3,4,4'-TriCB	37L			13C12-2,2',5,5'-TeCB	52L	1.092	1.072-1.112
13C12-2,2',6,6'-TeCB	54L			13C12-2,2',5,5'-TeCB	52L	0.811	0.797-0.824
13C12-3,3',4,4'-TeCB	77L			13C12-2,2',5,5'-TeCB	52L	1.397	1.384-1.411
13C12-3,4,4',5-TeCB	81L			13C12-2,2',5,5'-TeCB	52L	1.374	1.361-1.387
13C12-2,2',4,6,6'-PeCB	104L			13C12-2,2',4,5,5'-PeCB	101L	0.808	0.798-0.818
13C12-2,3,3',4,4'-PeCB	105L			13C12-2,2',4,5,5'-PeCB	101L	1.201	1.190-1.211
13C12-2,3,4,4',5-PeCB	114L			13C12-2,2',4,5,5'-PeCB	101L	1.180	1.170-1.190
13C12-2,3',4,4',5-PeCB	118L			13C12-2,2',4,5,5'-PeCB	101L	1.162	1.152-1.173
13C12-2',3,4,4',5-PeCB	123L			13C12-2,2',4,5,5'-PeCB	101L	1.152	1.141-1.162
13C12-3,3',4,4',5-PeCB	126L			13C12-2,2',4,5,5'-PeCB	101L	1.303	1.292-1.313
13C12-2,2',4,4',6,6'-HxCB	155L			13C12-2,2',3,4,4',5'-HxCB	138L	0.785	0.777-0.793
13C12-2,3,3',4,4',5-HxCB	156L	156L + 157L	C	13C12-2,2',3,4,4',5'-HxCB	138L	1.108	1.100-1.116
13C12-2,3,3',4,4',5'-HxCB	157L	156L + 157L	C156L				
13C12-2,3',4,4',5,5'-HxCB	167L			13C12-2,2',3,4,4',5'-HxCB	138L	1.078	1.070-1.086
13C12-3,3',4,4',5,5'-HxCB	169L			13C12-2,2',3,4,4',5'-HxCB	138L	1.192	1.184-1.200
13C12-2,2',3,4',5,6,6'-HpCB	188L			13C12-2,2',3,3',4,4',5,5'-OcCB	194L	0.712	0.705-0.718
13C12-2,3,3',4,4',5,5'-HpCB	189L			13C12-2,2',3,3',4,4',5,5'-OcCB	194L	0.959	0.953-0.965
13C12-2,2',3,3',5,5',6,6'-OcCB	202L			13C12-2,2',3,3',4,4',5,5'-OcCB	194L	0.817	0.811-0.823
13C12-2,3,3',4,4',5,5',6-OcCB	205L			13C12-2,2',3,3',4,4',5,5'-OcCB	194L	1.009	1.000-1.018
13C12-2,2',3,3',4,4',5,5',6-NoCB	206L			13C12-2,2',3,3',4,4',5,5'-OcCB	194L	1.043	1.034-1.052
13C12-2,2',3,3',4,5,5',6,6'-NoCB	208L			13C12-2,2',3,3',4,4',5,5'-OcCB	194L	0.949	0.942-0.955
13C12-2,2',3,3',4,4',5,5',6,6'-DeCB	209L			13C12-2,2',3,3',4,4',5,5'-OcCB	194L	1.074	1.065-1.084

**CLEANUP STANDARD**

13C12-2,4,4'-TriCB	28L	13C12-2,2',5,5'-TeCB	52L	0.925	0.911-0.938
13C12-2,3,3',5,5'-PeCB	111L	13C12-2,2',4,5,5'-PeCB	101L	1.088	1.078-1.099
13C12-2,2',3,3',5,5',6-HpCB	178L	13C12-2,2',3,4,4',5'-HxCB	138L	1.012	1.003-1.020

(1) Suffix "L" indicates labeled compound

(2) Where applicable, custom lab flags have been used on this report; C = co-eluting congener.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_ Rhonda Stoddard \_\_\_\_\_

For Axys Internal Use Only [ XSL Template: Form16686B.xlsx; Created: 16-Nov-2018 10:17:08; Application: XMLTransformer-1.16.51; Report Filename: 1668\_PCB1668\_PB8C\_367S11\_Form6B\_SJ2455511.html; Workgroup: WG65583; Design ID: 3360 ]

## SGS AXYS METHOD MLA-010 Rev 12

**Form 4A**  
**PCB CONGENER CALIBRATION VERIFICATION**

**SGS AXYS ANALYTICAL SERVICES**  
 2045 MILLS RD., SIDNEY, B.C., CANADA  
 V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

<b>Initial Calibration Date:</b>	07-Jul-2018	<b>VER Data Filename:</b>	PB8C_374 S: 1
<b>Instrument ID:</b>	HR GC/MS	<b>Analysis Date:</b>	30-Oct-2018
<b>GC Column ID:</b>	SPB OCTYL	<b>Analysis Time:</b>	20:18:55

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG <sup>1</sup>	MZ's FORMING RATIO <sup>2</sup>	ION ABUND. RATIO	QC LIMITS <sup>3</sup>	CONC. FOUND (ng/mL)	CONC. RANGE (ng/mL)
2-MoCB	1			M/M+2	2.95	2.66-3.60	19.9	17.5 - 32.5
4-MoCB	3			M/M+2	2.92	2.66-3.60	20.6	17.5 - 32.5
2,2'-DiCB	4			M/M+2	1.46	1.33-1.79	18.1	17.5 - 32.5
4,4'-DiCB	15			M/M+2	1.44	1.33-1.79	22.0	19.6 - 36.4
2,2',6-TriCB	19			M/M+2	1.06	0.88-1.20	26.3	17.5 - 32.5
3,4,4'-TriCB	37			M/M+2	0.97	0.88-1.20	18.8	17.5 - 32.5
2,2',6,6'-TeCB	54			M/M+2	0.78	0.65-0.89	48.3	35.0 - 65.0
3,3',4,4'-TeCB	77			M/M+2	0.76	0.65-0.89	39.6	35.0 - 65.0
3,4,4',5-TeCB	81			M/M+2	0.73	0.65-0.89	43.5	35.0 - 65.0
2,2',4,6,6'-PeCB	104			M+2/M+4	1.59	1.32-1.78	53.7	35.0 - 65.0
2,3,3',4,4'-PeCB	105			M+2/M+4	1.51	1.32-1.78	41.8	35.0 - 65.0
2,3,4,4',5-PeCB	114			M+2/M+4	1.52	1.32-1.78	43.1	35.0 - 65.0
2,3',4,4',5-PeCB	118			M+2/M+4	1.49	1.32-1.78	41.2	35.0 - 65.0
2',3,4,4',5-PeCB	123			M+2/M+4	1.46	1.32-1.78	40.6	35.0 - 65.0
3,3',4,4',5-PeCB	126			M+2/M+4	1.44	1.32-1.78	42.3	39.0 - 72.4
2,2',4,4',6,6'-HxCB	155			M+2/M+4	1.28	1.05-1.43	52.6	35.0 - 65.0
2,3,3',4,4',5-HxCB	156	156 + 157	C	M+2/M+4	1.25	1.05-1.43	101	70.0 - 130
2,3,3',4,4',5'-HxCB	157	156 + 157	C156					
2,3',4,4',5,5'-HxCB	167			M+2/M+4	1.24	1.05-1.43	54.2	35.0 - 65.0
3,3',4,4',5,5'-HxCB	169			M+2/M+4	1.30	1.05-1.43	54.2	35.0 - 65.0
2,2',3,4',5,6,6'-HpCB	188			M+2/M+4	1.05	0.89-1.21	49.7	35.0 - 65.0
2,3,3',4,4',5,5'-HpCB	189			M+2/M+4	1.00	0.89-1.21	41.2	35.0 - 65.0
2,2',3,3',5,5',6,6'-OcCB	202			M+2/M+4	0.90	0.76-1.02	87.9	58.9 - 110
2,3,3',4,4',5,5',6-OcCB	205			M+2/M+4	0.89	0.76-1.02	70.4	52.5 - 97.5
2,2',3,3',4,4',5,5',6-NoCB	206			M+2/M+4	0.79	0.65-0.89	73.4	52.5 - 97.5
2,2',3,3',4,5,5',6,6'-NoCB	208			M+2/M+4	0.78	0.65-0.89	82.7	58.7 - 109
2,2',3,3',4,4',5,5',6,6'-DeCB	209			M+4/M+6	1.19	0.99-1.33	75.8	52.5 - 97.5

(1) Where applicable, custom lab flags have been used on this report; C = co-eluting congener.

(2) See Table 8, Method 1668A, for m/z specifications.

(3) Ion Abundance Ratio Control Limits as specified in Table 8, Method 1668A.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_ Rhonda Stoddard \_\_\_\_\_

For Axys Internal Use Only [ XSL Template: Form16684A.xsl; Created: 16-Nov-2018 10:17:08; Application: XMLTransformer-1.16.51;  
 Report Filename: 1668\_PCB1668\_PB8C\_374S1\_\_Form4A\_SJ2457640.html; Workgroup: WG65583; Design ID: 3360 ]

## SGS AXYS METHOD MLA-010 Rev 12

**Form 4B**  
**PCB CONGENER CALIBRATION VERIFICATION**

**SGS AXYS ANALYTICAL SERVICES**

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Initial Calibration Date:	07-Jul-2018	VER Data Filename:	PB8C_374 S: 1
Instrument ID:	HR GC/MS	Analysis Date:	30-Oct-2018
GC Column ID:	SPB OCTYL	Analysis Time:	20:18:55

LABELED COMPOUND	IUPAC NO. <sup>1</sup>	CO-ELUTIONS	LAB FLAG <sup>2</sup>	MZ's FORMING RATIO <sup>3</sup>	ION ABUND. RATIO	QC LIMITS <sup>4</sup>	CONC. FOUND (ng/mL)	CONC. RANGE (ng/mL)
13C12-2-MoCB	1L			M/M+2	3.07	2.66-3.60	97.6	50.0 - 150
13C12-4-MoCB	3L			M/M+2	3.05	2.66-3.60	95.8	50.0 - 150
13C12-2,2'-DiCB	4L			M/M+2	1.56	1.33-1.79	89.9	50.0 - 150
13C12-4,4'-DiCB	15L			M/M+2	1.52	1.33-1.79	88.6	50.0 - 150
13C12-2,2',6-TriCB	19L			M/M+2	1.06	0.88-1.20	119	50.0 - 150
13C12-3,4,4'-TriCB	37L			M/M+2	1.02	0.88-1.20	64.4	50.0 - 150
13C12-2,2',6,6'-TeCB	54L			M/M+2	0.78	0.65-0.89	91.9	50.0 - 150
13C12-3,3',4,4'-TeCB	77L			M/M+2	0.75	0.65-0.89	77.8	50.0 - 150
13C12-3,4,4',5-TeCB	81L			M/M+2	0.74	0.65-0.89	77.6	50.0 - 150
13C12-2,2',4,6,6'-PeCB	104L			M+2/M+4	1.64	1.32-1.78	80.6	50.0 - 150
13C12-2,3,3',4,4'-PeCB	105L			M+2/M+4	1.53	1.32-1.78	69.2	50.0 - 150
13C12-2,3,4,4',5-PeCB	114L			M+2/M+4	1.55	1.32-1.78	67.0	50.0 - 150
13C12-2,3',4,4',5-PeCB	118L			M+2/M+4	1.51	1.32-1.78	67.0	50.0 - 150
13C12-2',3,4,4',5-PeCB	123L			M+2/M+4	1.53	1.32-1.78	68.0	50.0 - 150
13C12-3,3',4,4',5-PeCB	126L			M+2/M+4	1.54	1.32-1.78	69.7	50.0 - 150
13C12-2,2',4,4',6,6'-HxCB	155L			M+2/M+4	1.27	1.05-1.43	85.7	50.0 - 150
13C12-2,3,3',4,4',5-HxCB	156L	156L + 157L	C	M+2/M+4	1.25	1.05-1.43	182	100 - 300
13C12-2,3,3',4,4',5'-HxCB	157L	156L + 157L	C156L					
13C12-2,3',4,4',5,5'-HxCB	167L			M+2/M+4	1.27	1.05-1.43	93.4	50.0 - 150
13C12-3,3',4,4',5,5'-HxCB	169L			M+2/M+4	1.24	1.05-1.43	88.0	50.0 - 150
13C12-2,2',3,4',5,6,6'-HpCB	188L			M+2/M+4	1.04	0.89-1.21	108	50.0 - 150
13C12-2,3,3',4,4',5,5'-HpCB	189L			M+2/M+4	0.97	0.89-1.21	66.9	50.0 - 150
13C12-2,2',3,3',5,5',6,6'-OcCB	202L			M+2/M+4	0.91	0.76-1.02	88.0	50.0 - 150
13C12-2,3,3',4,4',5,5',6-OcCB	205L			M+2/M+4	0.86	0.76-1.02	92.0	50.0 - 150
13C12-2,2',3,3',4,4',5,5',6-NoCB	206L			M+2/M+4	0.77	0.65-0.89	90.5	50.0 - 150
13C12-2,2',3,3',4,4',5,5',6,6'-NoCB	208L			M+2/M+4	0.76	0.65-0.89	105	50.0 - 150
13C12-2,2',3,3',4,4',5,5',6,6'-DeCB	209L			M+4/M+6	1.18	0.99-1.33	80.1	50.0 - 150

**CLEAN-UP STANDARD**

13C12-2,4,4'-TriCB	28L		M/M+2	1.01	0.88-1.20	71.9	60.0 - 130
13C12-2,3,3',5,5'-PeCB	111L		M+2/M+4	1.62	1.32-1.78	90.8	60.0 - 130
13C12-2,2',3,3',5,5',6-HpCB	178L		M+2/M+4	1.06	0.89-1.21	94.4	60.0 - 130

(1) Suffix "L" indicates labeled compound.

(2) Where applicable, custom lab flags have been used on this report; C = co-eluting congener.

(3) See Table 8, Method 1668A, for m/z specifications.

(4) Ion Abundance Ratio Control Limits as specified in Table 8, Method 1668A.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_ Rhonda Stoddard \_\_\_\_\_

For Axys Internal Use Only [ XSL Template: Form16684B.xlsx; Created: 16-Nov-2018 10:17:08; Application: XMLTransformer-1.16.51;  
Report Filename: 1668\_PCB1668\_PB8C\_374S1\_\_Form4B\_SJ2457640.html; Workgroup: WG65583; Design ID: 3360 ]

## SGS AXYS METHOD MLA-010 Rev 12

**Form 6A**  
**PCB CONGENER RELATIVE RETENTION TIMES**

**SGS AXYS ANALYTICAL SERVICES**

2045 MILLS RD., SIDNEY, B.C., CANADA  
 V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

<b>Initial Calibration Date:</b>	07-Jul-2018	<b>VER Data Filename:</b>	PB8C_374 S: 1
<b>Instrument ID:</b>	HR GC/MS	<b>Analysis Date:</b>	30-Oct-2018
<b>GC Column ID:</b>	SPB OCTYL	<b>Analysis Time:</b>	20:18:55

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG <sup>1</sup>	RETENTION TIME REFERENCE	IUPAC NO. <sup>2</sup>	RRT	RRT QC LIMITS
2-MoCB	1			13C12-2-MoCB	1L	1.001	0.999-1.004
4-MoCB	3			13C12-4-MoCB	3L	1.001	0.999-1.004
2,2'-DiCB	4			13C12-2,2'-DiCB	4L	1.001	0.999-1.004
4,4'-DiCB	15			13C12-4,4'-DiCB	15L	1.001	0.999-1.002
2,2',6-TriCB	19			13C12-2,2',6-TriCB	19L	1.001	0.999-1.003
3,4,4'-TriCB	37			13C12-3,4,4'-TriCB	37L	1.001	0.999-1.002
2,2',6,6'-TeCB	54			13C12-2,2',6,6'-TeCB	54L	1.000	0.999-1.002
3,3',4,4'-TeCB	77			13C12-3,3',4,4'-TeCB	77L	1.000	1.000-1.001
3,4,4',5-TeCB	81			13C12-3,4,4',5-TeCB	81L	1.000	1.000-1.001
2,2',4,6,6'-PeCB	104			13C12-2,2',4,6,6'-PeCB	104L	1.001	0.999-1.002
2,3,3',4,4'-PeCB	105			13C12-2,3,3',4,4'-PeCB	105L	1.001	1.000-1.001
2,3,4,4',5-PeCB	114			13C12-2,3,4,4',5-PeCB	114L	1.000	1.000-1.001
2,3',4,4',5-PeCB	118			13C12-2,3',4,4',5-PeCB	118L	1.001	1.000-1.001
2',3,4,4',5-PeCB	123			13C12-2',3,4,4',5-PeCB	123L	1.000	1.000-1.001
3,3',4,4',5-PeCB	126			13C12-3,3',4,4',5-PeCB	126L	1.001	1.000-1.001
2,2',4,4',6,6'-HxCB	155			13C12-2,2',4,4',6,6'-HxCB	155L	1.001	0.999-1.002
2,3,3',4,4',5-HxCB	156	156 + 157	C	13C12-2,3,3',4,4',5-HxCB and 13C12-2,3,3',4,4',5-HxCB	156L/157L	1.000	0.998-1.003
2,3,3',4,4',5-HxCB	157	156 + 157	C156				
2,3',4,4',5,5'-HxCB	167			13C12-2,3',4,4',5,5'-HxCB	167L	1.000	1.000-1.001
3,3',4,4',5,5'-HxCB	169			13C12-3,3',4,4',5,5'-HxCB	169L	1.000	1.000-1.001
2,2',3,4',5,6,6'-HpCB	188			13C12-2,2',3,4',5,6,6'-HpCB	188L	1.001	1.000-1.001
2,3,3',4,4',5,5'-HpCB	189			13C12-2,3,3',4,4',5,5'-HpCB	189L	1.000	1.000-1.001
2,2',3,3',5,5',6,6'-OcCB	202			13C12-2,2',3,3',5,5',6,6'-OcCB	202L	1.001	1.000-1.001
2,3,3',4,4',5,5',6-OcCB	205			13C12-2,3,3',4,4',5,5',6-OcCB	205L	1.001	1.000-1.001
2,2',3,3',4,4',5,5',6-NoCB	206			13C12-2,2',3,3',4,4',5,5',6-NoCB	206L	1.001	1.000-1.001
2,2',3,3',4,5,5',6,6'-NoCB	208			13C12-2,2',3,3',4,5,5',6,6'-NoCB	208L	1.001	1.000-1.001
2,2',3,3',4,4',5,5',6,6'-DeCB	209			13C12-2,2',3,3',4,4',5,5',6,6'-DeCB	209L	1.000	1.000-1.001

(1) Where applicable, custom lab flags have been used on this report; C = co-eluting congener.

(2) Suffix "L" indicates labeled compound

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_ Rhonda Stoddard \_\_\_\_\_

For Axys Internal Use Only [ XSL Template: Form1668A.xsl; Created: 16-Nov-2018 10:17:08; Application: XMLTransformer-1.16.51; Report Filename: 1668\_PCB1668\_PB8C\_374S1\_\_Form6A\_SJ2457640.html; Workgroup: WG65583; Design ID: 3360 ]

## SGS AXYS METHOD MLA-010 Rev 12

**Form 6B**  
**PCB CONGENER RELATIVE RETENTION TIMES**

**SGS AXYS ANALYTICAL SERVICES**

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Initial Calibration Date:	07-Jul-2018	VER Data Filename:	PB8C_374 S: 1
Instrument ID:	HR GC/MS	Analysis Date:	30-Oct-2018
GC Column ID:	SPB OCTYL	Analysis Time:	20:18:55

LABELED COMPOUND	IUPAC NO. <sup>1</sup>	CO-ELUTIONS	LAB FLAG <sup>2</sup>	RETENTION TIME REFERENCE	IUPAC NO. <sup>1</sup>	RRT	RRT QC LIMITS
13C12-2-MoCB	1L			13C12-2,5-DiCB	9L	0.719	0.688-0.751
13C12-4-MoCB	3L			13C12-2,5-DiCB	9L	0.859	0.828-0.891
13C12-2,2'-DiCB	4L			13C12-2,5-DiCB	9L	0.874	0.843-0.905
13C12-4,4'-DiCB	15L			13C12-2,5-DiCB	9L	1.253	1.222-1.285
13C12-2,2',6-TriCB	19L			13C12-2,5-DiCB	9L	1.072	1.041-1.103
13C12-3,4,4'-TriCB	37L			13C12-2,2',5,5'-TeCB	52L	1.092	1.072-1.112
13C12-2,2',6,6'-TeCB	54L			13C12-2,2',5,5'-TeCB	52L	0.811	0.798-0.825
13C12-3,3',4,4'-TeCB	77L			13C12-2,2',5,5'-TeCB	52L	1.397	1.384-1.410
13C12-3,4,4',5-TeCB	81L			13C12-2,2',5,5'-TeCB	52L	1.374	1.360-1.387
13C12-2,2',4,6,6'-PeCB	104L			13C12-2,2',4,5,5'-PeCB	101L	0.808	0.798-0.819
13C12-2,3,3',4,4'-PeCB	105L			13C12-2,2',4,5,5'-PeCB	101L	1.200	1.190-1.210
13C12-2,3,4,4',5-PeCB	114L			13C12-2,2',4,5,5'-PeCB	101L	1.179	1.169-1.190
13C12-2,3',4,4',5-PeCB	118L			13C12-2,2',4,5,5'-PeCB	101L	1.162	1.151-1.172
13C12-2',3,4,4',5-PeCB	123L			13C12-2,2',4,5,5'-PeCB	101L	1.151	1.141-1.162
13C12-3,3',4,4',5-PeCB	126L			13C12-2,2',4,5,5'-PeCB	101L	1.301	1.291-1.312
13C12-2,2',4,4',6,6'-HxCB	155L			13C12-2,2',3,4,4',5'-HxCB	138L	0.785	0.777-0.793
13C12-2,3,3',4,4',5-HxCB	156L	156L + 157L	C	13C12-2,2',3,4,4',5'-HxCB	138L	1.108	1.100-1.116
13C12-2,3,3',4,4',5'-HxCB	157L	156L + 157L	C156L				
13C12-2,3',4,4',5,5'-HxCB	167L			13C12-2,2',3,4,4',5'-HxCB	138L	1.078	1.070-1.086
13C12-3,3',4,4',5,5'-HxCB	169L			13C12-2,2',3,4,4',5'-HxCB	138L	1.192	1.184-1.200
13C12-2,2',3,4',5,6,6'-HpCB	188L			13C12-2,2',3,3',4,4',5,5'-OcCB	194L	0.712	0.706-0.718
13C12-2,3,3',4,4',5,5'-HpCB	189L			13C12-2,2',3,3',4,4',5,5'-OcCB	194L	0.959	0.953-0.966
13C12-2,2',3,3',5,5',6,6'-OcCB	202L			13C12-2,2',3,3',4,4',5,5'-OcCB	194L	0.817	0.811-0.824
13C12-2,3,3',4,4',5,5',6-OcCB	205L			13C12-2,2',3,3',4,4',5,5'-OcCB	194L	1.009	1.000-1.019
13C12-2,2',3,3',4,4',5,5',6-NoCB	206L			13C12-2,2',3,3',4,4',5,5'-OcCB	194L	1.043	1.034-1.053
13C12-2,2',3,3',4,5,5',6,6'-NoCB	208L			13C12-2,2',3,3',4,4',5,5'-OcCB	194L	0.949	0.942-0.955
13C12-2,2',3,3',4,4',5,5',6,6'-DeCB	209L			13C12-2,2',3,3',4,4',5,5'-OcCB	194L	1.074	1.065-1.084

**CLEANUP STANDARD**

13C12-2,4,4'-TriCB	28L	13C12-2,2',5,5'-TeCB	52L	0.925	0.911-0.938
13C12-2,3,3',5,5'-PeCB	111L	13C12-2,2',4,5,5'-PeCB	101L	1.088	1.077-1.098
13C12-2,2',3,3',5,5',6-HpCB	178L	13C12-2,2',3,4,4',5'-HxCB	138L	1.011	1.003-1.020

(1) Suffix "L" indicates labeled compound

(2) Where applicable, custom lab flags have been used on this report; C = co-eluting congener.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_ Rhonda Stoddard \_\_\_\_\_

For Axys Internal Use Only [ XSL Template: Form16686B.xlsx; Created: 16-Nov-2018 10:17:08; Application: XMLTransformer-1.16.51; Report Filename: 1668\_PCB1668\_PB8C\_374S1\_Form6B\_SJ2457640.html; Workgroup: WG65583; Design ID: 3360 ]

## SGS AXYS METHOD MLA-010 Rev 12

## Form 3A

PCB CONGENER INITIAL CALIBRATION RELATIVE RESPONSES,  
ION ABUNDANCE RATIOS, AND RELATIVE RETENTION TIMES

## SGS AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

**Initial Calibration Date:** 07-Jul-2018

**CAL Data Filename:** PB8C\_374 S: 1

**Instrument ID:** HR GC/MS

**Analysis Date:** 30-Oct-2018

**GC Column ID:** SPB OCTYL

**Analysis Time:** 20:18:55

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG <sup>1</sup>	RRF	MZ's FORMING RATIO <sup>2</sup>	ION ABUND. RATIO	RATIO QC LIMITS <sup>3</sup>	RRT	RRT QC LIMITS
3-MoCB	2			0.82	M/M+2	2.94	2.66-3.60	0.988	0.984 - 0.992
2,3-DiCB	5			0.82	M/M+2	1.43	1.33-1.79	1.198	1.195 - 1.202
2,3'-DiCB	6			0.91	M/M+2	1.45	1.33-1.79	1.175	1.172 - 1.179
2,4-DiCB	7			0.89	M/M+2	1.45	1.33-1.79	1.158	1.154 - 1.161
2,4'-DiCB	8			1.02	M/M+2	1.44	1.33-1.79	1.208	1.204 - 1.211
2,5-DiCB	9			0.94	M/M+2	1.44	1.33-1.79	1.146	1.142 - 1.149
2,6-DiCB	10			0.92	M/M+2	1.44	1.33-1.79	1.014	1.011 - 1.018
3,3'-DiCB	11			0.89	M/M+2	1.44	1.33-1.79	0.969	0.967 - 0.972
3,4-DiCB	12	12 + 13	C	0.89	M/M+2	1.45	1.33-1.79	0.985	0.983 - 0.988
3,4'-DiCB	13	12 + 13	C12						
3,5-DiCB	14			0.91	M/M+2	1.45	1.33-1.79	0.926	0.923 - 0.928
2,2',3-TriCB	16			0.97	M/M+2	1.06	0.88-1.20	1.165	1.162 - 1.168
2,2',4-TriCB	17			1.12	M/M+2	1.02	0.88-1.20	1.138	1.135 - 1.141
2,2',5-TriCB	18	18 + 30	C	1.32	M/M+2	1.05	0.88-1.20	1.112	1.109 - 1.115
2,3,3'-TriCB	20	20 + 28	C	0.89	M/M+2	0.97	0.88-1.20	0.849	0.846 - 0.852
2,3,4-TriCB	21	21 + 33	C	0.89	M/M+2	0.97	0.88-1.20	0.855	0.852 - 0.858
2,3,4'-TriCB	22			0.78	M/M+2	0.97	0.88-1.20	0.871	0.869 - 0.873
2,3,5-TriCB	23			0.81	M/M+2	0.96	0.88-1.20	1.282	1.279 - 1.285
2,3,6-TriCB	24			1.47	M/M+2	1.00	0.88-1.20	1.159	1.156 - 1.161
2,3',4-TriCB	25			0.98	M/M+2	0.97	0.88-1.20	0.825	0.823 - 0.827
2,3',5-TriCB	26	26 + 29	C	0.86	M/M+2	0.97	0.88-1.20	1.301	1.296 - 1.305
2,3',6-TriCB	27			1.60	M/M+2	1.04	0.88-1.20	1.151	1.148 - 1.154
2,4,4'-TriCB	28	20 + 28	C20						
2,4,5-TriCB	29	26 + 29	C26						
2,4,6-TriCB	30	18 + 30	C18						
2,4',5-TriCB	31			0.92	M/M+2	0.97	0.88-1.20	0.836	0.835 - 0.838
2,4',6-TriCB	32			0.88	M/M+2	0.97	0.88-1.20	1.196	1.194 - 1.199
2',3,4-TriCB	33	21 + 33	C21						
2',3,5-TriCB	34			0.82	M/M+2	0.98	0.88-1.20	1.273	1.270 - 1.276
3,3',4-TriCB	35			0.83	M/M+2	0.97	0.88-1.20	0.985	0.984 - 0.987
3,3',5-TriCB	36			0.92	M/M+2	0.96	0.88-1.20	0.932	0.930 - 0.933
3,4,5-TriCB	38			0.85	M/M+2	0.99	0.88-1.20	0.967	0.965 - 0.969
3,4',5-TriCB	39			0.85	M/M+2	0.97	0.88-1.20	0.945	0.943 - 0.947
2,2',3,3'-TeCB	40	40 + 41 + 71	C	0.91	M/M+2	0.78	0.65-0.89	1.335	1.331 - 1.339
2,2',3,4-TeCB	41	40 + 41 + 71	C40						
2,2',3,4'-TeCB	42			0.88	M/M+2	0.78	0.65-0.89	1.311	1.309 - 1.314
2,2',3,5-TeCB	43			0.74	M/M+2	0.76	0.65-0.89	1.245	1.243 - 1.248
2,2',3,5'-TeCB	44	44 + 47 + 65	C	1.01	M/M+2	0.78	0.65-0.89	1.285	1.281 - 1.289
2,2',3,6-TeCB	45	45 + 51	C	0.92	M/M+2	0.76	0.65-0.89	1.146	1.142 - 1.150
2,2',3,6'-TeCB	46			0.82	M/M+2	0.78	0.65-0.89	1.160	1.158 - 1.163
2,2',4,4'-TeCB	47	44 + 47 + 65	C44						
2,2',4,5-TeCB	48			0.91	M/M+2	0.77	0.65-0.89	1.273	1.270 - 1.275
2,2',4,5'-TeCB	49	49 + 69	C	1.08	M/M+2	0.76	0.65-0.89	1.256	1.252 - 1.260
2,2',4,6-TeCB	50	50 + 53	C	0.95	M/M+2	0.76	0.65-0.89	1.112	1.108 - 1.116
2,2',4,6'-TeCB	51	45 + 51	C45						
2,2',5,5'-TeCB	52			0.98	M/M+2	0.78	0.65-0.89	1.233	1.231 - 1.236
2,2',5,6'-TeCB	53	50 + 53	C50						
2,3,3',4-TeCB	55			0.75	M/M+2	0.76	0.65-0.89	0.889	0.887 - 0.890
2,3,3',4'-TeCB	56			0.76	M/M+2	0.74	0.65-0.89	0.904	0.903 - 0.906

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG <sup>1</sup>	RRF	MZ's FORMING RATIO <sup>2</sup>	ION ABUND. RATIO	RATIO QC LIMITS <sup>3</sup>	RRT	RRT QC LIMITS
2,3,3',5-TeCB	57			0.80	M/M+2	0.74	0.65-0.89	0.843	0.842 - 0.845
2,3,3',5'-TeCB	58			0.79	M/M+2	0.76	0.65-0.89	0.851	0.849 - 0.852
2,3,3',6-TeCB	59	59 + 62 + 75	C	1.23	M/M+2	0.78	0.65-0.89	1.300	1.296 - 1.305
2,3,4,4'-TeCB	60			0.74	M/M+2	0.74	0.65-0.89	0.911	0.909 - 0.912
2,3,4,5-TeCB	61	61 + 70 + 74 + 76	C	0.82	M/M+2	0.74	0.65-0.89	0.873	0.871 - 0.876
2,3,4,6-TeCB	62	59 + 62 + 75	C59						
2,3,4',5-TeCB	63			0.82	M/M+2	0.76	0.65-0.89	0.864	0.862 - 0.865
2,3,4',6-TeCB	64			1.26	M/M+2	0.77	0.65-0.89	1.348	1.346 - 1.351
2,3,5,6-TeCB	65	44 + 47 + 65	C44						
2,3',4,4'-TeCB	66			0.81	M/M+2	0.75	0.65-0.89	0.884	0.882 - 0.885
2,3',4,5-TeCB	67			0.91	M/M+2	0.73	0.65-0.89	0.855	0.854 - 0.857
2,3',4,5'-TeCB	68			0.85	M/M+2	0.72	0.65-0.89	0.831	0.829 - 0.832
2,3',4,6-TeCB	69	49 + 69	C49						
2,3',4',5-TeCB	70	61 + 70 + 74 + 76	C61						
2,3',4',6-TeCB	71	40 + 41 + 71	C40						
2,3',5,5'-TeCB	72			0.85	M/M+2	0.75	0.65-0.89	0.822	0.821 - 0.823
2,3',5',6-TeCB	73			1.25	M/M+2	0.77	0.65-0.89	1.240	1.237 - 1.242
2,4,4',5-TeCB	74	61 + 70 + 74 + 76	C61						
2,4,4',6-TeCB	75	59 + 62 + 75	C59						
2',3,4,5-TeCB	76	61 + 70 + 74 + 76	C61						
3,3',4,5-TeCB	78			0.76	M/M+2	0.73	0.65-0.89	0.986	0.985 - 0.988
3,3',4,5'-TeCB	79			0.95	M/M+2	0.74	0.65-0.89	0.970	0.968 - 0.971
3,3',5,5'-TeCB	80			0.84	M/M+2	0.76	0.65-0.89	0.923	0.921 - 0.924
2,2',3,3',4-PeCB	82			0.88	M+2/M+4	1.51	1.32-1.78	0.933	0.932 - 0.935
2,2',3,3',5-PeCB	83	83 + 99	C	0.96	M+2/M+4	1.55	1.32-1.78	0.884	0.881 - 0.887
2,2',3,3',6-PeCB	84			0.89	M+2/M+4	1.58	1.32-1.78	1.163	1.161 - 1.165
2,2',3,4,4'-PeCB	85	85 + 116 + 117	C	1.17	M+2/M+4	1.58	1.32-1.78	0.919	0.916 - 0.922
2,2',3,4,5-PeCB	86	86 + 87 + 97 + 108 + 119 + 125	C	1.14	M+2/M+4	1.57	1.32-1.78	0.900	0.896 - 0.904
2,2',3,4,5'-PeCB	87	86 + 87 + 97 + 108 + 119 + 125	C86						
2,2',3,4,6-PeCB	88	88 + 91	C	1.01	M+2/M+4	1.57	1.32-1.78	1.153	1.149 - 1.157
2,2',3,4,6'-PeCB	89			0.94	M+2/M+4	1.61	1.32-1.78	1.182	1.180 - 1.184
2,2',3,4',5-PeCB	90	90 + 101 + 113	C	1.16	M+2/M+4	1.56	1.32-1.78	0.868	0.866 - 0.870
2,2',3,4',6-PeCB	91	88 + 91	C88						
2,2',3,5,5'-PeCB	92			1.00	M+2/M+4	1.57	1.32-1.78	0.852	0.851 - 0.854
2,2',3,5,6-PeCB	93	93 + 95 + 98 + 100 + 102	C	1.04	M+2/M+4	1.58	1.32-1.78	1.129	1.118 - 1.140
2,2',3,5,6'-PeCB	94			0.92	M+2/M+4	1.59	1.32-1.78	1.102	1.100 - 1.104
2,2',3,5',6-PeCB	95	93 + 95 + 98 + 100 + 102	C93						
2,2',3,6,6'-PeCB	96			1.40	M+2/M+4	1.54	1.32-1.78	1.015	1.012 - 1.019
2,2',3',4,5-PeCB	97	86 + 87 + 97 + 108 + 119 + 125	C86						
2,2',3',4,6-PeCB	98	93 + 95 + 98 + 100 + 102	C93						
2,2',4,4',5-PeCB	99	83 + 99	C83						
2,2',4,4',6-PeCB	100	93 + 95 + 98 + 100 + 102	C93						
2,2',4,5,5'-PeCB	101	90 + 101 + 113	C90						
2,2',4,5,6'-PeCB	102	93 + 95 + 98 + 100 + 102	C93						
2,2',4,5',6-PeCB	103			1.14	M+2/M+4	1.58	1.32-1.78	1.093	1.091 - 1.095
2,3,3',4,5-PeCB	106			0.91	M+2/M+4	1.51	1.32-1.78	1.004	1.002 - 1.005
2,3,3',4',5-PeCB	107	107 + 124	C	0.81	M+2/M+4	1.48	1.32-1.78	0.991	0.988 - 0.993
2,3,3',4,5'-PeCB	108	86 + 87 + 97 + 108 + 119 + 125	C86						
2,3,3',4,6-PeCB	109			0.84	M+2/M+4	1.45	1.32-1.78	0.997	0.996 - 0.999
2,3,3',4',6-PeCB	110	110 + 115	C	1.32	M+2/M+4	1.59	1.32-1.78	0.926	0.923 - 0.928
2,3,3',5,5'-PeCB	111			1.31	M+2/M+4	1.57	1.32-1.78	0.945	0.944 - 0.946
2,3,3',5,6-PeCB	112			1.38	M+2/M+4	1.57	1.32-1.78	0.889	0.887 - 0.890
2,3,3',5',6-PeCB	113	90 + 101 + 113	C90						
2,3,4,4',6-PeCB	115	110 + 115	C110						
2,3,4,5,6-PeCB	116	85 + 116 + 117	C85						
2,3,4',5,6-PeCB	117	85 + 116 + 117	C85						
2,3',4,4',6-PeCB	119	86 + 87 + 97 + 108 + 119 + 125	C86						
2,3',4,5,5'-PeCB	120			1.40	M+2/M+4	1.54	1.32-1.78	0.958	0.957 - 0.959
2,3',4,5,6-PeCB	121			1.32	M+2/M+4	1.59	1.32-1.78	1.199	1.198 - 1.201
2',3,3',4,5-PeCB	122			0.75	M+2/M+4	1.47	1.32-1.78	1.010	1.009 - 1.012
2',3,4,5,5'-PeCB	124	107 + 124	C107						
2',3,4,5,6'-PeCB	125	86 + 87 + 97 + 108 + 119 + 125	C86						

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG <sup>1</sup>	RRF	MZ's FORMING RATIO <sup>2</sup>	ION ABUND. RATIO	RATIO QC LIMITS <sup>3</sup>	RRT	RRT QC LIMITS
3,3',4,5,5'-PeCB	127			0.79	M+2/M+4	1.49	1.32-1.78	1.041	1.040 - 1.042
2,2',3,3',4,4'-HxCB	128	128 + 166	C	0.93	M+2/M+4	1.26	1.05-1.43	0.958	0.956 - 0.960
2,2',3,3',4,5-HxCB	129	129 + 138 + 160 + 163	C	0.90	M+2/M+4	1.24	1.05-1.43	0.930	0.927 - 0.932
2,2',3,3',4,5'-HxCB	130			0.71	M+2/M+4	1.26	1.05-1.43	0.913	0.912 - 0.914
2,2',3,3',4,6-HxCB	131			0.76	M+2/M+4	1.24	1.05-1.43	1.160	1.158 - 1.162
2,2',3,3',4,6'-HxCB	132			0.73	M+2/M+4	1.23	1.05-1.43	1.176	1.173 - 1.178
2,2',3,3',5,5'-HxCB	133			0.78	M+2/M+4	1.26	1.05-1.43	1.192	1.190 - 1.194
2,2',3,3',5,6-HxCB	134	134 + 143	C	0.77	M+2/M+4	1.27	1.05-1.43	1.142	1.140 - 1.145
2,2',3,3',5,6'-HxCB	135	135 + 151 + 154	C	0.90	M+2/M+4	1.26	1.05-1.43	1.107	1.101 - 1.113
2,2',3,3',6,6'-HxCB	136			1.16	M+2/M+4	1.29	1.05-1.43	1.025	1.024 - 1.027
2,2',3,4,4',5-HxCB	137			0.76	M+2/M+4	1.23	1.05-1.43	0.918	0.917 - 0.919
2,2',3,4,4',5'-HxCB	138	129 + 138 + 160 + 163	C129						
2,2',3,4,4',6-HxCB	139	139 + 140	C	0.84	M+2/M+4	1.24	1.05-1.43	1.154	1.151 - 1.156
2,2',3,4,4',6'-HxCB	140	139 + 140	C139						
2,2',3,4,5,5'-HxCB	141			0.81	M+2/M+4	1.27	1.05-1.43	0.903	0.902 - 0.904
2,2',3,4,5,6-HxCB	142			0.77	M+2/M+4	1.27	1.05-1.43	1.165	1.164 - 1.167
2,2',3,4,5,6'-HxCB	143	134 + 143	C134						
2,2',3,4,5',6-HxCB	144			0.88	M+2/M+4	1.25	1.05-1.43	1.122	1.121 - 1.124
2,2',3,4,6,6'-HxCB	145			1.10	M+2/M+4	1.25	1.05-1.43	1.035	1.033 - 1.036
2,2',3,4',5,5'-HxCB	146			0.92	M+2/M+4	1.22	1.05-1.43	0.884	0.883 - 0.885
2,2',3,4',5,6-HxCB	147	147 + 149	C	0.87	M+2/M+4	1.25	1.05-1.43	1.134	1.131 - 1.137
2,2',3,4',5,6'-HxCB	148			0.85	M+2/M+4	1.26	1.05-1.43	1.084	1.082 - 1.085
2,2',3,4',5,6'-HxCB	149	147 + 149	C147						
2,2',3,4',6,6'-HxCB	150			1.15	M+2/M+4	1.24	1.05-1.43	1.013	1.011 - 1.014
2,2',3,5,5',6-HxCB	151	135 + 151 + 154	C135						
2,2',3,5,6,6'-HxCB	152			1.23	M+2/M+4	1.26	1.05-1.43	1.007	1.006 - 1.009
2,2',4,4',5,5'-HxCB	153	153 + 168	C	1.01	M+2/M+4	1.25	1.05-1.43	0.899	0.897 - 0.901
2,2',4,4',5,6'-HxCB	154	135 + 151 + 154	C135						
2,3,3',4,4',6-HxCB	158			1.20	M+2/M+4	1.27	1.05-1.43	0.938	0.936 - 0.939
2,3,3',4,5,5'-HxCB	159			1.08	M+2/M+4	1.25	1.05-1.43	0.982	0.981 - 0.983
2,3,3',4,5,6-HxCB	160	129 + 138 + 160 + 163	C129						
2,3,3',4,5,6'-HxCB	161			1.08	M+2/M+4	1.26	1.05-1.43	0.887	0.886 - 0.888
2,3,3',4',5,5'-HxCB	162			1.19	M+2/M+4	1.20	1.05-1.43	0.989	0.988 - 0.990
2,3,3',4',5,6-HxCB	163	129 + 138 + 160 + 163	C129						
2,3,3',4',5,6'-HxCB	164			1.09	M+2/M+4	1.23	1.05-1.43	0.921	0.920 - 0.922
2,3,3',5,5',6-HxCB	165			0.93	M+2/M+4	1.26	1.05-1.43	0.878	0.877 - 0.879
2,3,4,4',5,6-HxCB	166	128 + 166	C128						
2,3',4,4',5,6-HxCB	168	153 + 168	C153						
2,2',3,3',4,4',5-HpCB	170			1.14	M+2/M+4	1.06	0.89-1.21	1.000	0.999 - 1.001
2,2',3,3',4,4',6-HpCB	171	171 + 173	C	0.85	M+2/M+4	1.07	0.89-1.21	1.162	1.160 - 1.165
2,2',3,3',4,5,5'-HpCB	172			0.82	M+2/M+4	1.06	0.89-1.21	0.896	0.895 - 0.897
2,2',3,3',4,5,6-HpCB	173	171 + 173	C171						
2,2',3,3',4,5,6'-HpCB	174			0.97	M+2/M+4	1.03	0.89-1.21	1.134	1.133 - 1.135
2,2',3,3',4,5,6'-HpCB	175			0.93	M+2/M+4	1.03	0.89-1.21	1.102	1.101 - 1.103
2,2',3,3',4,6,6'-HpCB	176			1.28	M+2/M+4	1.05	0.89-1.21	1.034	1.033 - 1.035
2,2',3,3',4',5,6-HpCB	177			1.14	M+2/M+4	1.02	0.89-1.21	1.146	1.144 - 1.147
2,2',3,3',5,5',6-HpCB	178			0.92	M+2/M+4	1.05	0.89-1.21	1.085	1.084 - 1.087
2,2',3,3',5,6,6'-HpCB	179			1.29	M+2/M+4	1.05	0.89-1.21	1.010	1.009 - 1.011
2,2',3,4,4',5,5'-HpCB	180	180 + 193	C	1.01	M+2/M+4	1.05	0.89-1.21	1.000	0.999 - 1.001
2,2',3,4,4',5,6-HpCB	181			0.89	M+2/M+4	1.05	0.89-1.21	1.157	1.155 - 1.158
2,2',3,4,4',5,6'-HpCB	182			0.97	M+2/M+4	1.07	0.89-1.21	1.115	1.114 - 1.117
2,2',3,4,4',5,6-HpCB	183	183 + 185	C	0.92	M+2/M+4	1.05	0.89-1.21	1.128	1.127 - 1.129
2,2',3,4,4',6,6'-HpCB	184			1.32	M+2/M+4	1.03	0.89-1.21	1.024	1.023 - 1.026
2,2',3,4,5,5',6-HpCB	185	183 + 185	C183						
2,2',3,4,5,6,6'-HpCB	186			1.20	M+2/M+4	1.02	0.89-1.21	1.047	1.046 - 1.048
2,2',3,4',5,5',6-HpCB	187			1.00	M+2/M+4	1.03	0.89-1.21	1.110	1.109 - 1.111
2,3,3',4,4',5,6-HpCB	190			1.13	M+2/M+4	1.05	0.89-1.21	0.947	0.946 - 0.948
2,3,3',4,4',5,6-HpCB	191			1.13	M+2/M+4	1.04	0.89-1.21	0.917	0.916 - 0.918
2,3,3',4,4',5,5',6-HpCB	192			1.01	M+2/M+4	1.06	0.89-1.21	0.902	0.901 - 0.903
2,3,3',4',5,5',6-HpCB	193	180 + 193	C180						
2,2',3,3',4,4',5,5'-OcCB	194			0.74	M+2/M+4	0.88	0.76-1.02	0.991	0.990 - 0.992
2,2',3,3',4,4',5,6-OcCB	195			0.71	M+2/M+4	0.86	0.76-1.02	0.946	0.945 - 0.947
2,2',3,3',4,4',5,6'-OcCB	196			0.77	M+2/M+4	0.91	0.76-1.02	0.916	0.915 - 0.916

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG <sup>1</sup>	RRF	MZ's FORMING RATIO <sup>2</sup>	ION ABUND. RATIO	RATIO QC LIMITS <sup>3</sup>	RRT	RRT QC LIMITS
2,2',3,3',4,4',6,6'-OcCB	197	197 + 200	C	1.10	<b>M+2/M+4</b>	0.91	0.76-1.02	1.046	1.043 - 1.048
2,2',3,3',4,5,5',6-OcCB	198	198 + 199	C	0.76	<b>M+2/M+4</b>	0.90	0.76-1.02	1.114	1.112 - 1.116
2,2',3,3',4,5,5',6'-OcCB	199	198 + 199	C198						
2,2',3,3',4,5,6,6'-OcCB	200	197 + 200	C197						
2,2',3,3',4,5',6,6'-OcCB	201			1.12	<b>M+2/M+4</b>	0.91	0.76-1.02	1.023	1.021 - 1.025
2,2',3,4,4',5,5',6-OcCB	203			0.81	<b>M+2/M+4</b>	0.87	0.76-1.02	0.919	0.918 - 0.920
2,2',3,4,4',5,6,6'-OcCB	204			1.10	<b>M+2/M+4</b>	0.90	0.76-1.02	1.039	1.038 - 1.040
2,2',3,3',4,4',5,6,6'-NoCB	207			1.26	<b>M+2/M+4</b>	0.79	0.65-0.89	1.020	1.019 - 1.021

(1) Where applicable, custom lab flags have been used on this report.

(2) See Table 8, Method 1668A, for m/z specifications.

(3) Ion Abundance Ratio Control Limits as specified in Table 8, Method 1668A.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_ Rhonda Stoddard \_\_\_\_\_

For Axys Internal Use Only [ XSL Template: Form1668346A.xsl; Created: 16-Nov-2018 10:17:08; Application: XMLTransformer-1.16.51; Report Filename: 1668\_PCB1668\_PB8C\_374S1\_\_Form346A\_SJ2457633\_GS78495.html; Workgroup: WG65583; Design ID: 3360 ]

## SGS AXYS METHOD MLA-010 Rev 12

## Form 3B

PCB CONGENER INITIAL CALIBRATION RELATIVE RESPONSES,  
ION ABUNDANCE RATIOS, AND RELATIVE RETENTION TIMES

## SGS AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

**Initial Calibration Date:** 07-Jul-2018

**CAL Data Filename:** PB8C\_374 S: 1

**Instrument ID:** HR GC/MS

**Analysis Date:** 30-Oct-2018

**GC Column ID:** SPB OCTYL

**Analysis Time:** 20:18:55

LABELED COMPOUND	IUPAC NO. <sup>1</sup>	CO-ELUTIONS	LAB FLAG <sup>2</sup>	RRF	MZ's FORMING RATIO <sup>3</sup>	ION ABUND. RATIO	RATIO QC LIMITS <sup>4</sup>	RRT	RRT QC LIMITS
13C12-2-MoCB	1L			1.10	M/M+2	3.07	2.66-3.60	0.719	0.704 - 0.735
13C12-4-MoCB	3L			1.03	M/M+2	3.05	2.66-3.60	0.859	0.844 - 0.875
13C12-2,2'-DiCB	4L			0.61	M/M+2	1.56	1.33-1.79	0.874	0.858 - 0.889
13C12-4,4'-DiCB	15L			0.94	M/M+2	1.52	1.33-1.79	1.253	1.238 - 1.269
13C12-2,2',6-TriCB	19L			0.67	M/M+2	1.06	0.88-1.20	1.072	1.056 - 1.088
13C12-3,4,4'-TriCB	37L			1.09	M/M+2	1.02	0.88-1.20	1.092	1.082 - 1.102
13C12-2,2',6,6'-TeCB	54L			1.36	M/M+2	0.78	0.65-0.89	0.811	0.805 - 0.818
13C12-3,3',4,4'-TeCB	77L			1.02	M/M+2	0.75	0.65-0.89	1.397	1.390 - 1.404
13C12-3,4,4',5-TeCB	81L			1.00	M/M+2	0.74	0.65-0.89	1.374	1.367 - 1.380
13C12-2,2',4,6,6'-PeCB	104L			1.19	M+2/M+4	1.64	1.32-1.78	0.808	0.803 - 0.813
13C12-2,3,3',4,4'-PeCB	105L			0.97	M+2/M+4	1.53	1.32-1.78	1.200	1.195 - 1.205
13C12-2,3,4,4',5-PeCB	114L			0.91	M+2/M+4	1.55	1.32-1.78	1.179	1.174 - 1.185
13C12-2,3',4,4',5-PeCB	118L			0.92	M+2/M+4	1.51	1.32-1.78	1.162	1.157 - 1.167
13C12-2',3,4,4',5-PeCB	123L			0.95	M+2/M+4	1.53	1.32-1.78	1.151	1.146 - 1.157
13C12-3,3',4,4',5-PeCB	126L			0.87	M+2/M+4	1.54	1.32-1.78	1.301	1.296 - 1.306
13C12-2,2',4,4',6,6'-HxCB	155L			1.43	M+2/M+4	1.27	1.05-1.43	0.785	0.781 - 0.789
13C12-2,3,3',4,4',5-HxCB	156L	156L + 157L	C	1.22	M+2/M+4	1.25	1.05-1.43	1.108	1.104 - 1.112
13C12-2,3,3',4,4',5'-HxCB	157L	156L + 157L	C156L						
13C12-2,3',4,4',5,5'-HxCB	167L			1.20	M+2/M+4	1.27	1.05-1.43	1.078	1.074 - 1.082
13C12-3,3',4,4',5,5'-HxCB	169L			1.17	M+2/M+4	1.24	1.05-1.43	1.192	1.188 - 1.196
13C12-2,2',3,3',4,4',5-HpCB	170L			1.10	M+2/M+4	1.05	0.89-1.21	0.897	0.894 - 0.901
13C12-2,2',3,4,4',5,5'-HpCB	180L			1.36	M+2/M+4	1.07	0.89-1.21	0.872	0.869 - 0.876
13C12-2,2',3,4',5,6,6'-HpCB	188L			2.04	M+2/M+4	1.04	0.89-1.21	0.712	0.709 - 0.715
13C12-2,3,3',4,4',5,5'-HpCB	189L			1.01	M+2/M+4	0.97	0.89-1.21	0.959	0.956 - 0.962
13C12-2,2',3,3',5,5',6,6'-OcCB	202L			1.57	M+2/M+4	0.91	0.76-1.02	0.817	0.814 - 0.820
13C12-2,3,3',4,4',5,5',6-OcCB	205L			1.38	M+2/M+4	0.86	0.76-1.02	1.009	1.005 - 1.014
13C12-2,2',3,3',4,4',5,5',6-NoCB	206L			0.99	M+2/M+4	0.77	0.65-0.89	1.043	1.039 - 1.048
13C12-2,2',3,3',4,5,5',6-NoCB	208L			1.41	M+2/M+4	0.76	0.65-0.89	0.949	0.945 - 0.952

(1) Suffix "L" indicates labeled compound

(2) Where applicable, custom lab flags have been used on this report.

(3) See Table 8, Method 1668A, for m/z specifications.

(4) Ion Abundance Ratio Control Limits as specified in Table 8, Method 1668A.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_ Rhonda Stoddard \_\_\_\_\_

For Axys Internal Use Only [ XSL Template: Form1668346B.xsl; Created: 16-Nov-2018 10:17:08; Application: XMLTransformer-1.16.51;  
Report Filename: 1668\_PCB1668\_PB8C\_374S1\_\_Form346B\_SJ2457633\_GS78495.html; Workgroup: WG65583; Design ID: 3360 ]

## SGS AXYS METHOD MLA-010 Rev 12

**Form 4A**  
**PCB CONGENER CALIBRATION VERIFICATION**

**SGS AXYS ANALYTICAL SERVICES**  
 2045 MILLS RD., SIDNEY, B.C., CANADA  
 V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

<b>Initial Calibration Date:</b>	07-Jul-2018	<b>VER Data Filename:</b>	PB8C_374 S: 11
<b>Instrument ID:</b>	HR GC/MS	<b>Analysis Date:</b>	31-Oct-2018
<b>GC Column ID:</b>	SPB OCTYL	<b>Analysis Time:</b>	06:55:42

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG <sup>1</sup>	MZ's FORMING RATIO <sup>2</sup>	ION ABUND. RATIO	QC LIMITS <sup>3</sup>	CONC. FOUND (ng/mL)	CONC. RANGE (ng/mL)
2-MoCB	1			M/M+2	2.94	2.66-3.60	20.0	17.5 - 32.5
4-MoCB	3			M/M+2	2.95	2.66-3.60	20.4	17.5 - 32.5
2,2'-DiCB	4			M/M+2	1.46	1.33-1.79	18.1	17.5 - 32.5
4,4'-DiCB	15			M/M+2	1.44	1.33-1.79	21.6	19.6 - 36.4
2,2',6-TriCB	19			M/M+2	1.05	0.88-1.20	25.2	17.5 - 32.5
3,4,4'-TriCB	37			M/M+2	0.96	0.88-1.20	18.6	17.5 - 32.5
2,2',6,6'-TeCB	54			M/M+2	0.78	0.65-0.89	49.2	35.0 - 65.0
3,3',4,4'-TeCB	77			M/M+2	0.74	0.65-0.89	40.0	35.0 - 65.0
3,4,4',5-TeCB	81			M/M+2	0.75	0.65-0.89	42.5	35.0 - 65.0
2,2',4,6,6'-PeCB	104			M+2/M+4	1.58	1.32-1.78	53.2	35.0 - 65.0
2,3,3',4,4'-PeCB	105			M+2/M+4	1.47	1.32-1.78	42.1	35.0 - 65.0
2,3,4,4',5-PeCB	114			M+2/M+4	1.45	1.32-1.78	43.1	35.0 - 65.0
2,3',4,4',5-PeCB	118			M+2/M+4	1.50	1.32-1.78	40.4	35.0 - 65.0
2',3,4,4',5-PeCB	123			M+2/M+4	1.49	1.32-1.78	40.3	35.0 - 65.0
3,3',4,4',5-PeCB	126			M+2/M+4	1.41	1.32-1.78	41.3	39.0 - 72.4
2,2',4,4',6,6'-HxCB	155			M+2/M+4	1.27	1.05-1.43	53.2	35.0 - 65.0
2,3,3',4,4',5-HxCB	156	156 + 157	C	M+2/M+4	1.26	1.05-1.43	101	70.0 - 130
2,3,3',4,4',5'-HxCB	157	156 + 157	C156					
2,3',4,4',5,5'-HxCB	167			M+2/M+4	1.22	1.05-1.43	53.2	35.0 - 65.0
3,3',4,4',5,5'-HxCB	169			M+2/M+4	1.27	1.05-1.43	53.1	35.0 - 65.0
2,2',3,4',5,6,6'-HpCB	188			M+2/M+4	1.04	0.89-1.21	49.9	35.0 - 65.0
2,3,3',4,4',5,5'-HpCB	189			M+2/M+4	1.02	0.89-1.21	40.4	35.0 - 65.0
2,2',3,3',5,5',6,6'-OcCB	202			M+2/M+4	0.92	0.76-1.02	88.0	58.9 - 110
2,3,3',4,4',5,5',6-OcCB	205			M+2/M+4	0.87	0.76-1.02	69.4	52.5 - 97.5
2,2',3,3',4,4',5,5',6-NoCB	206			M+2/M+4	0.78	0.65-0.89	74.1	52.5 - 97.5
2,2',3,3',4,5,5',6,6'-NoCB	208			M+2/M+4	0.77	0.65-0.89	83.1	58.7 - 109
2,2',3,3',4,4',5,5',6,6'-DeCB	209			M+4/M+6	1.19	0.99-1.33	73.0	52.5 - 97.5

(1) Where applicable, custom lab flags have been used on this report; C = co-eluting congener.

(2) See Table 8, Method 1668A, for m/z specifications.

(3) Ion Abundance Ratio Control Limits as specified in Table 8, Method 1668A.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_ Rhonda Stoddard \_\_\_\_\_

For Axys Internal Use Only [ XSL Template: Form16684A.xsl; Created: 16-Nov-2018 10:17:08; Application: XMLTransformer-1.16.51;  
 Report Filename: 1668\_PCB1668\_PB8C\_374S11\_Form4A\_SJ2457652.html; Workgroup: WG65583; Design ID: 3360 ]

## SGS AXYS METHOD MLA-010 Rev 12

**Form 4B**  
**PCB CONGENER CALIBRATION VERIFICATION**

**SGS AXYS ANALYTICAL SERVICES**

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Initial Calibration Date:	07-Jul-2018	VER Data Filename:	PB8C_374 S: 11
Instrument ID:	HR GC/MS	Analysis Date:	31-Oct-2018
GC Column ID:	SPB OCTYL	Analysis Time:	06:55:42

LABELED COMPOUND	IUPAC NO. <sup>1</sup>	CO-ELUTIONS	LAB FLAG <sup>2</sup>	MZ's FORMING RATIO <sup>3</sup>	ION ABUND. RATIO	QC LIMITS <sup>4</sup>	CONC. FOUND (ng/mL)	CONC. RANGE (ng/mL)
13C12-2-MoCB	1L			M/M+2	3.08	2.66-3.60	97.5	50.0 - 150
13C12-4-MoCB	3L			M/M+2	3.05	2.66-3.60	99.6	50.0 - 150
13C12-2,2'-DiCB	4L			M/M+2	1.53	1.33-1.79	89.5	50.0 - 150
13C12-4,4'-DiCB	15L			M/M+2	1.50	1.33-1.79	92.1	50.0 - 150
13C12-2,2',6-TriCB	19L			M/M+2	1.06	0.88-1.20	119	50.0 - 150
13C12-3,4,4'-TriCB	37L			M/M+2	1.02	0.88-1.20	67.4	50.0 - 150
13C12-2,2',6,6'-TeCB	54L			M/M+2	0.80	0.65-0.89	91.7	50.0 - 150
13C12-3,3',4,4'-TeCB	77L			M/M+2	0.74	0.65-0.89	79.4	50.0 - 150
13C12-3,4,4',5-TeCB	81L			M/M+2	0.73	0.65-0.89	79.5	50.0 - 150
13C12-2,2',4,6,6'-PeCB	104L			M+2/M+4	1.59	1.32-1.78	81.6	50.0 - 150
13C12-2,3,3',4,4'-PeCB	105L			M+2/M+4	1.52	1.32-1.78	71.2	50.0 - 150
13C12-2,3,4,4',5-PeCB	114L			M+2/M+4	1.57	1.32-1.78	69.1	50.0 - 150
13C12-2,3',4,4',5-PeCB	118L			M+2/M+4	1.52	1.32-1.78	70.3	50.0 - 150
13C12-2',3,4,4',5-PeCB	123L			M+2/M+4	1.54	1.32-1.78	71.6	50.0 - 150
13C12-3,3',4,4',5-PeCB	126L			M+2/M+4	1.51	1.32-1.78	71.0	50.0 - 150
13C12-2,2',4,4',6,6'-HxCB	155L			M+2/M+4	1.29	1.05-1.43	82.8	50.0 - 150
13C12-2,3,3',4,4',5-HxCB	156L	156L + 157L	C	M+2/M+4	1.25	1.05-1.43	185	100 - 300
13C12-2,3,3',4,4',5'-HxCB	157L	156L + 157L	C156L					
13C12-2,3',4,4',5,5'-HxCB	167L			M+2/M+4	1.24	1.05-1.43	93.5	50.0 - 150
13C12-3,3',4,4',5,5'-HxCB	169L			M+2/M+4	1.27	1.05-1.43	92.1	50.0 - 150
13C12-2,2',3,4',5,6,6'-HpCB	188L			M+2/M+4	1.05	0.89-1.21	110	50.0 - 150
13C12-2,3,3',4,4',5,5'-HpCB	189L			M+2/M+4	0.98	0.89-1.21	74.0	50.0 - 150
13C12-2,2',3,3',5,5',6,6'-OcCB	202L			M+2/M+4	0.90	0.76-1.02	90.2	50.0 - 150
13C12-2,3,3',4,4',5,5',6-OcCB	205L			M+2/M+4	0.88	0.76-1.02	92.9	50.0 - 150
13C12-2,2',3,3',4,4',5,5',6-NoCB	206L			M+2/M+4	0.78	0.65-0.89	90.0	50.0 - 150
13C12-2,2',3,3',4,4',5,5',6,6'-NoCB	208L			M+2/M+4	0.78	0.65-0.89	104	50.0 - 150
13C12-2,2',3,3',4,4',5,5',6,6'-DeCB	209L			M+4/M+6	1.22	0.99-1.33	85.0	50.0 - 150

**CLEAN-UP STANDARD**

13C12-2,4,4'-TriCB	28L		M/M+2	1.02	0.88-1.20	72.9	60.0 - 130
13C12-2,3,3',5,5'-PeCB	111L		M+2/M+4	1.59	1.32-1.78	90.7	60.0 - 130
13C12-2,2',3,3',5,5',6-HpCB	178L		M+2/M+4	1.06	0.89-1.21	93.9	60.0 - 130

(1) Suffix "L" indicates labeled compound.

(2) Where applicable, custom lab flags have been used on this report; C = co-eluting congener.

(3) See Table 8, Method 1668A, for m/z specifications.

(4) Ion Abundance Ratio Control Limits as specified in Table 8, Method 1668A.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_ Rhonda Stoddard \_\_\_\_\_

For Axys Internal Use Only [ XSL Template: Form16684B.xlsx; Created: 16-Nov-2018 10:17:08; Application: XMLTransformer-1.16.51;  
Report Filename: 1668\_PCB1668\_PB8C\_374S11\_Form4B\_SJ2457652.html; Workgroup: WG65583; Design ID: 3360 ]

## SGS AXYS METHOD MLA-010 Rev 12

**Form 6A**  
**PCB CONGENER RELATIVE RETENTION TIMES**

**SGS AXYS ANALYTICAL SERVICES**

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

<b>Initial Calibration Date:</b>	07-Jul-2018	<b>VER Data Filename:</b>	PB8C_374 S: 11
<b>Instrument ID:</b>	HR GC/MS	<b>Analysis Date:</b>	31-Oct-2018
<b>GC Column ID:</b>	SPB OCTYL	<b>Analysis Time:</b>	06:55:42

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG <sup>1</sup>	RETENTION TIME REFERENCE	IUPAC NO. <sup>2</sup>	RRT	RRT QC LIMITS
2-MoCB	1			13C12-2-MoCB	1L	1.001	0.999-1.004
4-MoCB	3			13C12-4-MoCB	3L	1.001	0.999-1.004
2,2'-DiCB	4			13C12-2,2'-DiCB	4L	1.002	0.999-1.004
4,4'-DiCB	15			13C12-4,4'-DiCB	15L	1.001	0.999-1.002
2,2',6-TriCB	19			13C12-2,2',6-TriCB	19L	1.002	0.999-1.003
3,4,4'-TriCB	37			13C12-3,4,4'-TriCB	37L	1.001	0.999-1.002
2,2',6,6'-TeCB	54			13C12-2,2',6,6'-TeCB	54L	1.002	0.999-1.002
3,3',4,4'-TeCB	77			13C12-3,3',4,4'-TeCB	77L	1.001	1.000-1.001
3,4,4',5-TeCB	81			13C12-3,4,4',5-TeCB	81L	1.001	1.000-1.001
2,2',4,6,6'-PeCB	104			13C12-2,2',4,6,6'-PeCB	104L	1.001	0.999-1.002
2,3,3',4,4'-PeCB	105			13C12-2,3,3',4,4'-PeCB	105L	1.001	1.000-1.001
2,3,4,4',5-PeCB	114			13C12-2,3,4,4',5-PeCB	114L	1.001	1.000-1.001
2,3',4,4',5-PeCB	118			13C12-2,3',4,4',5-PeCB	118L	1.000	1.000-1.001
2',3,4,4',5-PeCB	123			13C12-2',3,4,4',5-PeCB	123L	1.001	1.000-1.001
3,3',4,4',5-PeCB	126			13C12-3,3',4,4',5-PeCB	126L	1.001	1.000-1.001
2,2',4,4',6,6'-HxCB	155			13C12-2,2',4,4',6,6'-HxCB	155L	1.001	0.999-1.002
2,3,3',4,4',5-HxCB	156	156 + 157	C	13C12-2,3,3',4,4',5-HxCB and 13C12-2,3,3',4,4',5'-HxCB	156L/157L	1.000	0.998-1.003
2,3,3',4,4',5'-HxCB	157	156 + 157	C156				
2,3',4,4',5,5'-HxCB	167			13C12-2,3',4,4',5,5'-HxCB	167L	1.000	1.000-1.001
3,3',4,4',5,5'-HxCB	169			13C12-3,3',4,4',5,5'-HxCB	169L	1.000	1.000-1.001
2,2',3,4',5,6,6'-HpCB	188			13C12-2,2',3,4',5,6,6'-HpCB	188L	1.001	1.000-1.001
2,3,3',4,4',5,5'-HpCB	189			13C12-2,3,3',4,4',5,5'-HpCB	189L	1.000	1.000-1.001
2,2',3,3',5,5',6,6'-OcCB	202			13C12-2,2',3,3',5,5',6,6'-OcCB	202L	1.000	1.000-1.001
2,3,3',4,4',5,5',6-OcCB	205			13C12-2,3,3',4,4',5,5',6-OcCB	205L	1.001	1.000-1.001
2,2',3,3',4,4',5,5',6-NoCB	206			13C12-2,2',3,3',4,4',5,5',6-NoCB	206L	1.001	1.000-1.001
2,2',3,3',4,5,5',6,6'-NoCB	208			13C12-2,2',3,3',4,5,5',6,6'-NoCB	208L	1.001	1.000-1.001
2,2',3,3',4,4',5,5',6,6'-DeCB	209			13C12-2,2',3,3',4,4',5,5',6,6'-DeCB	209L	1.001	1.000-1.001

(1) Where applicable, custom lab flags have been used on this report; C = co-eluting congener.

(2) Suffix "L" indicates labeled compound

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_ Rhonda Stoddard \_\_\_\_\_

For Axys Internal Use Only [ XSL Template: Form1668A.xsl; Created: 16-Nov-2018 10:17:08; Application: XMLTransformer-1.16.51; Report Filename: 1668\_PCB1668\_PB8C\_374S11\_Form6A\_SJ2457652.html; Workgroup: WG65583; Design ID: 3360 ]

## SGS AXYS METHOD MLA-010 Rev 12

**Form 6B**  
**PCB CONGENER RELATIVE RETENTION TIMES**

**SGS AXYS ANALYTICAL SERVICES**

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Initial Calibration Date:	07-Jul-2018	VER Data Filename:	PB8C_374 S: 11
Instrument ID:	HR GC/MS	Analysis Date:	31-Oct-2018
GC Column ID:	SPB OCTYL	Analysis Time:	06:55:42

LABELED COMPOUND	IUPAC NO. <sup>1</sup>	CO-ELUTIONS	LAB FLAG <sup>2</sup>	RETENTION TIME REFERENCE	IUPAC NO. <sup>1</sup>	RRT	RRT QC LIMITS
13C12-2-MoCB	1L			13C12-2,5-DiCB	9L	0.720	0.689-0.751
13C12-4-MoCB	3L			13C12-2,5-DiCB	9L	0.858	0.827-0.890
13C12-2,2'-DiCB	4L			13C12-2,5-DiCB	9L	0.873	0.842-0.904
13C12-4,4'-DiCB	15L			13C12-2,5-DiCB	9L	1.253	1.222-1.284
13C12-2,2',6-TriCB	19L			13C12-2,5-DiCB	9L	1.071	1.040-1.102
13C12-3,4,4'-TriCB	37L			13C12-2,2',5,5'-TeCB	52L	1.092	1.072-1.112
13C12-2,2',6,6'-TeCB	54L			13C12-2,2',5,5'-TeCB	52L	0.811	0.798-0.824
13C12-3,3',4,4'-TeCB	77L			13C12-2,2',5,5'-TeCB	52L	1.397	1.383-1.410
13C12-3,4,4',5-TeCB	81L			13C12-2,2',5,5'-TeCB	52L	1.373	1.360-1.386
13C12-2,2',4,6,6'-PeCB	104L			13C12-2,2',4,5,5'-PeCB	101L	0.808	0.798-0.819
13C12-2,3,3',4,4'-PeCB	105L			13C12-2,2',4,5,5'-PeCB	101L	1.201	1.190-1.211
13C12-2,3,4,4',5-PeCB	114L			13C12-2,2',4,5,5'-PeCB	101L	1.179	1.169-1.190
13C12-2,3',4,4',5-PeCB	118L			13C12-2,2',4,5,5'-PeCB	101L	1.162	1.152-1.173
13C12-2',3,4,4',5-PeCB	123L			13C12-2,2',4,5,5'-PeCB	101L	1.151	1.141-1.162
13C12-3,3',4,4',5-PeCB	126L			13C12-2,2',4,5,5'-PeCB	101L	1.302	1.291-1.312
13C12-2,2',4,4',6,6'-HxCB	155L			13C12-2,2',3,4,4',5'-HxCB	138L	0.785	0.777-0.794
13C12-2,3,3',4,4',5-HxCB	156L	156L + 157L	C	13C12-2,2',3,4,4',5'-HxCB	138L	1.108	1.100-1.116
13C12-2,3,3',4,4',5'-HxCB	157L	156L + 157L	C156L				
13C12-2,3',4,4',5,5'-HxCB	167L			13C12-2,2',3,4,4',5'-HxCB	138L	1.078	1.070-1.086
13C12-3,3',4,4',5,5'-HxCB	169L			13C12-2,2',3,4,4',5'-HxCB	138L	1.192	1.184-1.200
13C12-2,2',3,4',5,6,6'-HpCB	188L			13C12-2,2',3,3',4,4',5,5'-OcCB	194L	0.712	0.705-0.718
13C12-2,3,3',4,4',5,5'-HpCB	189L			13C12-2,2',3,3',4,4',5,5'-OcCB	194L	0.959	0.953-0.966
13C12-2,2',3,3',5,5',6,6'-OcCB	202L			13C12-2,2',3,3',4,4',5,5'-OcCB	194L	0.818	0.811-0.824
13C12-2,3,3',4,4',5,5',6-OcCB	205L			13C12-2,2',3,3',4,4',5,5'-OcCB	194L	1.009	1.000-1.019
13C12-2,2',3,3',4,4',5,5',6-NoCB	206L			13C12-2,2',3,3',4,4',5,5'-OcCB	194L	1.043	1.034-1.053
13C12-2,2',3,3',4,5,5',6,6'-NoCB	208L			13C12-2,2',3,3',4,4',5,5'-OcCB	194L	0.949	0.942-0.955
13C12-2,2',3,3',4,4',5,5',6,6'-DeCB	209L			13C12-2,2',3,3',4,4',5,5'-OcCB	194L	1.074	1.065-1.084

**CLEANUP STANDARD**

13C12-2,4,4'-TriCB	28L	13C12-2,2',5,5'-TeCB	52L	0.925	0.911-0.938
13C12-2,3,3',5,5'-PeCB	111L	13C12-2,2',4,5,5'-PeCB	101L	1.088	1.077-1.098
13C12-2,2',3,3',5,5',6-HpCB	178L	13C12-2,2',3,4,4',5'-HxCB	138L	1.011	1.003-1.020

(1) Suffix "L" indicates labeled compound

(2) Where applicable, custom lab flags have been used on this report; C = co-eluting congener.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_ Rhonda Stoddard \_\_\_\_\_

For Axys Internal Use Only [ XSL Template: Form16686B.xlsx; Created: 16-Nov-2018 10:17:08; Application: XMLTransformer-1.16.51; Report Filename: 1668\_PCB1668\_PB8C\_374S11\_Form6B\_SJ2457652.html; Workgroup: WG65583; Design ID: 3360 ]

**Accreditation Scope**

SGS AXYS Analytical Services Ltd.  
file ref.: ACC-101 Rev. 40

Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	Serum	Solids	Tissue	Urine	Water
				CALA	CALA California DPH Florida DOH	California DPH Florida DOH Minnesota DOH New Jersey DEP New York DOH Virginia DGS Washington DE Maine DOH ANAB ISO 17025 ANAB DoD **	CALA Florida DOH Minnesota DOH New Jersey DEP Virginia DGS ANAB ISO 17025	CALA California DPH Florida DOH Minnesota DOH New Jersey DEP New York DOH Virginia DGS Washington DE * Maine DOH Pennsylvania DEP ANAB ISO 17025 ANAB DoD **
BFR	BTBPE	SGS AXYS MLA-033	MLA-033	Y		Y		Y
	DBDPE	SGS AXYS MLA-033	MLA-033	Y		Y		Y
	HBB	SGS AXYS MLA-033	MLA-033	Y		Y		Y
	PBEB	SGS AXYS MLA-033	MLA-033	Y		Y		Y
Bisphenols	Bisphenol A	SGS AXYS MLA-113	MLA-113	Y				Y
	Bisphenol AF	SGS AXYS MLA-113	MLA-113	Y				Y
	Bisphenol B	SGS AXYS MLA-113	MLA-113	Y				Y
	Bisphenol E	SGS AXYS MLA-113	MLA-113	Y				Y
	Bisphenol F	SGS AXYS MLA-113	MLA-113	Y				Y
	Bisphenol S	SGS AXYS MLA-113	MLA-113	Y				Y
BPA and MPE	4,4'-dihydroxy-2,2-diphenylpropane (Bisphenol A) (BPA)	SGS AXYS MLA-059	MLA-059					Y
	Mono-(2-ethyl-5-hydroxyhexyl) phthalate (MEHHP)	SGS AXYS MLA-059	MLA-059					Y
	Mono-(2-ethyl-5-oxohexyl) phthalate (MEOHP)	SGS AXYS MLA-059	MLA-059					Y
	Mono-(3-carboxypropyl) phthalate (MCPP)	SGS AXYS MLA-059	MLA-059					Y
	Mono-2-ethylhexyl phthalate (MEHP)	SGS AXYS MLA-059	MLA-059					Y
	Mono-benzyl phthalate (MBzP)	SGS AXYS MLA-059	MLA-059					Y
	Mono-butyl phthalate (MBP) (n + iso)	SGS AXYS MLA-059	MLA-059					Y
	Mono-cyclohexyl phthalate (MCHP)	SGS AXYS MLA-059	MLA-059					Y
	Mono-ethyl phthalate (MEP)	SGS AXYS MLA-059	MLA-059					Y
	Mono-iso-nonyl phthalate (MiNP)	SGS AXYS MLA-059	MLA-059					Y
	Mono-methyl phthalate (MMP)	SGS AXYS MLA-059	MLA-059					Y
HBCDD	alpha-hexabromocyclododecane (a-HBCDD)	SGS AXYS MLA-070	MLA-070	Y				
	beta-hexabromocyclododecane (b-HBCDD)	SGS AXYS MLA-070	MLA-070	Y				
	gamma-hexabromocyclododecane (g-HBCDD)	SGS AXYS MLA-070	MLA-070	Y				
OC Pesticides	"Organochlorine Pesticides" category (CA only)	EPA 608	MLA-007					Y
		EPA 625	MLA-007					Y
		EPA 8081	MLA-007	Y				
	"Pesticides" category (CA only)	EPA 8270	MLA-007	Y				
	2,4-DDD	EPA 625	MLA-007					Y
		EPA 8270	MLA-007	Y	Y	Y		Y
		EPA 1699	MLA-028	Y	Y	Y		Y
		SGS AXYS MLA-028	MLA-028	Y	Y	Y	Y	Y
		SGS AXYS MLA-007	MLA-007	Y	Y	Y	Y	Y
	2,4-DDE	EPA 625	MLA-007					Y
		EPA 8270	MLA-007	Y	Y	Y		Y
		EPA 1699	MLA-028	Y	Y	Y		Y
		SGS AXYS MLA-028	MLA-028	Y	Y	Y	Y	Y
		SGS AXYS MLA-007	MLA-007	Y	Y	Y	Y	Y
	2,4-DDT	EPA 625	MLA-007					Y
		EPA 8270	MLA-007	Y	Y	Y		Y
		EPA 1699	MLA-028	Y	Y	Y		Y
		SGS AXYS MLA-028	MLA-028	Y	Y	Y	Y	Y
		SGS AXYS MLA-007	MLA-007	Y	Y	Y	Y	Y
4,4'-DDD	EPA 625	MLA-007						Y
	EPA 8270	MLA-007		Y	Y	Y		Y
	EPA 1699	MLA-028		Y		Y		Y
	SGS AXYS MLA-028	MLA-028	Y	Y	Y	Y	Y	Y
	SGS AXYS MLA-007	MLA-007	Y	Y	Y	Y	Y	Y
4,4'-DDE	EPA 625	MLA-007						Y
	EPA 8270	MLA-007		Y	Y	Y	Y	Y

**Accreditation Scope**

SGS AXYS Analytical Services Ltd.  
file ref.: ACC-101 Rev. 40

Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	Serum	Tissue	Urine	Water
				CALA			
4,4'-DDT	EPA 1699	MLA-028		Y			Y
	SGS AXYS MLA-028	MLA-028	Y	Y	Y	Y	Y
	SGS AXYS MLA-007	MLA-007	Y	Y	Y	Y	Y
	EPA 625	MLA-007					Y
	EPA 8270	MLA-007		Y	Y Y Y Y Y		Y
	EPA 1699	MLA-028		Y	Y		Y
	SGS AXYS MLA-028	MLA-028	Y	Y	Y	Y	Y
Aldrin	SGS AXYS MLA-007	MLA-007	Y	Y	Y	Y	Y
	EPA 625	MLA-007					Y
	EPA 8270	MLA-007		Y	Y Y Y Y Y		Y
	EPA 1699	MLA-028		Y	Y		Y
	SGS AXYS MLA-028	MLA-028	Y	Y	Y	Y	Y
Alpha-HCH	SGS AXYS MLA-007	MLA-007	Y	Y	Y	Y	Y
	EPA 625	MLA-007					Y
	EPA 8270	MLA-007		Y	Y Y Y Y Y		Y
	EPA 1699	MLA-028		Y	Y		Y
	SGS AXYS MLA-028	MLA-028	Y	Y	Y	Y	Y
Beta-HCH	SGS AXYS MLA-007	MLA-007	Y	Y	Y	Y	Y
	EPA 625	MLA-007					Y
	EPA 8270	MLA-007		Y	Y Y Y Y Y		Y
	EPA 1699	MLA-028		Y	Y		Y
	SGS AXYS MLA-028	MLA-028	Y	Y	Y	Y	Y
Chlordane, technical	SGS AXYS MLA-007	MLA-007	Y	Y	Y	Y	Y
	EPA 625	MLA-007					Y
	EPA 8270	MLA-007		Y	Y Y Y Y Y		Y
	SGS AXYS MLA-007	MLA-007	Y	Y	Y	Y	Y
cis-Chlordane (alpha-Chlordane)	EPA 8270	MLA-007	Y	Y	Y Y Y Y		Y
	EPA 1699	MLA-028	Y	Y	Y		Y
	SGS AXYS MLA-028	MLA-028	Y	Y	Y	Y	Y
	SGS AXYS MLA-007	MLA-007	Y	Y	Y	Y	Y
cis-Nonachlor	EPA 8270	MLA-007	Y	Y	Y		Y
	EPA 1699	MLA-028	Y	Y	Y		Y
	SGS AXYS MLA-028	MLA-028	Y	Y	Y	Y	Y
	SGS AXYS MLA-007	MLA-007	Y	Y	Y	Y	Y
Delta-HCH	EPA 608	MLA-007					Y
	EPA 8081	MLA-007		Y	Y Y Y Y Y		Y
	EPA 1699	MLA-028		Y	Y		Y
	SGS AXYS MLA-028	MLA-028	Y	Y	Y	Y	Y
	SGS AXYS MLA-007	MLA-007	Y	Y	Y	Y	Y
Dieldrin	EPA 608	MLA-007					Y
	EPA 8081	MLA-007		Y	Y Y Y Y Y		Y
	EPA 1699	MLA-028		Y	Y		Y
	SGS AXYS MLA-028	MLA-028	Y	Y	Y	Y	Y
	SGS AXYS MLA-007	MLA-007	Y	Y	Y	Y	Y
Endosulphhan I	EPA 608	MLA-007					Y
	EPA 8081	MLA-007		Y	Y Y Y Y Y		Y
	EPA 1699	MLA-028		Y	Y		Y
	SGS AXYS MLA-028	MLA-028	Y	Y	Y	Y	Y
	SGS AXYS MLA-007	MLA-007	Y	Y	Y	Y	Y
Endosulphhan II	EPA 608	MLA-007					Y
							Y Y Y Y Y

**Accreditation Scope**

SGS AXYS Analytical Services Ltd.  
file ref.: ACC-101 Rev. 40

Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	Serum	Tissue	Urine	Water
				CALA			
	EPA 8081	MLA-007		Y	Y	Y	Y
	EPA 1699	MLA-028		Y	Y	Y	Y
	SGS AXYS MLA-028	MLA-028	Y	Y	Y	Y	Y
	SGS AXYS MLA-007	MLA-007	Y	Y	Y	Y	Y
Endosulphate sulphate	EPA 608	MLA-007					
	EPA 8081	MLA-007		Y	Y	Y	Y
	EPA 1699	MLA-028		Y	Y	Y	Y
	SGS AXYS MLA-028	MLA-028	Y	Y	Y	Y	Y
	SGS AXYS MLA-007	MLA-007	Y	Y	Y	Y	Y
Endrin	EPA 608	MLA-007					
	EPA 8081	MLA-007		Y	Y	Y	Y
	EPA 1699	MLA-028		Y	Y	Y	Y
	SGS AXYS MLA-028	MLA-028	Y	Y	Y	Y	Y
	SGS AXYS MLA-007	MLA-007	Y	Y	Y	Y	Y
Endrin aldehyde	EPA 608	MLA-007					
	EPA 8081	MLA-007		Y	Y	Y	Y
	EPA 1699	MLA-028		Y	Y	Y	Y
	SGS AXYS MLA-028	MLA-028	Y	Y	Y	Y	Y
	SGS AXYS MLA-007	MLA-007	Y	Y	Y	Y	Y
Endrin ketone	EPA 8081	MLA-007		Y	Y	Y	Y
	EPA 1699	MLA-028		Y	Y	Y	Y
	SGS AXYS MLA-028	MLA-028	Y	Y	Y	Y	Y
	SGS AXYS MLA-007	MLA-007	Y	Y	Y	Y	Y
Gamma-HCH (Lindane)	EPA 625	MLA-007					
	EPA 8270	MLA-007		Y	Y	Y	Y
	EPA 1699	MLA-028		Y	Y	Y	Y
	SGS AXYS MLA-028	MLA-028	Y	Y	Y	Y	Y
	SGS AXYS MLA-007	MLA-007	Y	Y	Y	Y	Y
Heptachlor	EPA 625	MLA-007					
	EPA 8270	MLA-007		Y	Y	Y	Y
	EPA 1699	MLA-028		Y	Y	Y	Y
	SGS AXYS MLA-028	MLA-028	Y	Y	Y	Y	Y
	SGS AXYS MLA-007	MLA-007	Y	Y	Y	Y	Y
Heptachlor epoxide	EPA 608	MLA-007					
	EPA 8081	MLA-007		Y	Y	Y	Y
	EPA 1699	MLA-028		Y	Y	Y	Y
	SGS AXYS MLA-028	MLA-028	Y	Y	Y	Y	Y
	SGS AXYS MLA-007	MLA-007	Y	Y	Y	Y	Y
Hexachlorobenzene	EPA 1625	MLA-007					
	EPA 8270	MLA-007		Y	Y	Y	Y
	EPA 1699	MLA-028		Y	Y	Y	Y
	SGS AXYS MLA-028	MLA-028	Y	Y	Y	Y	Y
	SGS AXYS MLA-007	MLA-007	Y	Y	Y	Y	Y
Methoxychlor	EPA 608	MLA-007					
	EPA 8081	MLA-007		Y	Y	Y	Y
	EPA 1699	MLA-028		Y	Y	Y	Y
	SGS AXYS MLA-028	MLA-028	Y	Y	Y	Y	Y
	SGS AXYS MLA-007	MLA-007	Y	Y	Y	Y	Y
Mirex	EPA 8270	MLA-007		Y	Y	Y	Y
	EPA 1699	MLA-028		Y	Y	Y	Y

**Accreditation Scope**

SGS AXYS Analytical Services Ltd.  
file ref.: ACC-101 Rev. 40

Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	Serum	Tissue	Urine	Water
				CALA			
Organochlorine Pesticides	SGS AXYS MLA-028	MLA-028	Y	Y	Y	Y	Y
	SGS AXYS MLA-007	MLA-007	Y	Y	Y	Y	Y
	Oxychlordane	EPA 8270	MLA-007		Y	Y	Y
	EPA 1699	MLA-028		Y	Y	Y	Y
	SGS AXYS MLA-028	MLA-028	Y	Y	Y	Y	Y
	SGS AXYS MLA-007	MLA-007	Y	Y	Y	Y	Y
	Toxaphene	EPA 8270	MLA-007		Y		
	SGS AXYS MLA-007	MLA-007	Y		Y	Y	Y
	trans-Chlordane (gamma-Chlordane)	EPA 8270	MLA-007		Y		Y
	EPA 1699	MLA-028		Y	Y	Y	Y
	SGS AXYS MLA-028	MLA-028	Y	Y	Y	Y	Y
	SGS AXYS MLA-007	MLA-007	Y	Y	Y	Y	Y
	trans-Nonachlor	EPA 8270	MLA-007		Y		Y
	EPA 1699	MLA-028		Y	Y	Y	Y
	SGS AXYS MLA-028	MLA-028	Y	Y	Y	Y	Y
	SGS AXYS MLA-007	MLA-007	Y	Y	Y	Y	Y
PAH	1,2,6-Trimethylphenanthrene	SGS AXYS MLA-021	MLA-021	Y			Y
	1,2-Dimethylnaphthalene	SGS AXYS MLA-021	MLA-021	Y			Y
	1,4,6,7-Tetramethylnaphthalene	SGS AXYS MLA-021	MLA-021	Y			Y
	1,7-Dimethylfluorene	SGS AXYS MLA-021	MLA-021	Y			Y
	1,7-Dimethylphenanthrene	SGS AXYS MLA-021	MLA-021	Y			Y
	1,8-Dimethylphenanthrene	SGS AXYS MLA-021	MLA-021	Y			Y
	1-Methylchrysene	SGS AXYS MLA-021	MLA-021	Y			Y
	1-Methylnaphthalene	SGS AXYS MLA-021	MLA-021	Y			Y
	1-Methylphenanthrene	SGS AXYS MLA-021	MLA-021	Y			Y
	2,3,5-Trimethylnaphthalene	SGS AXYS MLA-021	MLA-021	Y			Y
	2,3,6-Trimethylnaphthalene	SGS AXYS MLA-021	MLA-021	Y			Y
	2,4-Dimethyl dibenzothiophene	SGS AXYS MLA-021	MLA-021	Y			Y
	2,6-Dimethylnaphthalene	SGS AXYS MLA-021	MLA-021	Y			Y
	2,6-Dimethylphenanthrene	SGS AXYS MLA-021	MLA-021	Y			Y
	2-Methylanthracene	SGS AXYS MLA-021	MLA-021	Y			Y
	2-Methyl dibenzothiophene	SGS AXYS MLA-021	MLA-021	Y			Y
	2-Methylfluorene	SGS AXYS MLA-021	MLA-021	Y			Y
	2-Methylnaphthalene	EPA 1625	MLA-021				Y
		EPA 8270	MLA-021	Y	Y	Y	Y
		SGS AXYS MLA-021	MLA-021	Y	Y	Y	Y
	2-Methylphenanthrene	SGS AXYS MLA-021	MLA-021	Y			Y
	3,6-Dimethylphenanthrene	SGS AXYS MLA-021	MLA-021	Y			Y
	3-Methyl dibenzothiophene	SGS AXYS MLA-021	MLA-021	Y			Y
	3-Methylfluoranthene/ Benzo(a)fluorene	SGS AXYS MLA-021	MLA-021	Y			Y
	3-Methylphenanthrene	SGS AXYS MLA-021	MLA-021	Y			Y
	5,9-Dimethylchrysene	SGS AXYS MLA-021	MLA-021	Y			Y
	5/6-Methylchrysenes	SGS AXYS MLA-021	MLA-021	Y			Y
	7-Methylbenzo(a)pyrene	SGS AXYS MLA-021	MLA-021	Y			Y
	9/4-Methylphenanthrenes	SGS AXYS MLA-021	MLA-021	Y			Y
	Acenaphthene	EPA 1625	MLA-021				Y
		EPA 8270	MLA-021	Y	Y	Y	Y
		SGS AXYS MLA-021	MLA-021	Y	Y	Y	Y
	Acenaphthylene	EPA 1625	MLA-021				Y
		EPA 8270	MLA-021	Y	Y	Y	Y

**Accreditation Scope**

SGS AXYS Analytical Services Ltd.  
file ref.: ACC-101 Rev. 40

Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	Serum	CALA Solids	Tissue	Urine	Water
				CALA				
Anthracene	SGS AXYS MLA-021	MLA-021		Y	Y			Y
	EPA 1625	MLA-021						Y
	EPA 8270	MLA-021		Y	Y	Y Y	Y	Y Y Y
Benz[a]anthracene	SGS AXYS MLA-021	MLA-021		Y	Y			Y
	EPA 1625	MLA-021						Y Y Y
	EPA 8270	MLA-021		Y	Y Y	Y Y		Y
Benzo[a]pyrene	SGS AXYS MLA-021	MLA-021		Y	Y			Y Y Y
	EPA 1625	MLA-021						Y
	EPA 8270	MLA-021		Y	Y Y	Y Y		Y
Benzo[b]fluoranthene	SGS AXYS MLA-021	MLA-021		Y	Y			Y
	EPA 1625	MLA-021						Y Y Y Y
	EPA 8270	MLA-021		Y	Y Y	Y Y		Y Y Y Y
Benzo[e]pyrene	SGS AXYS MLA-021	MLA-021		Y	Y			Y
	EPA 1625	MLA-021						Y Y Y
	EPA 8270	MLA-021		Y	Y Y	Y Y		Y
Benzo[ghi]perylene	SGS AXYS MLA-021	MLA-021		Y	Y			Y
	EPA 1625	MLA-021						Y Y Y
	EPA 8270	MLA-021		Y	Y Y	Y Y		Y
Benzo[j/k]fluoranthenes	SGS AXYS MLA-021	MLA-021		Y	Y			Y
	EPA 1625	MLA-021						Y Y Y Y
	EPA 8270	MLA-021		Y	Y Y	Y Y		Y
Benzo[l]fluoranthene	SGS AXYS MLA-021	MLA-021		Y	Y			Y
	EPA 1625	MLA-021						Y Y Y Y
	EPA 8270	MLA-021		Y	Y Y	Y Y		Y
Biphenyl	SGS AXYS MLA-021	MLA-021		Y	Y			Y
	SGS AXYS MLA-021	MLA-021		Y	Y			Y
	SGS AXYS MLA-021	MLA-021		Y	Y			Y
C1-Acenaphthenes	SGS AXYS MLA-021	MLA-021		Y	Y			Y
	C1-Benz(a)anthracenes/chrysenes	SGS AXYS MLA-021	MLA-021	Y	Y			Y
	C1-Benzofluoranthenes/ Benzopyrenes	SGS AXYS MLA-021	MLA-021	Y	Y			Y
C1-Biphenyls	SGS AXYS MLA-021	MLA-021		Y	Y			Y
	C1-Dibenzothiophene	SGS AXYS MLA-021	MLA-021	Y	Y			Y
	C1-Fluoranthenes/Pyrenes	SGS AXYS MLA-021	MLA-021	Y	Y			Y
C1-Fluorenes	SGS AXYS MLA-021	MLA-021		Y	Y			Y
	C1-Naphthalenes	SGS AXYS MLA-021	MLA-021	Y	Y			Y
	C1-Phenanthrenes/Anthracenes	SGS AXYS MLA-021	MLA-021	Y	Y			Y
C2-Benz(a)anthracenes/Chrysenes	SGS AXYS MLA-021	MLA-021		Y	Y			Y
	C2-Benzofluoranthenes/ Benzopyrenes	SGS AXYS MLA-021	MLA-021	Y	Y			Y
	C2-Biphenyls	SGS AXYS MLA-021	MLA-021	Y	Y			Y
C2-Dibenzothiophene	SGS AXYS MLA-021	MLA-021		Y	Y			Y
	C2-Fluoranthenes/Pyrenes	SGS AXYS MLA-021	MLA-021	Y	Y			Y
	C2-Fluorenes	SGS AXYS MLA-021	MLA-021	Y	Y			Y
C2-Naphthalenes	SGS AXYS MLA-021	MLA-021		Y	Y			Y
	C2-Phenanthrenes/Anthracenes	SGS AXYS MLA-021	MLA-021	Y	Y			Y
	C3-Benz(a)anthracenes/Chrysenes	SGS AXYS MLA-021	MLA-021	Y	Y			Y
C3-Dibenzothiophene	SGS AXYS MLA-021	MLA-021		Y	Y			Y
	C3-Fluoranthenes/Pyrenes	SGS AXYS MLA-021	MLA-021	Y	Y			Y
	C3-Fluorenes	SGS AXYS MLA-021	MLA-021	Y	Y			Y
C3-Naphthalenes	SGS AXYS MLA-021	MLA-021		Y	Y			Y
	C3-Phenanthrenes/Anthracenes	SGS AXYS MLA-021	MLA-021	Y	Y			Y
	C4-Benz(a)anthracenes/Chrysenes	SGS AXYS MLA-021	MLA-021	Y	Y			Y
C4-Dibenzothiophene	SGS AXYS MLA-021	MLA-021		Y	Y			Y
	C4-Fluoranthenes/Pyrenes	SGS AXYS MLA-021	MLA-021	Y	Y			Y
	C4-Naphthalenes	SGS AXYS MLA-021	MLA-021	Y	Y			Y
C4-Phenanthrenes/Anthracenes	SGS AXYS MLA-021	MLA-021		Y	Y			Y

**Accreditation Scope**

SGS AXYS Analytical Services Ltd.  
file ref.: ACC-101 Rev. 40

Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	Serum	Tissue	Urine	Water	
				CALA				
Chrysene	EPA 1625	MLA-021		Y	Y Y Y Y Y	Y	Y	
	EPA 8270	MLA-021		Y Y	Y	Y	Y	
	SGS AXYS MLA-021	MLA-021			Y	Y	Y	
	EPA 1625	MLA-021		Y Y Y Y Y			Y	
	EPA 8270	MLA-021		Y Y Y Y Y			Y	
	SGS AXYS MLA-021	MLA-021		Y Y	Y	Y	Y	
	EPA 1625	MLA-021		Y Y Y Y Y			Y	
	EPA 8270	MLA-021		Y Y Y Y Y			Y	
	SGS AXYS MLA-021	MLA-021		Y Y	Y	Y	Y	
	EPA 1625	MLA-021		Y Y Y Y Y			Y	
Dibenz[a,h]anthracene	EPA 1625	MLA-021		Y Y Y Y Y			Y	
	EPA 8270	MLA-021		Y Y Y Y Y			Y	
	SGS AXYS MLA-021	MLA-021		Y Y	Y	Y	Y	
	EPA 1625	MLA-021		Y Y Y Y Y			Y	
	EPA 8270	MLA-021		Y Y Y Y Y			Y	
	SGS AXYS MLA-021	MLA-021		Y Y	Y	Y	Y	
	EPA 1625	MLA-021		Y Y Y Y Y			Y	
	EPA 8270	MLA-021		Y Y Y Y Y			Y	
	SGS AXYS MLA-021	MLA-021		Y Y	Y	Y	Y	
	EPA 1625	MLA-021		Y Y Y Y Y			Y	
Dibenzothiophene	EPA 1625	MLA-021		Y Y Y Y Y			Y	
	EPA 8270	MLA-021		Y Y Y Y Y			Y	
	SGS AXYS MLA-021	MLA-021		Y Y	Y	Y	Y	
	EPA 1625	MLA-021		Y Y Y Y Y			Y	
	EPA 8270	MLA-021		Y Y Y Y Y			Y	
	SGS AXYS MLA-021	MLA-021		Y Y	Y	Y	Y	
	EPA 1625	MLA-021		Y Y Y Y Y			Y	
	EPA 8270	MLA-021		Y Y Y Y Y			Y	
	SGS AXYS MLA-021	MLA-021		Y Y	Y	Y	Y	
	EPA 1625	MLA-021		Y Y Y Y Y			Y	
Fluoranthene	EPA 1625	MLA-021		Y Y Y Y Y			Y	
	EPA 8270	MLA-021		Y Y Y Y Y			Y	
	SGS AXYS MLA-021	MLA-021		Y Y	Y	Y	Y	
	EPA 1625	MLA-021		Y Y Y Y Y			Y	
	EPA 8270	MLA-021		Y Y Y Y Y			Y	
	SGS AXYS MLA-021	MLA-021		Y Y	Y	Y	Y	
	EPA 1625	MLA-021		Y Y Y Y Y			Y	
	EPA 8270	MLA-021		Y Y Y Y Y			Y	
	SGS AXYS MLA-021	MLA-021		Y Y	Y	Y	Y	
	EPA 1625	MLA-021		Y Y Y Y Y			Y	
Fluorene	EPA 1625	MLA-021		Y Y Y Y Y			Y	
	EPA 8270	MLA-021		Y Y Y Y Y			Y	
	SGS AXYS MLA-021	MLA-021		Y Y	Y	Y	Y	
	EPA 1625	MLA-021		Y Y Y Y Y			Y	
	EPA 8270	MLA-021		Y Y Y Y Y			Y	
	SGS AXYS MLA-021	MLA-021		Y Y	Y	Y	Y	
	EPA 1625	MLA-021		Y Y Y Y Y			Y	
	EPA 8270	MLA-021		Y Y Y Y Y			Y	
	SGS AXYS MLA-021	MLA-021		Y Y	Y	Y	Y	
	EPA 1625	MLA-021		Y Y Y Y Y			Y	
Indeno[1,2,3-cd]pyrene	EPA 1625	MLA-021		Y Y Y Y Y			Y	
	EPA 8270	MLA-021		Y Y Y Y Y			Y	
	SGS AXYS MLA-021	MLA-021		Y Y	Y	Y	Y	
	EPA 1625	MLA-021		Y Y Y Y Y			Y	
	EPA 8270	MLA-021		Y Y Y Y Y			Y	
	SGS AXYS MLA-021	MLA-021		Y Y	Y	Y	Y	
	EPA 1625	MLA-021		Y Y Y Y Y			Y	
	EPA 8270	MLA-021		Y Y Y Y Y			Y	
	SGS AXYS MLA-021	MLA-021		Y Y	Y	Y	Y	
	EPA 1625	MLA-021		Y Y Y Y Y			Y	
Naphthalene	EPA 1625	MLA-021		Y Y Y Y Y			Y	
	EPA 8270	MLA-021		Y Y Y Y Y			Y	
	SGS AXYS MLA-021	MLA-021		Y Y	Y	Y	Y	
	EPA 1625	MLA-021		Y Y Y Y Y			Y	
	EPA 8270	MLA-021		Y Y Y Y Y			Y	
	SGS AXYS MLA-021	MLA-021		Y Y	Y	Y	Y	
	EPA 1625	MLA-021		Y Y Y Y Y			Y	
	EPA 8270	MLA-021		Y Y Y Y Y			Y	
	SGS AXYS MLA-021	MLA-021		Y Y	Y	Y	Y	
	EPA 1625	MLA-021		Y Y Y Y Y			Y	
Perylene	EPA 1625	MLA-021		Y Y Y Y Y			Y	
	EPA 8270	MLA-021		Y Y Y Y Y			Y	
	SGS AXYS MLA-021	MLA-021		Y Y	Y	Y	Y	
	EPA 1625	MLA-021		Y Y Y Y Y			Y	
	EPA 8270	MLA-021		Y Y Y Y Y			Y	
	SGS AXYS MLA-021	MLA-021		Y Y	Y	Y	Y	
	EPA 1625	MLA-021		Y Y Y Y Y			Y	
	EPA 8270	MLA-021		Y Y Y Y Y			Y	
	SGS AXYS MLA-021	MLA-021		Y Y	Y	Y	Y	
	EPA 1625	MLA-021		Y Y Y Y Y			Y	
Phenanthrene	EPA 1625	MLA-021		Y Y Y Y Y			Y	
	EPA 8270	MLA-021		Y Y Y Y Y			Y	
	SGS AXYS MLA-021	MLA-021		Y Y	Y	Y	Y	
	EPA 1625	MLA-021		Y Y Y Y Y			Y	
	EPA 8270	MLA-021		Y Y Y Y Y			Y	
	SGS AXYS MLA-021	MLA-021		Y Y	Y	Y	Y	
	EPA 1625	MLA-021		Y Y Y Y Y			Y	
	EPA 8270	MLA-021		Y Y Y Y Y			Y	
	SGS AXYS MLA-021	MLA-021		Y Y	Y	Y	Y	
	EPA 1625	MLA-021		Y Y Y Y Y			Y	
Pyrene	EPA 1625	MLA-021		Y Y Y Y Y			Y	
	EPA 8270	MLA-021		Y Y Y Y Y			Y	
	SGS AXYS MLA-021	MLA-021		Y Y	Y	Y	Y	
	EPA 1625	MLA-021		Y Y Y Y Y			Y	
	EPA 8270	MLA-021		Y Y Y Y Y			Y	
	SGS AXYS MLA-021	MLA-021		Y Y	Y	Y	Y	
	EPA 1625	MLA-021		Y Y Y Y Y			Y	
	EPA 8270	MLA-021		Y Y Y Y Y			Y	
	SGS AXYS MLA-021	MLA-021		Y Y	Y	Y	Y	
	EPA 1625	MLA-021		Y Y Y Y Y			Y	
Retene	EPA 1625	MLA-021		Y Y Y Y Y			Y	
	EPA 8270	MLA-021		Y Y Y Y Y			Y	
	SGS AXYS MLA-021	MLA-021		Y Y	Y	Y	Y	
	EPA 1625	MLA-021		Y Y Y Y Y			Y	
	EPA 8270	MLA-021		Y Y Y Y Y			Y	
	SGS AXYS MLA-021	MLA-021		Y Y	Y	Y	Y	
	EPA 1625	MLA-021		Y Y Y Y Y			Y	
	EPA 8270	MLA-021		Y Y Y Y Y			Y	
	SGS AXYS MLA-021	MLA-021		Y Y	Y	Y	Y	
	EPA 1625	MLA-021		Y Y Y Y Y			Y	
PBDPE	BDE 10 2,6-dibromodiphenylether	EPA 1614	MLA-033		Y			Y
		SGS AXYS MLA-033	MLA-033	Y Y		Y	Y	
	BDE 100 2,2',4,4',6-pentabromodiphenylether	EPA 1614	MLA-033			Y		Y
		SGS AXYS MLA-033	MLA-033	Y Y		Y	Y	
	BDE 105 2,3,3',4,4'-pentabromodiphenylether	EPA 1614	MLA-033			Y		Y
		SGS AXYS MLA-033	MLA-033	Y Y		Y	Y	
	BDE 11 3,3'-dibromodiphenylether	EPA 1614	MLA-033			Y		Y
		SGS AXYS MLA-033	MLA-033	Y Y		Y	Y	
	BDE 116 2,3,4,5,6-pentabromodiphenylether	EPA 1614	MLA-033			Y		Y
		SGS AXYS MLA-033	MLA-033	Y Y		Y	Y	
	BDE 119 2,3',4,4',6-pentabromodiphenylether	EPA 1614	MLA-033			Y		Y
		SGS AXYS MLA-033	MLA-033	Y Y		Y	Y	
	BDE 12 3,4-dibromodiphenylether	EPA 1614	MLA-033			Y		Y
		SGS AXYS MLA-033	MLA-033	Y Y		Y	Y	
	BDE 126 3,3',4,4',5-pentabromodiphenylether	EPA 1614	MLA-033			Y		Y
		SGS AXYS MLA-033	MLA-033	Y Y		Y	Y	
	BDE 13 3,4'-dibromodiphenylether	EPA 1614	MLA-033			Y		Y
		SGS AXYS MLA-033	MLA-033	Y Y		Y	Y	
	BDE 140 2,2',3,4,4',6-hexabromodiphenylether	EPA 1614	MLA-033			Y		Y
		SGS AXYS MLA-033	MLA-033	Y Y		Y	Y	
	BDE 15 4,4'-dibromodiphenylether	EPA 1614	MLA-033			Y		Y
		SGS AXYS MLA-033	MLA-033	Y Y		Y	Y	
	BDE 153 2,2',4,4',5,5'-hexabromodiphenylether	EPA 1614	MLA-033			Y		Y

**Accreditation Scope**

SGS AXYS Analytical Services Ltd.  
file ref.: ACC-101 Rev. 40

Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	Serum	Solids	Tissue	Urine	Water
				CALA				
	SGS AXYS MLA-033	MLA-033	Y	Y	California DPH Florida DOH			Y
	BDE 154 2,2',4,4',5',6-hexabromodiphenylether	EPA 1614	MLA-033			Y		Y
	SGS AXYS MLA-033	MLA-033	Y	Y		Y		Y
	BDE 155 2,2',4,4',6,6'-hexabromodiphenylether	EPA 1614	MLA-033			Y		Y
	SGS AXYS MLA-033	MLA-033	Y	Y		Y		Y
	BDE 166 2,3,4,4',5,6-hexabromodiphenylether	EPA 1614	MLA-033			Y		Y
	SGS AXYS MLA-033	MLA-033	Y	Y		Y		Y
	BDE 17 2,2',4-tribromodiphenylether	EPA 1614	MLA-033			Y		Y
	SGS AXYS MLA-033	MLA-033	Y	Y		Y		Y
	BDE 181 2,2',3,4,4',5,6-heptabromodiphenylether	EPA 1614	MLA-033			Y		Y
	SGS AXYS MLA-033	MLA-033	Y	Y		Y		Y
	BDE 190 2,3,3',4,4',5,6-heptabromodiphenylether	EPA 1614	MLA-033			Y		Y
	SGS AXYS MLA-033	MLA-033	Y	Y		Y		Y
	BDE 206 2,2',3,3',4,4',5,5',6-nonabromodiphenylether	EPA 1614	MLA-033			Y		Y
	SGS AXYS MLA-033	MLA-033	Y	Y		Y		Y
	BDE 207 2,2',3,3',4,4',5,6,6'-nonabromodiphenylether	EPA 1614	MLA-033			Y		Y
	SGS AXYS MLA-033	MLA-033	Y	Y		Y		Y
	BDE 208 2,2',3,3',4,5,5',6,6'-nonabromodiphenylether	EPA 1614	MLA-033			Y		Y
	SGS AXYS MLA-033	MLA-033	Y	Y		Y		Y
	BDE 209 Decabromodiphenylether	EPA 1614	MLA-033			Y		Y
	SGS AXYS MLA-033	MLA-033	Y	Y		Y		Y
	BDE 25 2,3',4-tribromodiphenylether	EPA 1614	MLA-033			Y		Y
	SGS AXYS MLA-033	MLA-033	Y	Y		Y		Y
	BDE 28 2,4,4'-tribromodiphenylether	EPA 1614	MLA-033			Y		Y
	SGS AXYS MLA-033	MLA-033	Y	Y		Y		Y
	BDE 30 2,4,6-tribromodiphenylether	EPA 1614	MLA-033			Y		Y
	SGS AXYS MLA-033	MLA-033	Y	Y		Y		Y
	BDE 35 3,3',4-tribromodiphenylether	EPA 1614	MLA-033			Y		Y
	SGS AXYS MLA-033	MLA-033	Y	Y		Y		Y
	BDE 37 3,4,4'-tribromodiphenylether	EPA 1614	MLA-033			Y		Y
	SGS AXYS MLA-033	MLA-033	Y	Y		Y		Y
	BDE 47 2,2',4,4'-tetrabromodiphenylether	EPA 1614	MLA-033			Y		Y
	SGS AXYS MLA-033	MLA-033	Y	Y		Y		Y
	BDE 49 2,2',4,5'-tetrabromodiphenylether	EPA 1614	MLA-033			Y		Y
	SGS AXYS MLA-033	MLA-033	Y	Y		Y		Y
	BDE 66 2,3',4,4'-tetrabromodiphenylether	EPA 1614	MLA-033			Y		Y
	SGS AXYS MLA-033	MLA-033	Y	Y		Y		Y
	BDE 7 2,4-dibromodiphenylether	EPA 1614	MLA-033			Y		Y
	SGS AXYS MLA-033	MLA-033	Y	Y		Y		Y
	BDE 75 2,4,4',6-tetrabromodiphenylether	EPA 1614	MLA-033			Y		Y
	SGS AXYS MLA-033	MLA-033	Y	Y		Y		Y
	BDE 77 3,3',4,4'-tetrabromodiphenylether	EPA 1614	MLA-033			Y		Y
	SGS AXYS MLA-033	MLA-033	Y	Y		Y		Y
	BDE 8 2,4'-dibromodiphenylether	EPA 1614	MLA-033			Y		Y
	SGS AXYS MLA-033	MLA-033	Y	Y		Y		Y
	BDE 85 2,2',3,4,4'-pentabromodiphenylether	EPA 1614	MLA-033			Y		Y
	SGS AXYS MLA-033	MLA-033	Y	Y		Y		Y
	BDE 99 2,2',4,4',5-pentabromodiphenylether	EPA 1614	MLA-033			Y		Y
	SGS AXYS MLA-033	MLA-033	Y	Y		Y		Y
	BDE-183 2,2',3,4,4',5',6-heptabromodiphenylether	EPA 1614	MLA-033			Y		Y

**Accreditation Scope**

SGS AXYS Analytical Services Ltd.  
file ref.: ACC-101 Rev. 40

Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	Serum	Tissue	Urine	Water																		
				CALA																					
	SGS AXYS MLA-033	MLA-033	Y	Y	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE	Maine DOH	ANAB ISO 17025	ANAB DoD **	Y	Y	Y	Y	Y	Y	Y	Y	Y		
	BDE-33 2',3,4-tribromodiphenylether	EPA 1614	MLA-033		Y																			Y	
PCB Aroclors	"PCBs" category (CA only)	EPA 625	MLA-007																						Y
	PCB Aroclor 1016	EPA 8270	MLA-007	Y																					Y
	EPA 1668	MLA-010			Y																			Y	Y
	EPA 625	MLA-007																						Y	Y
	EPA 8270	MLA-007		Y	Y	Y	Y	Y															Y	Y	
	SGS AXYS MLA-010	MLA-010		Y		Y																		Y	Y
	SGS AXYS MLA-007	MLA-007		Y	Y			Y								Y		Y					Y	Y	
	PCB Aroclor 1016/1242	EPA 8270	MLA-007			Y																			
	PCB Aroclor 1221	EPA 1668	MLA-010		Y		Y	Y																Y	Y
	EPA 625	MLA-007																						Y	Y
	EPA 8270	MLA-007		Y	Y	Y	Y	Y															Y	Y	
	SGS AXYS MLA-010	MLA-010		Y		Y																		Y	Y
	SGS AXYS MLA-007	MLA-007		Y	Y			Y								Y		Y					Y	Y	
	PCB Aroclor 1232	EPA 1668	MLA-010		Y		Y	Y															Y	Y	Y
PCB congeners	EPA 625	MLA-007																						Y	Y
	EPA 8270	MLA-007		Y	Y	Y	Y	Y															Y	Y	Y
	SGS AXYS MLA-010	MLA-010		Y		Y																	Y	Y	Y
	SGS AXYS MLA-007	MLA-007		Y	Y			Y								Y		Y					Y	Y	Y
	PCB Aroclor 1242	EPA 1668	MLA-010		Y		Y	Y															Y	Y	Y
	EPA 625	MLA-007																					Y	Y	Y
	EPA 8270	MLA-007		Y	Y	Y	Y	Y														Y	Y	Y	
	SGS AXYS MLA-010	MLA-010		Y		Y																	Y	Y	Y
	SGS AXYS MLA-007	MLA-007		Y	Y			Y								Y		Y					Y	Y	Y
	PCB Aroclor 1248	EPA 1668	MLA-010		Y		Y	Y															Y	Y	Y
PCB congeners	EPA 625	MLA-007																					Y	Y	Y
	EPA 8270	MLA-007		Y	Y	Y	Y	Y														Y	Y	Y	
	SGS AXYS MLA-010	MLA-010		Y		Y																	Y	Y	Y
	SGS AXYS MLA-007	MLA-007		Y	Y			Y								Y		Y					Y	Y	Y
	PCB Aroclor 1254	EPA 1668	MLA-010		Y		Y	Y															Y	Y	Y
	EPA 625	MLA-007																					Y	Y	Y
	EPA 8270	MLA-007		Y	Y	Y	Y	Y														Y	Y	Y	
	SGS AXYS MLA-010	MLA-010		Y		Y																	Y	Y	Y
	SGS AXYS MLA-007	MLA-007		Y	Y			Y								Y		Y					Y	Y	Y
	PCB Aroclor 1260	EPA 1668	MLA-010		Y		Y	Y															Y	Y	Y
PCB congeners	EPA 625	MLA-007																					Y	Y	Y
	EPA 8270	MLA-007		Y	Y	Y	Y	Y														Y	Y	Y	
	SGS AXYS MLA-010	MLA-010		Y		Y																	Y	Y	Y
	SGS AXYS MLA-007	MLA-007		Y	Y			Y								Y		Y					Y	Y	Y
	PCB Aroclor 1268	EPA 1668	MLA-010		Y		Y	Y															Y	Y	Y
PCB congeners	PCB 1,2-Chlorobiphenyl	EPA 1668	MLA-010		Y	Y	Y	Y	Y								Y		Y	Y	Y	Y	Y	Y	Y
	EPA 8270	MLA-007							Y																
	SGS AXYS MLA-010	MLA-010		Y	Y											Y		Y							
	PCB 10,2,6-Dichlorobiphenyl	EPA 1668	MLA-010		Y	Y	Y	Y	Y								Y		Y	Y	Y	Y	Y	Y	Y
	EPA 8270	MLA-007		Y	Y											Y		Y							
PCB congeners	PCB 100,2,2',4,4',6-Pentachlorobiphenyl	EPA 1668	MLA-010		Y	Y	Y	Y	Y								Y		Y	Y	Y	Y	Y	Y	Y
	EPA 8270	MLA-007																							
	SGS AXYS MLA-010	MLA-010		Y	Y											Y		Y							

**Accreditation Scope**

SGS AXYS Analytical Services Ltd.  
file ref.: ACC-101 Rev. 40

Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	Serum	Solids	Tissue	Urine	Water
				CALA				
	PCB 101 2,2',4,5,5'-Pentachlorobiphenyl	EPA 1668	MLA-010		Y			
		SGS AXYS MLA-010	MLA-010	Y	Y	Y	Y	Y
	PCB 101/90/89	EPA 8270	MLA-007			Y		
		SGS AXYS MLA-007	MLA-007	Y			Y	Y
	PCB 102 2,2',4,5,6'-Pentachlorobiphenyl	EPA 1668	MLA-010		Y	Y	Y	Y
		SGS AXYS MLA-010	MLA-010	Y	Y	Y	Y	Y
	PCB 103 2,2',4,5',6-Pentachlorobiphenyl	EPA 1668	MLA-010		Y	Y	Y	Y
		EPA 8270	MLA-007			Y		
		SGS AXYS MLA-010	MLA-010	Y	Y	Y	Y	Y
	PCB 104 2,2',4,6,6'-Pentachlorobiphenyl	EPA 1668	MLA-010		Y	Y	Y	Y
		EPA 8270	MLA-007			Y		
		SGS AXYS MLA-010	MLA-010	Y	Y	Y	Y	Y
	PCB 105 2,3,3',4,4'-Pentachlorobiphenyl	EPA 1668	MLA-010		Y	Y	Y	Y
		SGS AXYS MLA-010	MLA-010	Y	Y	Y	Y	Y
	PCB 105/127	EPA 8270	MLA-007			Y		
		SGS AXYS MLA-007	MLA-007	Y			Y	Y
	PCB 106 2,3,3',4,5-Pentachlorobiphenyl	EPA 1668	MLA-010		Y	Y	Y	Y
		SGS AXYS MLA-010	MLA-010	Y	Y	Y	Y	Y
	PCB 107 2,3,3',4,5-Pentachlorobiphenyl	EPA 1668	MLA-010		Y	Y	Y	Y
		SGS AXYS MLA-010	MLA-010	Y	Y	Y	Y	Y
	PCB 107/109	EPA 8270	MLA-007			Y		
		SGS AXYS MLA-007	MLA-007	Y			Y	Y
	PCB 108 2,3,3',4,5-Pentachlorobiphenyl	EPA 1668	MLA-010		Y	Y	Y	Y
		SGS AXYS MLA-010	MLA-010	Y	Y	Y	Y	Y
	PCB 109 2,3,3',4,6-Pentachlorobiphenyl	EPA 1668	MLA-010		Y	Y	Y	Y
		SGS AXYS MLA-010	MLA-010	Y	Y	Y	Y	Y
	PCB 11 3,3'-Dichlorobiphenyl	EPA 1668	MLA-010		Y	Y	Y	Y
		EPA 8270	MLA-007			Y		
		SGS AXYS MLA-010	MLA-010	Y	Y	Y	Y	Y
	PCB 110 2,3,3',4,6-Pentachlorobiphenyl	EPA 1668	MLA-010		Y	Y	Y	Y
		EPA 8270	MLA-007			Y		
		SGS AXYS MLA-010	MLA-010	Y	Y	Y	Y	Y
		SGS AXYS MLA-007	MLA-007	Y			Y	Y
	PCB 111 2,3,3',5,5'-Pentachlorobiphenyl	EPA 1668	MLA-010		Y	Y	Y	Y
		SGS AXYS MLA-010	MLA-010	Y	Y	Y	Y	Y
	PCB 111/117	EPA 8270	MLA-007			Y		
	PCB 112 2,3,3',5,6-Pentachlorobiphenyl	EPA 1668	MLA-010		Y	Y	Y	Y
		EPA 8270	MLA-007			Y		
		SGS AXYS MLA-010	MLA-010	Y	Y	Y	Y	Y
	PCB 113 2,3,3',5',6-Pentachlorobiphenyl	EPA 1668	MLA-010		Y	Y	Y	Y
		EPA 8270	MLA-007			Y		
		SGS AXYS MLA-010	MLA-010	Y	Y	Y	Y	Y
	PCB 114 2,3,4,4',5-Pentachlorobiphenyl	EPA 1668	MLA-010		Y	Y	Y	Y
		EPA 8270	MLA-007			Y		
		SGS AXYS MLA-010	MLA-010	Y	Y	Y	Y	Y
	PCB 115 2,3,4,4',6-Pentachlorobiphenyl	EPA 1668	MLA-010		Y	Y	Y	Y
		SGS AXYS MLA-010	MLA-010	Y	Y	Y	Y	Y
	PCB 116 2,3,4,5,6-Pentachlorobiphenyl	EPA 1668	MLA-010		Y	Y	Y	Y
		SGS AXYS MLA-010	MLA-010	Y	Y	Y	Y	Y
	PCB 117 2,3,4',5,6-Pentachlorobiphenyl	EPA 1668	MLA-010		Y	Y	Y	Y

**Accreditation Scope**

SGS AXYS Analytical Services Ltd.  
file ref.: ACC-101 Rev. 40

Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	Serum	Solids	Tissue	Urine	Water
				CALA				
	SGS AXYS MLA-010	MLA-010	Y	Y	Y	Y	Y	Y
	PCB 118 2,3',4,4',5-Pentachlorobiphenyl	EPA 1668	MLA-010		Y	Y Y Y Y Y Y		Y
		SGS AXYS MLA-010	MLA-010	Y	Y	Y	Y	Y
		SGS AXYS MLA-901	MLA-901	Y		Y	Y	Y
	PCB 118/106	EPA 8270	MLA-007			Y		
		SGS AXYS MLA-007	MLA-007	Y				Y
	PCB 119 2,3',4,4',6-Pentachlorobiphenyl	EPA 1668	MLA-010		Y Y Y Y Y Y		Y	Y Y Y Y Y Y
		EPA 8270	MLA-007		Y			Y
		SGS AXYS MLA-010	MLA-010	Y	Y	Y	Y	Y
	PCB 12 3,4-Dichlorobiphenyl	EPA 1668	MLA-010		Y Y Y Y Y Y		Y	Y Y Y Y Y Y
		SGS AXYS MLA-010	MLA-010	Y	Y	Y	Y	Y
	PCB 12/13	EPA 8270	MLA-007			Y		
	PCB 120 2,3',4,5,5'-Pentachlorobiphenyl	EPA 1668	MLA-010		Y Y Y Y Y Y		Y	Y Y Y Y Y Y
		SGS AXYS MLA-010	MLA-010	Y	Y	Y	Y	Y
	PCB 121 2,3',4,5,6-Pentachlorobiphenyl	EPA 1668	MLA-010		Y Y Y Y Y Y		Y	Y Y Y Y Y Y
		SGS AXYS MLA-010	MLA-010	Y	Y	Y	Y	Y
	PCB 122 2,3,3',4',5'-Pentachlorobiphenyl	EPA 1668	MLA-010		Y Y Y Y Y Y		Y	Y Y Y Y Y Y
		EPA 8270	MLA-007		Y			
		SGS AXYS MLA-010	MLA-010	Y	Y	Y	Y	Y
	PCB 123 2,3',4,4',5'-Pentachlorobiphenyl	EPA 1668	MLA-010		Y Y Y Y Y Y		Y	Y Y Y Y Y Y
		EPA 8270	MLA-007		Y			
		SGS AXYS MLA-010	MLA-010	Y	Y	Y	Y	Y
	PCB 124 2,3',4',5,5'-Pentachlorobiphenyl	EPA 1668	MLA-010		Y Y Y Y Y Y		Y	Y Y Y Y Y Y
		EPA 8270	MLA-007		Y			
		SGS AXYS MLA-010	MLA-010	Y	Y	Y	Y	Y
	PCB 125 2,3',4',5,6-Pentachlorobiphenyl	EPA 1668	MLA-010		Y Y Y Y Y Y		Y	Y Y Y Y Y Y
		EPA 8270	MLA-007		Y			
		SGS AXYS MLA-010	MLA-010	Y	Y	Y	Y	Y
	PCB 126 3,3',4,4',5-Pentachlorobiphenyl	EPA 1668	MLA-010		Y Y Y Y Y Y		Y	Y Y Y Y Y Y
		EPA 8270	MLA-007		Y			
		SGS AXYS MLA-010	MLA-010	Y	Y	Y	Y	Y
		SGS AXYS MLA-007	MLA-007	Y		Y	Y	Y
	PCB 127 3,3',4,5,5'-Pentachlorobiphenyl	EPA 1668	MLA-010		Y Y Y Y Y Y		Y	Y Y Y Y Y Y
		SGS AXYS MLA-010	MLA-010	Y	Y	Y	Y	Y
	PCB 128 2,2',3,3',4,4'-Hexachlorobiphenyl	EPA 1668	MLA-010		Y Y Y Y Y Y		Y	Y Y Y Y Y Y
		EPA 8270	MLA-007		Y			
		SGS AXYS MLA-010	MLA-010	Y	Y	Y	Y	Y
		SGS AXYS MLA-007	MLA-007	Y		Y	Y	Y
	PCB 129 2,2',3,3',4,5-Hexachlorobiphenyl	EPA 1668	MLA-010		Y Y Y Y Y Y		Y	Y Y Y Y Y Y
		EPA 8270	MLA-007		Y			
		SGS AXYS MLA-010	MLA-010	Y	Y	Y	Y	Y
		SGS AXYS MLA-007	MLA-007	Y		Y	Y	Y
	PCB 13 3,4'-Dichlorobiphenyl	EPA 1668	MLA-010		Y Y Y Y Y Y		Y	Y Y Y Y Y Y
		SGS AXYS MLA-010	MLA-010	Y	Y	Y	Y	Y
	PCB 130 2,2',3,3',4,5-Hexachlorobiphenyl	EPA 1668	MLA-010		Y Y Y Y Y Y		Y	Y Y Y Y Y Y
		EPA 8270	MLA-007		Y			
		SGS AXYS MLA-010	MLA-010	Y	Y	Y	Y	Y
		SGS AXYS MLA-007	MLA-007	Y		Y	Y	Y
	PCB 131 2,2',3,3',4,6-Hexachlorobiphenyl	EPA 1668	MLA-010		Y Y Y Y Y Y		Y	Y Y Y Y Y Y
		SGS AXYS MLA-010	MLA-010	Y	Y	Y	Y	Y

**Accreditation Scope**

SGS AXYS Analytical Services Ltd.  
file ref.: ACC-101 Rev. 40

Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	Serum	Solids	Tissue	Urine	Water
				CALA				
	PCB 131/142	EPA 8270	MLA-007	Y	Y	Y	Y	Y
		SGS AXYS MLA-007	MLA-007					
	PCB 132 2,2',3,3',4,6'-Hexachlorobiphenyl	EPA 1668	MLA-010	Y	Y Y Y	Y Y Y Y Y Y Y	Y	Y
		SGS AXYS MLA-010	MLA-010	Y		Y	Y	Y
	PCB 132/168	EPA 8270	MLA-007		Y			
	PCB 133 2,2',3,3',5,5'-Hexachlorobiphenyl	EPA 1668	MLA-010	Y	Y Y Y Y Y Y		Y	Y Y Y Y Y Y
		EPA 8270	MLA-007		Y			
		SGS AXYS MLA-010	MLA-010	Y	Y Y	Y	Y	Y
	PCB 134 2,2',3,3',5,6-Hexachlorobiphenyl	EPA 1668	MLA-010	Y	Y Y Y Y Y Y	Y	Y	Y
		SGS AXYS MLA-010	MLA-010	Y	Y Y	Y	Y	Y
	PCB 134/143	EPA 8270	MLA-007		Y			
		SGS AXYS MLA-007	MLA-007	Y		Y	Y	
	PCB 135 2,2',3,3',5,6'-Hexachlorobiphenyl	EPA 1668	MLA-010	Y	Y Y Y Y Y Y		Y	Y Y Y Y Y Y
		SGS AXYS MLA-010	MLA-010	Y	Y Y	Y	Y	Y
	PCB 136 2,2',3,3',6,6'-Hexachlorobiphenyl	EPA 1668	MLA-010	Y	Y Y Y Y Y Y		Y	Y Y Y Y Y Y
		EPA 8270	MLA-007		Y			
		SGS AXYS MLA-010	MLA-010	Y	Y Y	Y	Y	Y
	PCB 137 2,2',3,4,4',5-Hexachlorobiphenyl	EPA 1668	MLA-010	Y	Y Y Y Y Y Y		Y	Y Y Y Y Y Y
		EPA 8270	MLA-007		Y			
		SGS AXYS MLA-010	MLA-010	Y	Y Y	Y	Y	Y
		SGS AXYS MLA-007	MLA-007	Y		Y	Y	
	PCB 138 2,2',3,4,4',5'-Hexachlorobiphenyl	EPA 1668	MLA-010	Y	Y Y Y Y Y Y		Y	Y Y Y Y Y Y
		SGS AXYS MLA-010	MLA-010	Y	Y Y	Y	Y	Y
		SGS AXYS MLA-901	MLA-901	Y				
	PCB 138/163/164	EPA 8270	MLA-007		Y			
		SGS AXYS MLA-007	MLA-007	Y		Y	Y	
	PCB 139 2,2',3,4,4',6-Hexachlorobiphenyl	EPA 1668	MLA-010	Y	Y Y Y Y Y Y		Y	Y Y Y Y Y Y
		SGS AXYS MLA-010	MLA-010	Y	Y Y	Y	Y	Y
	PCB 14 3,5-Dichlorobiphenyl	EPA 1668	MLA-010	Y	Y Y Y Y Y Y		Y	Y Y Y Y Y Y
		EPA 8270	MLA-007		Y			
		SGS AXYS MLA-010	MLA-010	Y	Y Y	Y	Y	Y
	PCB 140 2,2',3,4,4',6'-Hexachlorobiphenyl	EPA 1668	MLA-010	Y	Y Y Y Y Y Y		Y	Y Y Y Y Y Y
		EPA 8270	MLA-007		Y			
		SGS AXYS MLA-010	MLA-010	Y	Y Y	Y	Y	Y
	PCB 141 2,2',3,4,5,5'-Hexachlorobiphenyl	EPA 1668	MLA-010	Y	Y Y Y Y Y Y		Y	Y Y Y Y Y Y
		EPA 8270	MLA-007		Y			
		SGS AXYS MLA-010	MLA-010	Y	Y Y	Y	Y	Y
	PCB 142 2,2',3,4,5,6-Hexachlorobiphenyl	EPA 1668	MLA-010	Y	Y Y Y Y Y Y		Y	Y Y Y Y Y Y
		SGS AXYS MLA-010	MLA-010	Y	Y Y	Y	Y	Y
	PCB 143 2,2',3,4,5,6'-Hexachlorobiphenyl	EPA 1668	MLA-010	Y	Y Y Y Y Y Y		Y	Y Y Y Y Y Y
		SGS AXYS MLA-010	MLA-010	Y	Y Y	Y	Y	Y
	PCB 144 2,2',3,4,5',6-Hexachlorobiphenyl	EPA 1668	MLA-010	Y	Y Y Y Y Y Y		Y	Y Y Y Y Y Y
		SGS AXYS MLA-010	MLA-010	Y	Y Y	Y	Y	Y
	PCB 144/135	EPA 8270	MLA-007		Y			
		SGS AXYS MLA-007	MLA-007	Y		Y	Y	
	PCB 145 2,2',3,4,6,6'-Hexachlorobiphenyl	EPA 1668	MLA-010	Y	Y Y Y Y Y Y		Y	Y Y Y Y Y Y
		EPA 8270	MLA-007		Y			
		SGS AXYS MLA-010	MLA-010	Y	Y Y	Y	Y	Y
	PCB 146 2,2',3,4',5,5'-Hexachlorobiphenyl	EPA 1668	MLA-010	Y	Y Y Y Y Y Y		Y	Y Y Y Y Y Y

**Accreditation Scope**

SGS AXYS Analytical Services Ltd.  
file ref.: ACC-101 Rev. 40

Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	Serum	Tissue	Urine	Water
				CALA			
		EPA 8270	MLA-007	Y	Y	Y	Y
		SGS AXYS MLA-010	MLA-010	Y	Y	Y	Y
		SGS AXYS MLA-007	MLA-007	Y	Y	Y	Y
		SGS AXYS MLA-901	MLA-901	Y	Y	Y	Y
PCB 147 2,2',3,4',5,6-Hexachlorobiphenyl		EPA 1668	MLA-010	Y	Y	Y	Y
		EPA 8270	MLA-007	Y	Y	Y	Y
		SGS AXYS MLA-010	MLA-010	Y	Y	Y	Y
PCB 148 2,2',3,4',5,6'-Hexachlorobiphenyl		EPA 1668	MLA-010	Y	Y	Y	Y
		EPA 8270	MLA-007	Y	Y	Y	Y
		SGS AXYS MLA-010	MLA-010	Y	Y	Y	Y
PCB 149 2,2',3,4',5',6-Hexachlorobiphenyl		EPA 1668	MLA-010	Y	Y	Y	Y
		SGS AXYS MLA-010	MLA-010	Y	Y	Y	Y
PCB 149/139		EPA 8270	MLA-007	Y	Y	Y	Y
		SGS AXYS MLA-007	MLA-007	Y	Y	Y	Y
PCB 15 4,4'-Dichlorobiphenyl		EPA 1668	MLA-010	Y	Y	Y	Y
		EPA 8270	MLA-007	Y	Y	Y	Y
		SGS AXYS MLA-010	MLA-010	Y	Y	Y	Y
		SGS AXYS MLA-007	MLA-007	Y	Y	Y	Y
PCB 150 2,2',3,4',6,6'-Hexachlorobiphenyl		EPA 1668	MLA-010	Y	Y	Y	Y
		EPA 8270	MLA-007	Y	Y	Y	Y
		SGS AXYS MLA-010	MLA-010	Y	Y	Y	Y
PCB 151 2,2',3,5,5',6-Hexachlorobiphenyl		EPA 1668	MLA-010	Y	Y	Y	Y
		EPA 8270	MLA-007	Y	Y	Y	Y
		SGS AXYS MLA-010	MLA-010	Y	Y	Y	Y
		SGS AXYS MLA-007	MLA-007	Y	Y	Y	Y
PCB 152 2,2',3,5,6,6'-Hexachlorobiphenyl		EPA 1668	MLA-010	Y	Y	Y	Y
		EPA 8270	MLA-007	Y	Y	Y	Y
		SGS AXYS MLA-010	MLA-010	Y	Y	Y	Y
PCB 153 2,2',4,4',5,5'-Hexachlorobiphenyl		EPA 1668	MLA-010	Y	Y	Y	Y
		EPA 8270	MLA-007	Y	Y	Y	Y
		SGS AXYS MLA-010	MLA-010	Y	Y	Y	Y
		SGS AXYS MLA-007	MLA-007	Y	Y	Y	Y
		SGS AXYS MLA-901	MLA-901	Y	Y	Y	Y
PCB 154 2,2',4,4',5,6'-Hexachlorobiphenyl		EPA 1668	MLA-010	Y	Y	Y	Y
		EPA 8270	MLA-007	Y	Y	Y	Y
		SGS AXYS MLA-010	MLA-010	Y	Y	Y	Y
PCB 155 2,2',4,4',6,6'-Hexachlorobiphenyl		EPA 1668	MLA-010	Y	Y	Y	Y
		EPA 8270	MLA-007	Y	Y	Y	Y
		SGS AXYS MLA-010	MLA-010	Y	Y	Y	Y
PCB 156 2,3,3',4,4',5-Hexachlorobiphenyl		EPA 1668	MLA-010	Y	Y	Y	Y
		EPA 8270	MLA-007	Y	Y	Y	Y
		SGS AXYS MLA-010	MLA-010	Y	Y	Y	Y
		SGS AXYS MLA-007	MLA-007	Y	Y	Y	Y
		SGS AXYS MLA-901	MLA-901	Y	Y	Y	Y
PCB 157 2,3,3',4,4',5-Hexachlorobiphenyl		EPA 1668	MLA-010	Y	Y	Y	Y
		EPA 8270	MLA-007	Y	Y	Y	Y
		SGS AXYS MLA-010	MLA-010	Y	Y	Y	Y
		SGS AXYS MLA-007	MLA-007	Y	Y	Y	Y
		SGS AXYS MLA-901	MLA-901	Y	Y	Y	Y
PCB 158 2,3,3',4,4',6-Hexachlorobiphenyl		EPA 1668	MLA-010	Y	Y	Y	Y
		SGS AXYS MLA-010	MLA-010	Y	Y	Y	Y

**Accreditation Scope**

SGS AXYS Analytical Services Ltd.  
file ref.: ACC-101 Rev. 40

Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	Serum	Tissue	Urine	Water																		
				CALA																					
	PCB 158/160	EPA 8270	MLA-007	Y	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE	Maine DOH	ANAB ISO 17025	ANAB DoD **	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE *	Maine DOH	Pennsylvania DEP	ANAB ISO 17025	ANAB DoD **
	PCB 159 2,3,3',4,5,5'-Hexachlorobiphenyl	EPA 1668	MLA-010	Y	Y Y Y Y Y Y Y Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y Y Y Y Y Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
		EPA 8270	MLA-007	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
		SGS AXYS MLA-007	MLA-007	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
	PCB 16 2,2',3-Trichlorobiphenyl	EPA 1668	MLA-010	Y	Y Y Y Y Y Y Y Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y Y Y Y Y Y	Y	Y	Y	Y	Y	Y	Y	Y
		SGS AXYS MLA-010	MLA-010	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
	PCB 16/32	EPA 8270	MLA-007	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
		SGS AXYS MLA-007	MLA-007	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
	PCB 160 2,3,3',4,5,6-Hexachlorobiphenyl	EPA 1668	MLA-010	Y	Y Y Y Y Y Y Y Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y Y Y Y Y Y	Y	Y	Y	Y	Y	Y	Y	Y
		SGS AXYS MLA-010	MLA-010	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
		SGS AXYS MLA-007	MLA-007	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
	PCB 161 2,3,3',4,5,6-Hexachlorobiphenyl	EPA 1668	MLA-010	Y	Y Y Y Y Y Y Y Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y Y Y Y Y Y	Y	Y	Y	Y	Y	Y	Y	Y
		EPA 8270	MLA-007	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
		SGS AXYS MLA-007	MLA-007	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
	PCB 162 2,3,3',4',5,6-Hexachlorobiphenyl	EPA 1668	MLA-010	Y	Y Y Y Y Y Y Y Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y Y Y Y Y Y	Y	Y	Y	Y	Y	Y	Y	Y
		EPA 8270	MLA-007	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
	PCB 163 2,3,3',4',5,6-Hexachlorobiphenyl	EPA 1668	MLA-010	Y	Y Y Y Y Y Y Y Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y Y Y Y Y Y	Y	Y	Y	Y	Y	Y	Y	Y
		SGS AXYS MLA-010	MLA-010	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
	PCB 164 2,3,3',4',5',6-Hexachlorobiphenyl	EPA 1668	MLA-010	Y	Y Y Y Y Y Y Y Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y Y Y Y Y Y	Y	Y	Y	Y	Y	Y	Y	Y
		SGS AXYS MLA-010	MLA-010	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
		SGS AXYS MLA-007	MLA-007	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
	PCB 165 2,3,3',5,5',6-Hexachlorobiphenyl	EPA 1668	MLA-010	Y	Y Y Y Y Y Y Y Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y Y Y Y Y Y	Y	Y	Y	Y	Y	Y	Y	Y
		EPA 8270	MLA-007	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
	PCB 166 2,3,4,4',5,6-Hexachlorobiphenyl	EPA 1668	MLA-010	Y	Y Y Y Y Y Y Y Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y Y Y Y Y Y	Y	Y	Y	Y	Y	Y	Y	Y
		EPA 8270	MLA-007	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
	PCB 167 2,3',4,4',5,5'-Hexachlorobiphenyl	EPA 1668	MLA-010	Y	Y Y Y Y Y Y Y Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y Y Y Y Y Y	Y	Y	Y	Y	Y	Y	Y	Y
		EPA 8270	MLA-007	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
	PCB 168 2,3',4,4',5,6-Hexachlorobiphenyl	EPA 1668	MLA-010	Y	Y Y Y Y Y Y Y Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y Y Y Y Y Y	Y	Y	Y	Y	Y	Y	Y	Y
		SGS AXYS MLA-010	MLA-010	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
		SGS AXYS MLA-007	MLA-007	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
	PCB 169 3,3',4,4',5,5'-Hexachlorobiphenyl	EPA 1668	MLA-010	Y	Y Y Y Y Y Y Y Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y Y Y Y Y Y	Y	Y	Y	Y	Y	Y	Y	Y
		EPA 8270	MLA-007	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
	PCB 17 2,2',4-Trichlorobiphenyl	EPA 1668	MLA-010	Y	Y Y Y Y Y Y Y Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y Y Y Y Y Y	Y	Y	Y	Y	Y	Y	Y	Y
		EPA 8270	MLA-007	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
		SGS AXYS MLA-007	MLA-007	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
	PCB 170 2,2',3,3',4,4',5-Heptachlorobiphenyl	EPA 1668	MLA-010	Y	Y Y Y Y Y Y Y Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y Y Y Y Y Y	Y	Y	Y	Y	Y	Y	Y	Y
		SGS AXYS MLA-010	MLA-010	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
		SGS AXYS MLA-901	MLA-901	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
	PCB 170/190	EPA 8270	MLA-007	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
		SGS AXYS MLA-007	MLA-007	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
	PCB 171 2,2',3,3',4,4',6-Heptachlorobiphenyl	EPA 1668	MLA-010	Y	Y Y Y Y Y Y Y Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y Y Y Y Y Y	Y	Y	Y	Y	Y	Y	Y	Y
		EPA 8270	MLA-007	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	

**Accreditation Scope**

SGS AXYS Analytical Services Ltd.  
file ref.: ACC-101 Rev. 40

Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	Serum	Solids	Tissue	Urine	Water
				CALA				
		SGS AXYS MLA-010	MLA-010	Y	Y	Y	Y	Y
		SGS AXYS MLA-007	MLA-007	Y				Y
PCB 172 2,2',3,3',4,5,5'-Heptachlorobiphenyl	EPA 1668	MLA-010			Y	Y		
	SGS AXYS MLA-010	MLA-010	Y	Y	Y	Y	Y	Y
PCB 172/192	EPA 8270	MLA-007				Y		
	SGS AXYS MLA-007	MLA-007	Y			Y		Y
PCB 173 2,2',3,3',4,5,6-Heptachlorobiphenyl	EPA 1668	MLA-010			Y	Y		
	EPA 8270	MLA-007			Y			
	SGS AXYS MLA-010	MLA-010	Y	Y	Y	Y	Y	Y
PCB 174 2,2',3,3',4,5,6-Heptachlorobiphenyl	EPA 1668	MLA-010			Y	Y		
	SGS AXYS MLA-010	MLA-010	Y	Y	Y	Y	Y	Y
PCB 174/181	EPA 8270	MLA-007				Y		
	SGS AXYS MLA-007	MLA-007	Y			Y		Y
PCB 175 2,2',3,3',4,5,6-Heptachlorobiphenyl	EPA 1668	MLA-010			Y	Y		
	EPA 8270	MLA-007			Y			
	SGS AXYS MLA-010	MLA-010	Y	Y	Y	Y	Y	Y
	SGS AXYS MLA-007	MLA-007	Y			Y		Y
PCB 176 2,2',3,3',4,6,6'-Heptachlorobiphenyl	EPA 1668	MLA-010			Y	Y		
	EPA 8270	MLA-007			Y			
	SGS AXYS MLA-010	MLA-010	Y	Y	Y	Y	Y	Y
	SGS AXYS MLA-007	MLA-007	Y			Y		Y
PCB 177 2,2',3,3',4,5,6-Heptachlorobiphenyl	EPA 1668	MLA-010			Y	Y		
	EPA 8270	MLA-007			Y			
	SGS AXYS MLA-010	MLA-010	Y	Y	Y	Y	Y	Y
	SGS AXYS MLA-007	MLA-007	Y			Y		Y
PCB 178 2,2',3,3',5,5',6-Heptachlorobiphenyl	EPA 1668	MLA-010			Y	Y		
	EPA 8270	MLA-007			Y			
	SGS AXYS MLA-010	MLA-010	Y	Y	Y	Y	Y	Y
	SGS AXYS MLA-007	MLA-007	Y			Y		Y
PCB 179 2,2',3,3',5,6,6'-Heptachlorobiphenyl	EPA 1668	MLA-010			Y	Y		
	EPA 8270	MLA-007			Y			
	SGS AXYS MLA-010	MLA-010	Y	Y	Y	Y	Y	Y
	SGS AXYS MLA-007	MLA-007	Y			Y		Y
PCB 18 2,2',5-Trichlorobiphenyl	EPA 1668	MLA-010			Y	Y		
	EPA 8270	MLA-007			Y			
	SGS AXYS MLA-010	MLA-010	Y	Y	Y	Y	Y	Y
	SGS AXYS MLA-007	MLA-007	Y			Y		Y
PCB 180 2,2',3,4,4',5,5'-Heptachlorobiphenyl	EPA 1668	MLA-010			Y	Y		
	EPA 8270	MLA-007			Y			
	SGS AXYS MLA-010	MLA-010	Y	Y	Y	Y	Y	Y
	SGS AXYS MLA-007	MLA-007	Y			Y		Y
PCB 181 2,2',3,4,4',5,6-Heptachlorobiphenyl	EPA 1668	MLA-010			Y	Y		
	SGS AXYS MLA-010	MLA-010	Y	Y	Y	Y	Y	Y
PCB 182 2,2',3,4,4',5,6-Heptachlorobiphenyl	EPA 1668	MLA-010			Y	Y		
	SGS AXYS MLA-010	MLA-010	Y	Y	Y	Y	Y	Y
PCB 183 2,2',3,4,4',5,6-Heptachlorobiphenyl	EPA 1668	MLA-010			Y	Y		
	EPA 8270	MLA-007			Y			
	SGS AXYS MLA-010	MLA-010	Y	Y	Y	Y	Y	Y
	SGS AXYS MLA-007	MLA-007	Y			Y		Y

**Accreditation Scope**

SGS AXYS Analytical Services Ltd.  
file ref.: ACC-101 Rev. 40

Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	Serum	Solids	Tissue	Urine	Water																
				CALA																				
	PCB 184 2,2',3,4,4',6,6'-Heptachlorobiphenyl	EPA 1668	MLA-010		Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y		
		EPA 8270	MLA-007			Y																		
		SGS AXYS MLA-010	MLA-010	Y	Y	Y																		
	PCB 185 2,2',3,4,5,5',6-Heptachlorobiphenyl	EPA 1668	MLA-010		Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
		EPA 8270	MLA-007			Y																		
		SGS AXYS MLA-010	MLA-010	Y	Y	Y																		
		SGS AXYS MLA-007	MLA-007	Y																				
	PCB 186 2,2',3,4,5,6,6'-Heptachlorobiphenyl	EPA 1668	MLA-010		Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
		EPA 8270	MLA-007			Y																		
		SGS AXYS MLA-010	MLA-010	Y	Y	Y																		
	PCB 187 2,2',3,4',5,5',6-Heptachlorobiphenyl	EPA 1668	MLA-010		Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y	Y																		
		SGS AXYS MLA-901	MLA-901	Y																				
	PCB 187/182	EPA 8270	MLA-007			Y																		
		SGS AXYS MLA-007	MLA-007	Y																				
	PCB 188 2,2',3,4',5,6,6'-Heptachlorobiphenyl	EPA 1668	MLA-010		Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
		EPA 8270	MLA-007			Y																		
		SGS AXYS MLA-010	MLA-010	Y	Y	Y																		
	PCB 189 2,3,3',4,4',5,5'-Heptachlorobiphenyl	EPA 1668	MLA-010		Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
		EPA 8270	MLA-007			Y																		
		SGS AXYS MLA-010	MLA-010	Y	Y	Y																		
		SGS AXYS MLA-007	MLA-007	Y																				
	PCB 19 2,2',6-Trichlorobiphenyl	EPA 1668	MLA-010		Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
		EPA 8270	MLA-007			Y																		
		SGS AXYS MLA-010	MLA-010	Y	Y	Y																		
		SGS AXYS MLA-007	MLA-007	Y																				
	PCB 190 2,3,3',4,4',5,6-Heptachlorobiphenyl	EPA 1668	MLA-010		Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y	Y																		
	PCB 191 2,3,3',4,4',5,6-Heptachlorobiphenyl	EPA 1668	MLA-010		Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
		EPA 8270	MLA-007			Y																		
		SGS AXYS MLA-010	MLA-010	Y	Y	Y																		
		SGS AXYS MLA-007	MLA-007	Y																				
	PCB 192 2,3,3',4,5,5',6-Heptachlorobiphenyl	EPA 1668	MLA-010		Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y	Y																		
	PCB 193 2,3,3',4,5,5',6-Heptachlorobiphenyl	EPA 1668	MLA-010		Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
		EPA 8270	MLA-007			Y																		
		SGS AXYS MLA-010	MLA-010	Y	Y	Y																		
		SGS AXYS MLA-007	MLA-007	Y																				
	PCB 194 2,2',3,3',4,4',5,5'-Octachlorobiphenyl	EPA 1668	MLA-010		Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
		EPA 8270	MLA-007			Y																		
		SGS AXYS MLA-010	MLA-010	Y	Y	Y																		
		SGS AXYS MLA-007	MLA-007	Y																				
		SGS AXYS MLA-901	MLA-901	Y																				
	PCB 195 2,2',3,3',4,4',5,6-Octachlorobiphenyl	EPA 1668	MLA-010		Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
		EPA 8270	MLA-007			Y																		
		SGS AXYS MLA-010	MLA-010	Y	Y	Y																		
		SGS AXYS MLA-007	MLA-007	Y																				
	PCB 196 2,2',3,3',4,4',5,6-Octachlorobiphenyl	EPA 1668	MLA-010		Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y	Y																		
	PCB 196/203	EPA 8270	MLA-007			Y																		

**Accreditation Scope**

SGS AXYS Analytical Services Ltd.  
file ref.: ACC-101 Rev. 40

Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	Serum	Solids	Tissue	Urine	Water
				CALA				
	SGS AXYS MLA-007	MLA-007		Y	California DPH			
	PCB 197 2,2',3,3',4,4',6,6'-Octachlorobiphenyl	EPA 1668	MLA-010		Y	Y Y Y Y Y Y	Y	Y
		EPA 8270	MLA-007			Y		
		SGS AXYS MLA-010	MLA-010	Y	Y Y		Y	Y
		SGS AXYS MLA-007	MLA-007	Y		Y	Y	Y
	PCB 198 2,2',3,3',4,5,5',6-Octachlorobiphenyl	EPA 1668	MLA-010		Y Y Y Y Y Y Y		Y	Y
		EPA 8270	MLA-007			Y		
		SGS AXYS MLA-010	MLA-010	Y	Y Y	Y	Y	Y
		SGS AXYS MLA-007	MLA-007	Y		Y	Y	Y
	PCB 199 2,2',3,3',4,5,5',6-Octachlorobiphenyl	EPA 1668	MLA-010		Y Y Y Y Y Y Y		Y	Y
		EPA 8270	MLA-007			Y		
		SGS AXYS MLA-010	MLA-010	Y	Y Y	Y	Y	Y
		SGS AXYS MLA-007	MLA-007	Y		Y	Y	Y
	PCB 2 3-Chlorobiphenyl	EPA 1668	MLA-010		Y Y Y Y Y Y Y		Y	Y
		EPA 8270	MLA-007			Y		
		SGS AXYS MLA-010	MLA-010	Y	Y Y	Y	Y	Y
	PCB 20 2,3,3'-Trichlorobiphenyl	EPA 1668	MLA-010		Y Y Y Y Y Y Y		Y	Y
		SGS AXYS MLA-010	MLA-010	Y	Y Y	Y	Y	Y
	PCB 200 2,2',3,3',4,5,6,6'-Octachlorobiphenyl	EPA 1668	MLA-010		Y Y Y Y Y Y Y		Y	Y
		EPA 8270	MLA-007			Y		
		SGS AXYS MLA-010	MLA-010	Y	Y Y	Y	Y	Y
	PCB 201 2,2',3,3',4,5',6,6'-Octachlorobiphenyl	EPA 1668	MLA-010		Y Y Y Y Y Y		Y	Y
		EPA 8270	MLA-007			Y		
		SGS AXYS MLA-010	MLA-010	Y	Y Y	Y	Y	Y
		SGS AXYS MLA-007	MLA-007	Y		Y	Y	Y
	PCB 202 2,2',3,3',5,5',6,6'-Octachlorobiphenyl	EPA 1668	MLA-010		Y Y Y Y Y Y Y		Y	Y
		EPA 8270	MLA-007			Y		
		SGS AXYS MLA-010	MLA-010	Y	Y Y	Y	Y	Y
		SGS AXYS MLA-007	MLA-007	Y		Y	Y	Y
	PCB 203 2,2',3,4,4',5,5',6-Octachlorobiphenyl	EPA 1668	MLA-010		Y Y Y Y Y Y Y		Y	Y
		SGS AXYS MLA-010	MLA-010	Y	Y Y	Y	Y	Y
	PCB 204 2,2',3,4,4',5,6,6'-Octachlorobiphenyl	EPA 1668	MLA-010		Y Y Y Y Y Y Y		Y	Y
		EPA 8270	MLA-007			Y		
		SGS AXYS MLA-010	MLA-010	Y	Y Y	Y	Y	Y
		SGS AXYS MLA-007	MLA-007	Y		Y	Y	Y
	PCB 205 2,3,3',4,4',5,5',6-Octachlorobiphenyl	EPA 1668	MLA-010		Y Y Y Y Y Y Y		Y	Y
		EPA 8270	MLA-007			Y		
		SGS AXYS MLA-010	MLA-010	Y	Y Y	Y	Y	Y
		SGS AXYS MLA-007	MLA-007	Y		Y	Y	Y
	PCB 206 2,2',3,3',4,4',5,5',6-Nonachlorobiphenyl	EPA 1668	MLA-010		Y Y Y Y Y Y Y		Y	Y
		EPA 8270	MLA-007			Y		
		SGS AXYS MLA-010	MLA-010	Y	Y Y	Y	Y	Y
		SGS AXYS MLA-007	MLA-007	Y		Y	Y	Y
	PCB 207 2,2',3,3',4,4',5,6,6'-Nonachlorobiphenyl	EPA 1668	MLA-010		Y Y Y Y Y Y Y		Y	Y
		EPA 8270	MLA-007			Y		
		SGS AXYS MLA-010	MLA-010	Y	Y Y	Y	Y	Y
		SGS AXYS MLA-007	MLA-007	Y		Y	Y	Y
	PCB 208 2,2',3,3',4,4',5,5',6-Nonachlorobiphenyl	EPA 1668	MLA-010		Y Y Y Y Y Y Y		Y	Y
		EPA 8270	MLA-007			Y		
		SGS AXYS MLA-010	MLA-010	Y	Y Y	Y	Y	Y
		SGS AXYS MLA-007	MLA-007	Y		Y	Y	Y
	PCB 209 Decachlorobiphenyl	EPA 1668	MLA-010		Y Y Y Y Y Y Y		Y	Y

**Accreditation Scope**

SGS AXYS Analytical Services Ltd.  
file ref.: ACC-101 Rev. 40

Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	Serum	Solids	Tissue	Urine	Water																
				CALA																				
	EPA 8270	MLA-007			Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y		
	SGS AXYS MLA-010	MLA-010			Y																			
	SGS AXYS MLA-007	MLA-007			Y																			
PCB 21 2,3,4-Trichlorobiphenyl	EPA 1668	MLA-010				Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
	SGS AXYS MLA-010	MLA-010			Y	Y	Y		Y		Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
PCB 22 2,3,4'-Trichlorobiphenyl	EPA 1668	MLA-010				Y	Y	Y	Y	Y	Y	Y												
	EPA 8270	MLA-007					Y																	
	SGS AXYS MLA-010	MLA-010			Y	Y	Y																	
	SGS AXYS MLA-007	MLA-007			Y																			
PCB 23 2,3,5-Trichlorobiphenyl	EPA 1668	MLA-010				Y	Y	Y	Y	Y	Y	Y												
	SGS AXYS MLA-010	MLA-010			Y	Y	Y																	
PCB 23/34	EPA 8270	MLA-007					Y																	
PCB 24 2,3,6-Trichlorobiphenyl	EPA 1668	MLA-010				Y	Y	Y	Y	Y	Y	Y												
	SGS AXYS MLA-010	MLA-010			Y	Y	Y																	
PCB 24/27	EPA 8270	MLA-007					Y																	
PCB 25 2,3',4-Trichlorobiphenyl	EPA 1668	MLA-010				Y	Y	Y	Y	Y	Y	Y												
	EPA 8270	MLA-007					Y																	
	SGS AXYS MLA-010	MLA-007			Y																			
	SGS AXYS MLA-007	MLA-007			Y																			
PCB 26 2,3',5-Trichlorobiphenyl	EPA 1668	MLA-010				Y	Y	Y	Y	Y	Y	Y												
	EPA 8270	MLA-007					Y																	
	SGS AXYS MLA-010	MLA-010			Y	Y	Y																	
	SGS AXYS MLA-007	MLA-007			Y																			
PCB 27 2,3',6-Trichlorobiphenyl	EPA 1668	MLA-010				Y	Y	Y	Y	Y	Y	Y												
	SGS AXYS MLA-010	MLA-010			Y	Y	Y																	
PCB 28 2,4,4'-Trichlorobiphenyl	EPA 1668	MLA-010				Y	Y	Y	Y	Y	Y	Y												
	EPA 8270	MLA-007					Y																	
	SGS AXYS MLA-010	MLA-010			Y	Y	Y																	
	SGS AXYS MLA-007	MLA-007			Y																			
PCB 29 2,4,5-Trichlorobiphenyl	EPA 1668	MLA-010				Y	Y	Y	Y	Y	Y	Y												
	SGS AXYS MLA-010	MLA-010			Y	Y	Y																	
PCB 3 4-Chlorobiphenyl	EPA 1668	MLA-010				Y	Y	Y	Y	Y	Y	Y												
	EPA 8270	MLA-007					Y																	
	SGS AXYS MLA-010	MLA-010			Y	Y	Y																	
PCB 30 2,4,6-Trichlorobiphenyl	EPA 1668	MLA-010				Y	Y	Y	Y	Y	Y	Y												
	SGS AXYS MLA-010	MLA-010			Y	Y	Y																	
PCB 31 2,4',5-Trichlorobiphenyl	EPA 1668	MLA-010				Y	Y	Y	Y	Y	Y	Y												
	EPA 8270	MLA-007					Y																	
	SGS AXYS MLA-010	MLA-010			Y	Y	Y																	
PCB 32 2,4',6-Trichlorobiphenyl	EPA 1668	MLA-010				Y	Y	Y	Y	Y	Y	Y												
	SGS AXYS MLA-010	MLA-010			Y	Y	Y																	
PCB 33 2,3',4'-Trichlorobiphenyl	EPA 1668	MLA-010				Y	Y	Y	Y	Y	Y	Y												
	SGS AXYS MLA-010	MLA-010			Y	Y	Y																	
PCB 33/20/21	EPA 8270	MLA-007					Y																	
	SGS AXYS MLA-007	MLA-007			Y																			
PCB 34 2,3',5'-Trichlorobiphenyl	EPA 1668	MLA-010				Y	Y	Y	Y	Y	Y	Y												
	SGS AXYS MLA-010	MLA-010			Y	Y	Y																	
	SGS AXYS MLA-007	MLA-007			Y																			

**Accreditation Scope**

SGS AXYS Analytical Services Ltd.  
file ref.: ACC-101 Rev. 40

Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	Serum	Solids	Tissue	Urine	Water																	
				CALA																					
	PCB 35 3,3',4-Trichlorobiphenyl	EPA 1668	MLA-010		Y	Y	Y	Y				Y							Y	Y					
		EPA 8270	MLA-007			Y																			
		SGS AXYS MLA-010	MLA-010	Y	Y	Y																			
	PCB 36 3,3',5-Trichlorobiphenyl	EPA 1668	MLA-010		Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
		EPA 8270	MLA-007			Y																			
		SGS AXYS MLA-010	MLA-010	Y	Y	Y																			
	PCB 37 3,4,4'-Trichlorobiphenyl	EPA 1668	MLA-010		Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
		EPA 8270	MLA-007			Y																			
		SGS AXYS MLA-010	MLA-010	Y	Y	Y																			
	PCB 38 3,4,5-Trichlorobiphenyl	EPA 1668	MLA-010		Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
		EPA 8270	MLA-007			Y																			
		SGS AXYS MLA-010	MLA-010	Y	Y	Y																			
	PCB 39 3,4',5-Trichlorobiphenyl	EPA 1668	MLA-010		Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
		EPA 8270	MLA-007			Y																			
		SGS AXYS MLA-010	MLA-010	Y	Y	Y																			
	PCB 4 2,2'-Dichlorobiphenyl	EPA 1668	MLA-010		Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y	Y																			
	PCB 4/10	EPA 8270	MLA-007			Y																			
	PCB 40 2,2',3,3'-Tetrachlorobiphenyl	EPA 1668	MLA-010		Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
		EPA 8270	MLA-007			Y																			
		SGS AXYS MLA-010	MLA-010	Y	Y	Y																			
		SGS AXYS MLA-007	MLA-007	Y																					
	PCB 41 2,2',3,4-Tetrachlorobiphenyl	EPA 1668	MLA-010		Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y	Y																			
		EPA 8270	MLA-007			Y																			
	PCB 41/71/64/68	EPA 8270	MLA-007			Y																			
		SGS AXYS MLA-007	MLA-007	Y																					
	PCB 42 2,2',3,4'-Tetrachlorobiphenyl	EPA 1668	MLA-010		Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y	Y																			
		EPA 8270	MLA-007			Y																			
	PCB 42/59	EPA 8270	MLA-007			Y																			
		SGS AXYS MLA-007	MLA-007	Y																					
	PCB 43 2,2',3,5-Tetrachlorobiphenyl	EPA 1668	MLA-010		Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y	Y																			
		EPA 8270	MLA-007			Y																			
	PCB 44 2,2',3,5'-Tetrachlorobiphenyl	EPA 1668	MLA-010		Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y	Y																			
		EPA 8270	MLA-007			Y																			
	PCB 45 2,2',3,6-Tetrachlorobiphenyl	EPA 1668	MLA-010		Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
		EPA 8270	MLA-007			Y																			
		SGS AXYS MLA-010	MLA-010	Y	Y	Y																			
		SGS AXYS MLA-007	MLA-007	Y																					
	PCB 46 2,2',3,6'-Tetrachlorobiphenyl	EPA 1668	MLA-010		Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
		EPA 8270	MLA-007			Y																			
		SGS AXYS MLA-010	MLA-010	Y	Y	Y																			
		SGS AXYS MLA-007	MLA-007	Y																					
	PCB 47 2,2',4,4'-Tetrachlorobiphenyl	EPA 1668	MLA-010		Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y	Y																			
	PCB 47/48/75	EPA 8270	MLA-007			Y																			
		SGS AXYS MLA-007	MLA-007	Y																					
	PCB 48 2,2',4,5-Tetrachlorobiphenyl	EPA 1668	MLA-010		Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y	Y																			

**Accreditation Scope**

SGS AXYS Analytical Services Ltd.  
file ref.: ACC-101 Rev. 40

Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	Serum	Solids	Tissue	Urine	Water
				CALA				
	PCB 49 2,2',4,5'-Tetrachlorobiphenyl	EPA 1668	MLA-010		Y			
		SGS AXYS MLA-010	MLA-010	Y	Y	Y	Y	Y
	PCB 49/43	EPA 8270	MLA-007			Y		
		SGS AXYS MLA-007	MLA-007	Y			Y	Y
	PCB 5 2,3-Dichlorobiphenyl	EPA 1668	MLA-010		Y	Y	Y	Y
		SGS AXYS MLA-010	MLA-010	Y	Y	Y	Y	Y
	PCB 50 2,2',4,6-Tetrachlorobiphenyl	EPA 1668	MLA-010		Y	Y	Y	Y
		EPA 8270	MLA-007			Y		
		SGS AXYS MLA-010	MLA-010	Y	Y	Y	Y	Y
		SGS AXYS MLA-007	MLA-007	Y			Y	Y
	PCB 51 2,2',4,6'-Tetrachlorobiphenyl	EPA 1668	MLA-010		Y	Y	Y	Y
		EPA 8270	MLA-007			Y		
		SGS AXYS MLA-010	MLA-010	Y	Y	Y	Y	Y
	PCB 52 2,2',5,5'-Tetrachlorobiphenyl	EPA 1668	MLA-010		Y	Y	Y	Y
		SGS AXYS MLA-010	MLA-010	Y	Y	Y	Y	Y
	PCB 52/73	EPA 8270	MLA-007			Y		
		SGS AXYS MLA-007	MLA-007	Y			Y	Y
	PCB 53 2,2',5,6'-Tetrachlorobiphenyl	EPA 1668	MLA-010		Y	Y	Y	Y
		EPA 8270	MLA-007			Y		
		SGS AXYS MLA-010	MLA-010	Y	Y	Y	Y	Y
	PCB 54 2,2',6,6'-Tetrachlorobiphenyl	EPA 1668	MLA-010		Y	Y	Y	Y
		EPA 8270	MLA-007			Y		
		SGS AXYS MLA-010	MLA-010	Y	Y	Y	Y	Y
	PCB 55 2,3,3',4-Tetrachlorobiphenyl	EPA 1668	MLA-010		Y	Y	Y	Y
		EPA 8270	MLA-007			Y		
		SGS AXYS MLA-010	MLA-010	Y	Y	Y	Y	Y
	PCB 56 2,3,3',4'-Tetrachlorobiphenyl	EPA 1668	MLA-010		Y	Y	Y	Y
		SGS AXYS MLA-010	MLA-010	Y	Y	Y	Y	Y
	PCB 56/60	EPA 8270	MLA-007			Y		
		SGS AXYS MLA-007	MLA-007	Y			Y	Y
	PCB 57 2,3,3',5-Tetrachlorobiphenyl	EPA 1668	MLA-010		Y	Y	Y	Y
		EPA 8270	MLA-007			Y		
		SGS AXYS MLA-010	MLA-010	Y	Y	Y	Y	Y
	PCB 58 2,3,3',5'-Tetrachlorobiphenyl	EPA 1668	MLA-010		Y	Y	Y	Y
		EPA 8270	MLA-007			Y		
		SGS AXYS MLA-010	MLA-010	Y	Y	Y	Y	Y
	PCB 59 2,3,3',6-Tetrachlorobiphenyl	EPA 1668	MLA-010		Y	Y	Y	Y
		SGS AXYS MLA-010	MLA-010	Y	Y	Y	Y	Y
	PCB 6 2,3'-Dichlorobiphenyl	EPA 1668	MLA-010		Y	Y	Y	Y
		EPA 8270	MLA-007			Y		
		SGS AXYS MLA-010	MLA-010	Y	Y	Y	Y	Y
	PCB 60 2,3,4,4'-Tetrachlorobiphenyl	EPA 1668	MLA-010		Y	Y	Y	Y
		SGS AXYS MLA-010	MLA-010	Y	Y	Y	Y	Y
	PCB 61 2,3,4,5-Tetrachlorobiphenyl	EPA 1668	MLA-010		Y	Y	Y	Y
		SGS AXYS MLA-010	MLA-010	Y	Y	Y	Y	Y
	PCB 62 2,3,4,6-Tetrachlorobiphenyl	EPA 1668	MLA-010		Y	Y	Y	Y
		SGS AXYS MLA-010	MLA-010	Y	Y	Y	Y	Y
	PCB 62/65	EPA 8270	MLA-007			Y		
		SGS AXYS MLA-007	MLA-007	Y			Y	Y
	PCB 63 2,3,4',5-Tetrachlorobiphenyl	EPA 1668	MLA-010		Y	Y	Y	Y
		EPA 8270	MLA-007			Y		

**Accreditation Scope**

SGS AXYS Analytical Services Ltd.  
file ref.: ACC-101 Rev. 40

Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	Serum	Solids	Tissue	Urine	Water
				CalA	CalA California DPH Florida DOH	CalA California DPH Florida DOH Minnesota DOH New Jersey DEP New York DOH Virginia DGS Washington DE Maine DOH ANAB ISO 17025 ANAB DoD **	CalA Florida DOH Minnesota DOH New Jersey DEP Virginia DGS ANAB ISO 17025	CalA California DPH Florida DOH Minnesota DOH New Jersey DEP New York DOH Virginia DGS Washington DE * Maine DOH Pennsylvania DEP ANAB ISO 17025 ANAB DoD **
	SGS AXYS MLA-010	MLA-010	Y	Y	Y	Y	Y	Y
PCB 64 2,3,4',6-Tetrachlorobiphenyl	EPA 1668	MLA-010		Y	Y Y Y Y Y Y		Y	Y Y Y Y Y Y
PCB 65 2,3,5,6-Tetrachlorobiphenyl	EPA 1668	MLA-010	Y	Y	Y Y Y Y Y Y	Y	Y	Y Y Y Y Y Y
PCB 66 2,3',4,4'-Tetrachlorobiphenyl	EPA 1668	MLA-010		Y	Y Y Y Y Y Y		Y	Y Y Y Y Y Y
PCB 66/80	EPA 8270	MLA-007			Y		Y	Y
PCB 67 2,3',4,5-Tetrachlorobiphenyl	EPA 1668	MLA-010		Y	Y Y Y Y Y Y		Y	Y Y Y Y Y Y
	EPA 8270	MLA-007			Y			
PCB 68 2,3',4,5'-Tetrachlorobiphenyl	EPA 1668	MLA-010	Y	Y	Y	Y	Y	Y Y Y Y Y Y
PCB 69 2,3',4,6-Tetrachlorobiphenyl	EPA 1668	MLA-010		Y	Y Y Y Y Y Y		Y	Y Y Y Y Y Y
PCB 7 2,4-Dichlorobiphenyl	EPA 1668	MLA-010		Y	Y Y Y Y Y Y		Y	Y Y Y Y Y Y
PCB 7/9	EPA 8270	MLA-007		Y			Y	Y Y Y Y Y Y
PCB 70 2,3',4,5-Tetrachlorobiphenyl	EPA 1668	MLA-010		Y	Y Y Y Y Y Y		Y	Y Y Y Y Y Y
PCB 70/76	EPA 8270	MLA-007			Y		Y	Y
PCB 71 2,3',4',6-Tetrachlorobiphenyl	EPA 1668	MLA-010		Y	Y Y Y Y Y Y		Y	Y Y Y Y Y Y
PCB 72 2,3',5,5'-Tetrachlorobiphenyl	EPA 1668	MLA-010	Y	Y	Y Y Y Y Y Y		Y	Y Y Y Y Y Y
PCB 73 2,3',5,6-Tetrachlorobiphenyl	EPA 1668	MLA-010		Y	Y Y Y Y Y Y		Y	Y Y Y Y Y Y
PCB 74 2,4,4',5-Tetrachlorobiphenyl	EPA 1668	MLA-010		Y	Y Y Y Y Y Y		Y	Y Y Y Y Y Y
PCB 74/61	EPA 8270	MLA-007			Y			
PCB 75 2,4,4',6-Tetrachlorobiphenyl	EPA 1668	MLA-010		Y	Y Y Y Y Y Y		Y	Y Y Y Y Y Y
PCB 76 2,3',4,5'-Tetrachlorobiphenyl	EPA 1668	MLA-010	Y	Y	Y	Y	Y	Y Y Y Y Y Y
PCB 77 3,3',4,4'-Tetrachlorobiphenyl	EPA 1668	MLA-010		Y	Y Y Y Y Y Y		Y	Y Y Y Y Y Y
PCB 78 3,3',4,5-Tetrachlorobiphenyl	EPA 1668	MLA-010		Y	Y Y Y Y Y Y		Y	Y Y Y Y Y Y
PCB 79 3,3',4,5'-Tetrachlorobiphenyl	EPA 1668	MLA-010	Y	Y	Y	Y	Y	Y Y Y Y Y Y
	EPA 8270	MLA-007			Y		Y	Y
	SGS AXYS MLA-010	MLA-010			Y		Y	Y
	SGS AXYS MLA-007	MLA-007			Y		Y	Y

**Accreditation Scope**

SGS AXYS Analytical Services Ltd.  
file ref.: ACC-101 Rev. 40

Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	Serum	Solids	Tissue	Urine	Water
				CALA				
	PCB 8 2,4'-Dichlorobiphenyl	EPA 1668	MLA-010		Y			
		SGS AXYS MLA-010	MLA-010	Y	Y	Y	Y	Y
	PCB 8/5	EPA 8270	MLA-007			Y		
		SGS AXYS MLA-007	MLA-007	Y			Y	Y
	PCB 80 3,3',5,5'-Tetrachlorobiphenyl	EPA 1668	MLA-010		Y	Y	Y	Y
		SGS AXYS MLA-010	MLA-010	Y	Y	Y	Y	Y
	PCB 81 3,4,4',5-Tetrachlorobiphenyl	EPA 1668	MLA-010		Y	Y	Y	Y
		EPA 8270	MLA-007			Y		
		SGS AXYS MLA-010	MLA-010	Y	Y	Y	Y	Y
	PCB 82 2,2',3,3',4-Pentachlorobiphenyl	EPA 1668	MLA-010		Y	Y	Y	Y
		EPA 8270	MLA-007			Y		
		SGS AXYS MLA-010	MLA-010	Y	Y	Y	Y	Y
	PCB 83 2,2',3,3',5-Pentachlorobiphenyl	EPA 1668	MLA-010		Y	Y	Y	Y
		SGS AXYS MLA-010	MLA-010	Y	Y	Y	Y	Y
	PCB 83/108	EPA 8270	MLA-007			Y		
		SGS AXYS MLA-007	MLA-007	Y		Y		Y
	PCB 84 2,2',3,3',6-Pentachlorobiphenyl	EPA 1668	MLA-010		Y	Y	Y	Y
		EPA 8270	MLA-007			Y		
		SGS AXYS MLA-010	MLA-010	Y	Y	Y	Y	Y
		SGS AXYS MLA-007	MLA-007	Y		Y		Y
	PCB 85 2,2',3,4,4'-Pentachlorobiphenyl	EPA 1668	MLA-010		Y	Y	Y	Y
		SGS AXYS MLA-010	MLA-010	Y	Y	Y	Y	Y
	PCB 85/120	EPA 8270	MLA-007			Y		
		SGS AXYS MLA-007	MLA-007	Y		Y		Y
	PCB 86 2,2',3,4,5-Pentachlorobiphenyl	EPA 1668	MLA-010		Y	Y	Y	Y
		SGS AXYS MLA-010	MLA-010	Y	Y	Y	Y	Y
	PCB 87 2,2',3,4,5'-Pentachlorobiphenyl	EPA 1668	MLA-010		Y	Y	Y	Y
		SGS AXYS MLA-010	MLA-010	Y	Y	Y	Y	Y
	PCB 87/115/116	EPA 8270	MLA-007			Y		
		SGS AXYS MLA-007	MLA-007	Y		Y		Y
	PCB 88 2,2',3,4,6-Pentachlorobiphenyl	EPA 1668	MLA-010		Y	Y	Y	Y
		SGS AXYS MLA-010	MLA-010	Y	Y	Y	Y	Y
	PCB 88/121	EPA 8270	MLA-007			Y		
		SGS AXYS MLA-007	MLA-007	Y		Y		Y
	PCB 89 2,2',3,4,6'-Pentachlorobiphenyl	EPA 1668	MLA-010		Y	Y	Y	Y
		SGS AXYS MLA-010	MLA-010	Y	Y	Y	Y	Y
	PCB 9 2,5-Dichlorobiphenyl	EPA 1668	MLA-010		Y	Y	Y	Y
		SGS AXYS MLA-010	MLA-010	Y	Y	Y	Y	Y
	PCB 90 2,2',3,4',5-Pentachlorobiphenyl	EPA 1668	MLA-010		Y	Y	Y	Y
		SGS AXYS MLA-010	MLA-010	Y	Y	Y	Y	Y
	PCB 91 2,2',3,4',6-Pentachlorobiphenyl	EPA 1668	MLA-010		Y	Y	Y	Y
		EPA 8270	MLA-007			Y		
		SGS AXYS MLA-010	MLA-010	Y	Y	Y	Y	Y
		SGS AXYS MLA-007	MLA-007	Y		Y		Y
	PCB 92 2,2',3,5,5'-Pentachlorobiphenyl	EPA 1668	MLA-010		Y	Y	Y	Y
		EPA 8270	MLA-007			Y		
		SGS AXYS MLA-010	MLA-010	Y	Y	Y	Y	Y
	PCB 93 2,2',3,5,6-Pentachlorobiphenyl	EPA 1668	MLA-010		Y	Y	Y	Y
		SGS AXYS MLA-010	MLA-010	Y	Y	Y	Y	Y
	PCB 94 2,2',3,5,6'-Pentachlorobiphenyl	EPA 1668	MLA-010		Y	Y	Y	Y
		EPA 8270	MLA-007			Y		

**Accreditation Scope**

SGS AXYS Analytical Services Ltd.  
file ref.: ACC-101 Rev. 40

Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	Serum	Solids	Tissue								Urine								Water								
				CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE	Maine DOH	ANAB ISO 17025	ANAB DoD **	CALA	Florida DOH	Minnesota DOH	New Jersey DEP	Virginia DGS	ANAB ISO 17025	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE *	Maine DOH
	SGS AXYS MLA-010	MLA-010	Y	Y	Y									Y	Y		Y											Y		
PCB 95 2,2',3,5',6-Pentachlorobiphenyl	EPA 1668	MLA-010			Y	Y	Y	Y	Y	Y	Y	Y	Y				Y									Y	Y	Y	Y	
PCB 95/93	EPA 8270	MLA-007	Y	Y	Y									Y			Y		Y							Y	Y	Y	Y	
PCB 96 2,2',3,6,6'-Pentachlorobiphenyl	EPA 1668	MLA-010			Y	Y	Y	Y	Y	Y	Y	Y	Y				Y									Y	Y	Y	Y	
PCB 97 2,2',3,4',5'-Pentachlorobiphenyl	EPA 1668	MLA-010	Y	Y	Y									Y			Y		Y							Y	Y	Y	Y	
PCB 97/86	EPA 8270	MLA-007												Y																
PCB 98 2,2',3,4',6'-Pentachlorobiphenyl	EPA 1668	MLA-010			Y	Y	Y	Y	Y	Y	Y	Y	Y				Y									Y	Y	Y	Y	
PCB 98/102	EPA 8270	MLA-007	Y											Y			Y		Y							Y	Y	Y	Y	
PCB 99 2,2',4,4',5-Pentachlorobiphenyl	EPA 1668	MLA-010			Y	Y	Y	Y	Y	Y	Y	Y	Y				Y									Y	Y	Y	Y	
PCB congeners, total	EPA 1668	MLA-010												Y															Y	
Sum - Dichlorobiphenyls (BZ-12+ BZ-13)	EPA 1668	MLA-010												Y			Y												Y	
Sum - Heptachlorobiphenyls (BZ-171 + BZ-173)	EPA 1668	MLA-010												Y			Y												Y	
Sum - Heptachlorobiphenyls (BZ-180 + BZ-193)	EPA 1668	MLA-010												Y			Y												Y	
Sum - Heptachlorobiphenyls (BZ-183 + BZ-185)	EPA 1668	MLA-010												Y			Y												Y	
Sum - Hexachlorobiphenyls (BZ-128 + BZ-166)	EPA 1668	MLA-010												Y			Y												Y	
Sum - Hexachlorobiphenyls (BZ-129 + BZ-138 + BZ-160 + BZ-163)	EPA 1668	MLA-010												Y			Y											Y		
Sum - Hexachlorobiphenyls (BZ-134 + BZ-143)	EPA 1668	MLA-010												Y			Y												Y	
Sum - Hexachlorobiphenyls (BZ-135 + BZ-151 + BZ-154)	EPA 1668	MLA-010												Y			Y												Y	
Sum - Hexachlorobiphenyls (BZ-139 + BZ-140)	EPA 1668	MLA-010												Y			Y												Y	
Sum - Hexachlorobiphenyls (BZ-147 + BZ-149)	EPA 1668	MLA-010												Y			Y												Y	
Sum - Hexachlorobiphenyls (BZ-153 + BZ-168)	EPA 1668	MLA-010												Y			Y												Y	
Sum - Hexachlorobiphenyls (BZ-156 + BZ-157)	EPA 1668	MLA-010												Y			Y												Y	
Sum - Pentachlorobiphenyls (BZ-107 + BZ-124)	EPA 1668	MLA-010												Y			Y												Y	
Sum - Pentachlorobiphenyls (BZ-108 + BZ-124)	EPA 1668	MLA-010												Y			Y												Y	
Sum - Pentachlorobiphenyls (BZ-110 + BZ-115)	EPA 1668	MLA-010												Y			Y												Y	

**Accreditation Scope**

SGS AXYS Analytical Services Ltd.  
file ref.: ACC-101 Rev. 40

Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	Serum	Solids	Tissue	Urine	Water
				CALA				
	SGS AXYS MLA-010	MLA-010			CALA	California DPH		
	Sum - Pentachlorobiphenyls (BZ-83 + BZ-99)	EPA 1668	MLA-010			Florida DOH		
	SGS AXYS MLA-010	MLA-010				Minnesota DOH		
	Sum - Pentachlorobiphenyls (BZ-85 + BZ-116 + BZ-117)	EPA 1668	MLA-010			New Jersey DEP		
	SGS AXYS MLA-010	MLA-010				New York DOH		
	Sum - Pentachlorobiphenyls (BZ-86 + BZ-87 + BZ-97 + BZ-109 + BZ-119 + BZ-125)	EPA 1668	MLA-010			Virginia DGS		
	SGS AXYS MLA-010	MLA-010				Washington DE		
	Sum - Pentachlorobiphenyls (BZ-86 + BZ-87 + BZ-97 + BZ-108 + BZ-119 + BZ-125)	EPA 1668	MLA-010			Maine DOH		
	SGS AXYS MLA-010	MLA-010				ANAB ISO 17025		
	Sum - Pentachlorobiphenyls (BZ-88 + BZ-91)	EPA 1668	MLA-010			ANAB DoD **		
	SGS AXYS MLA-010	MLA-010						
	Sum - Pentachlorobiphenyls (BZ-90 + BZ-101 + BZ-113)	EPA 1668	MLA-010					
	SGS AXYS MLA-010	MLA-010						
	Sum - Pentachlorobiphenyls (BZ-93 + BZ-95 + BZ-98 + BZ-100 + BZ-102)	EPA 1668	MLA-010					
	SGS AXYS MLA-010	MLA-010						
	Sum - Tetrachlorobiphenyls (BZ-40 + BZ-41 + BZ-71)	EPA 1668	MLA-010					
	SGS AXYS MLA-010	MLA-010						
	Sum - Tetrachlorobiphenyls (BZ-44 + BZ-47 + BZ-65)	EPA 1668	MLA-010					
	SGS AXYS MLA-010	MLA-010						
	Sum - Tetrachlorobiphenyls (BZ-45 + BZ-51)	EPA 1668	MLA-010					
	SGS AXYS MLA-010	MLA-010						
	Sum - Tetrachlorobiphenyls (BZ-49 + BZ-69)	EPA 1668	MLA-010					
	SGS AXYS MLA-010	MLA-010						
	Sum - Tetrachlorobiphenyls (BZ-50 + BZ-53)	EPA 1668	MLA-010					
	SGS AXYS MLA-010	MLA-010						
	Sum - Tetrachlorobiphenyls (BZ-59 + BZ-62 + BZ-75)	EPA 1668	MLA-010					
	SGS AXYS MLA-010	MLA-010						
	Sum - Tetrachlorobiphenyls (BZ-61 + BZ-70 + BZ-74 + BZ-76)	EPA 1668	MLA-010					
	SGS AXYS MLA-010	MLA-010						
	Sum - Trichlorobiphenyls (BZ-18 + BZ-30)	EPA 1668	MLA-010					
	SGS AXYS MLA-010	MLA-010						
	Sum - Trichlorobiphenyls (BZ-20 + BZ-28)	EPA 1668	MLA-010					
	SGS AXYS MLA-010	MLA-010						
	Sum - Trichlorobiphenyls (BZ-21 + BZ-33)	EPA 1668	MLA-010					
	SGS AXYS MLA-010	MLA-010						
	Sum - Trichlorobiphenyls (BZ-26 + BZ-29)	EPA 1668	MLA-010					
	SGS AXYS MLA-010	MLA-010						
	Total Dichlorobiphenyls	EPA 1668	MLA-010					
	EPA 8270	MLA-007						
	SGS AXYS MLA-010	MLA-010	Y	Y		Y	Y	Y
	SGS AXYS MLA-007	MLA-007	Y			Y		
	Total Heptachlorobiphenyls	EPA 1668	MLA-010					
	EPA 8270	MLA-007						
	SGS AXYS MLA-010	MLA-010	Y	Y		Y	Y	Y
	SGS AXYS MLA-007	MLA-007	Y			Y		
	Total Hexachlorobiphenyls	EPA 1668	MLA-010					
	EPA 8270	MLA-007						
	SGS AXYS MLA-010	MLA-010	Y	Y		Y	Y	Y
	SGS AXYS MLA-007	MLA-007	Y			Y		
	Total Monochlorobiphenyls	EPA 1668	MLA-010					

**Accreditation Scope**

SGS AXYS Analytical Services Ltd.  
file ref.: ACC-101 Rev. 40

Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	Serum	Solids	Tissue	Urine	Water
				CALA				
	SGS AXYS MLA-010	MLA-010	Y	Y	California DPH Florida DOH Minnesota DOH New Jersey DEP New York DOH Virginia DGS Washington DE Maine DOH ANAB ISO 17025 ANAB DoD **	Y	Y	Y
	EPA 1668	MLA-010			Y		Y	
	EPA 8270	MLA-007			Y			
	SGS AXYS MLA-010	MLA-010	Y	Y	Y	Y	Y	Y
	SGS AXYS MLA-007	MLA-007	Y		Y	Y	Y	
	Total Nonachlorobiphenyls							Y
	EPA 1668	MLA-010						Y
	EPA 8270	MLA-007						
	SGS AXYS MLA-010	MLA-010	Y	Y	Y	Y	Y	
	SGS AXYS MLA-007	MLA-007	Y		Y	Y	Y	
	Total Octachlorobiphenyls							Y
	EPA 1668	MLA-010						Y
	EPA 8270	MLA-007						
	SGS AXYS MLA-010	MLA-010	Y	Y	Y	Y	Y	
	SGS AXYS MLA-007	MLA-007	Y		Y	Y	Y	
	Total PCBs							Y
	EPA 1668	MLA-010						Y
	SGS AXYS MLA-010	MLA-010						
	Total Pentachlorobiphenyls							Y
	EPA 1668	MLA-010						Y
	EPA 8270	MLA-007						
	SGS AXYS MLA-010	MLA-010	Y	Y	Y	Y	Y	
	SGS AXYS MLA-007	MLA-007	Y		Y	Y	Y	
	Total Polychlorinated biphenyls							Y
	EPA 1668	MLA-007						
	EPA 8270	MLA-007						
	SGS AXYS MLA-010	MLA-010	Y	Y	Y	Y	Y	
	SGS AXYS MLA-007	MLA-007	Y		Y	Y	Y	
	Total Tetrachlorobiphenyls							Y
	EPA 1668	MLA-010						
	EPA 8270	MLA-007						
	SGS AXYS MLA-010	MLA-010	Y	Y	Y	Y	Y	
	SGS AXYS MLA-007	MLA-007	Y		Y	Y	Y	
	Total Trichlorobiphenyls							Y
	EPA 1668	MLA-010						
	EPA 8270	MLA-007						
	SGS AXYS MLA-010	MLA-010	Y	Y	Y	Y	Y	
	SGS AXYS MLA-007	MLA-007	Y		Y	Y	Y	
PCDDF	"Dioxins and Dibenzofurans" category (CA only)	EPA 1613	MLA-017					Y
	EPA 8290	MLA-017		Y				
	1,2,3,4,6,7,8-HxCDD	EPA 1613	MLA-017		Y	Y		Y
	EPA 8290	MLA-017		Y	Y	Y	Y	Y
	SGS AXYS MLA-017	MLA-017	Y	Y	Y	Y	Y	Y
	EPA 1613	MLA-017						
	EPA 8290	MLA-017						
	SGS AXYS MLA-017	MLA-017	Y	Y	Y	Y	Y	Y
	1,2,3,4,6,7,8-HxCDF	EPA 1613	MLA-017		Y	Y		Y
	EPA 8290	MLA-017		Y	Y	Y	Y	Y
	SGS AXYS MLA-017	MLA-017	Y	Y	Y	Y	Y	Y
	1,2,3,4,7,8,9-HxCDF	EPA 1613	MLA-017		Y	Y		Y
	EPA 8290	MLA-017		Y	Y	Y	Y	Y
	SGS AXYS MLA-017	MLA-017	Y	Y	Y	Y	Y	Y
	1,2,3,4,7,8-HxCDD	EPA 1613	MLA-017		Y	Y		Y
	EPA 8290	MLA-017		Y	Y	Y	Y	Y
	SGS AXYS MLA-017	MLA-017	Y	Y	Y	Y	Y	Y
	1,2,3,4,7,8-HxCDF	EPA 1613	MLA-017		Y	Y		Y
	EPA 8290	MLA-017		Y	Y	Y	Y	Y
	SGS AXYS MLA-017	MLA-017	Y	Y	Y	Y	Y	Y
	1,2,3,6,7,8-HxCDD	EPA 1613	MLA-017		Y	Y		Y
	EPA 8290	MLA-017		Y	Y	Y	Y	Y
	SGS AXYS MLA-017	MLA-017	Y	Y	Y	Y	Y	Y
	1,2,3,6,7,8-HxCDF	EPA 1613	MLA-017		Y	Y		Y
	EPA 8290	MLA-017		Y	Y	Y	Y	Y
	SGS AXYS MLA-017	MLA-017	Y	Y	Y	Y	Y	Y
	1,2,3,7,8,9-HxCDD	EPA 1613	MLA-017		Y	Y		Y
	EPA 8290	MLA-017		Y	Y	Y	Y	Y
	SGS AXYS MLA-017	MLA-017	Y	Y	Y	Y	Y	Y

**Accreditation Scope**

SGS AXYS Analytical Services Ltd.  
file ref.: ACC-101 Rev. 40

Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	Serum	Tissue	Urine	Water
				CALA			
1,2,3,7,8,9-HxCDF	EPA 1613	MLA-017		Y	Y Y Y Y	Y Y	Y
	EPA 8290	MLA-017		Y Y	Y	Y Y Y	Y
	SGS AXYS MLA-017	MLA-017			Y	Y	Y
1,2,3,7,8-PeCDD	EPA 1613	MLA-017			Y Y	Y	Y
	EPA 8290	MLA-017		Y Y Y Y	Y Y	Y Y Y	Y
	SGS AXYS MLA-017	MLA-017			Y	Y	Y
1,2,3,7,8-PeCDF	EPA 1613	MLA-017			Y Y	Y	Y
	EPA 8290	MLA-017		Y Y Y Y	Y Y	Y Y Y	Y
	SGS AXYS MLA-017	MLA-017			Y	Y	Y
2,3,4,6,7,8-HxCDF	EPA 1613	MLA-017			Y Y	Y	Y
	EPA 8290	MLA-017		Y Y Y Y	Y Y	Y Y Y	Y
	SGS AXYS MLA-017	MLA-017			Y	Y	Y
2,3,4,7,8-PeCDF	EPA 1613	MLA-017			Y Y	Y	Y
	EPA 8290	MLA-017		Y Y Y Y	Y Y	Y Y Y	Y
	SGS AXYS MLA-017	MLA-017			Y	Y	Y
2,3,7,8-TCDD	EPA 1613	MLA-017			Y Y	Y	Y
	EPA 8290	MLA-017		Y Y Y Y	Y Y	Y Y Y	Y
	SGS AXYS MLA-017	MLA-017			Y	Y	Y
2,3,7,8-TCDF	EPA 1613	MLA-017			Y Y	Y	Y
	EPA 8290	MLA-017		Y Y Y Y	Y Y	Y Y Y	Y
	SGS AXYS MLA-017	MLA-017			Y	Y	Y
OCDD	EPA 1613	MLA-017			Y Y	Y	Y
	EPA 8290	MLA-017		Y Y Y Y	Y Y	Y Y Y	Y
	SGS AXYS MLA-017	MLA-017			Y	Y	Y
OCDF	EPA 1613	MLA-017			Y Y	Y	Y
	EPA 8290	MLA-017		Y Y Y Y	Y Y	Y Y Y	Y
	SGS AXYS MLA-017	MLA-017			Y	Y	Y
Total HpCDD	EPA 1613	MLA-017			Y	Y	Y
	EPA 8290	MLA-017		Y Y Y Y	Y Y	Y Y Y	Y
	SGS AXYS MLA-017	MLA-017			Y	Y	Y
Total HpCDF	EPA 1613	MLA-017			Y	Y	Y
	EPA 8290	MLA-017		Y Y Y Y	Y Y	Y Y Y	Y
	SGS AXYS MLA-017	MLA-017			Y	Y	Y
Total HxCDD	EPA 1613	MLA-017			Y	Y	Y
	EPA 8290	MLA-017		Y Y Y Y	Y Y	Y Y Y	Y
	SGS AXYS MLA-017	MLA-017			Y	Y	Y
Total HxCDF	EPA 1613	MLA-017			Y	Y	Y
	EPA 8290	MLA-017		Y Y Y Y	Y Y	Y Y Y	Y
	SGS AXYS MLA-017	MLA-017			Y	Y	Y
Total PCDD	EPA 1613	MLA-017			Y	Y	Y
	EPA 8290	MLA-017		Y Y Y Y	Y Y	Y Y Y	Y
	SGS AXYS MLA-017	MLA-017			Y	Y	Y
Total PCDD+PCDF	EPA 1613	MLA-017			Y	Y	Y
	EPA 8290	MLA-017		Y Y Y Y	Y Y	Y Y Y	Y
	SGS AXYS MLA-017	MLA-017			Y	Y	Y
Total PCDF	EPA 1613	MLA-017			Y	Y	Y
	EPA 8290	MLA-017		Y Y Y Y	Y Y	Y Y Y	Y
	SGS AXYS MLA-017	MLA-017			Y	Y	Y
Total PeCDD	EPA 1613	MLA-017			Y	Y	Y
	EPA 8290	MLA-017		Y Y Y Y	Y Y	Y Y Y	Y

**Accreditation Scope**

SGS AXYS Analytical Services Ltd.  
file ref.: ACC-101 Rev. 40

Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	Serum	Tissue	Urine	Water
				CALA			
		SGS AXYS MLA-017	MLA-017	Y	Y	Y	Y
		EPA 1613	MLA-017		Y	Y	Y
		EPA 8290	MLA-017	Y	Y	Y	Y
		SGS AXYS MLA-017	MLA-017	Y	Y	Y	Y
		EPA 1613	MLA-017		Y	Y	Y
		EPA 8290	MLA-017	Y	Y	Y	Y
		SGS AXYS MLA-017	MLA-017		Y	Y	Y
		EPA 1613	MLA-017		Y	Y	Y
		EPA 8290	MLA-017	Y	Y	Y	Y
		SGS AXYS MLA-017	MLA-017		Y	Y	Y
		EPA 1613	MLA-017		Y	Y	Y
		EPA 8290	MLA-017	Y	Y	Y	Y
		SGS AXYS MLA-017	MLA-017	Y	Y	Y	Y
		4:2 Fluorotelomersulfonate (4:2 FTS)	SGS AXYS MLA-081	MLA-081			Y
			SGS AXYS MLA-089	MLA-089			Y
			SGS AXYS MLA-110	MLA-110	Y	Y	Y
			SGS AXYS MLA-081	MLA-081			Y
			SGS AXYS MLA-089	MLA-089			Y
			SGS AXYS MLA-110	MLA-110	Y	Y	Y
			SGS AXYS MLA-081	MLA-081			Y
			SGS AXYS MLA-089	MLA-089			Y
			SGS AXYS MLA-110	MLA-110	Y	Y	Y
			SGS AXYS MLA-110	MLA-110	Y	Y	Y
			SGS AXYS MLA-110	MLA-110	Y	Y	Y
			N-Ethylperfluoroctanesulfonamide (N-EtFOSA)	SGS AXYS MLA-110	MLA-110	Y	Y
			N-Ethylperfluoroctanesulfonamidoacetic acid (N-EtFOSAA)	SGS AXYS MLA-110	MLA-110	Y	Y
			N-Ethylperfluoroctanesulfonamidoethanol (N-EtFOSE)	SGS AXYS MLA-110	MLA-110	Y	Y
			N-Methylperfluoroctanesulfonamide (N-MeFOSA)	SGS AXYS MLA-110	MLA-110	Y	Y
			N-Methylperfluoroctanesulfonamidoacetic acid (N-MeFOSAA)	SGS AXYS MLA-110	MLA-110	Y	Y
			N-Methylperfluoroctanesulfonamidoethanol (N-MeFOSE)	SGS AXYS MLA-110	MLA-110	Y	Y
			Perfluorobutanesulfonate (PFBS)	SGS AXYS MLA-060	MLA-060		Y
				SGS AXYS MLA-041	MLA-041	Y	Y
				SGS AXYS MLA-043	MLA-043	Y	Y
				SGS AXYS MLA-042	MLA-042	Y	Y
				SGS AXYS MLA-110	MLA-110	Y	Y
				SGS AXYS MLA-060	MLA-060		Y
			Perfluorobutanoate (PFBA)	SGS AXYS MLA-060	MLA-060		Y
				SGS AXYS MLA-041	MLA-041	Y	Y
				SGS AXYS MLA-043	MLA-043	Y	Y
				SGS AXYS MLA-042	MLA-042	Y	Y
				SGS AXYS MLA-110	MLA-110	Y	Y
				SGS AXYS MLA-060	MLA-060		Y
			Perfluorodecanesulfonate (PFDS)	SGS AXYS MLA-060	MLA-060		Y
				SGS AXYS MLA-041	MLA-041	Y	Y
				SGS AXYS MLA-043	MLA-043	Y	Y
				SGS AXYS MLA-042	MLA-042	Y	Y
				SGS AXYS MLA-110	MLA-110	Y	Y
				SGS AXYS MLA-060	MLA-060		Y
			Perfluorodecanoate (PFDA)	SGS AXYS MLA-060	MLA-060		Y
				SGS AXYS MLA-041	MLA-041	Y	Y
				SGS AXYS MLA-043	MLA-043	Y	Y
				SGS AXYS MLA-042	MLA-042	Y	Y
				SGS AXYS MLA-110	MLA-110	Y	Y
				SGS AXYS MLA-060	MLA-060		Y
			Perfluorododecanesulfonate (PFDoS)	SGS AXYS MLA-060	MLA-110	Y	Y
				SGS AXYS MLA-041	MLA-110	Y	Y
				SGS AXYS MLA-043	MLA-110	Y	Y
				SGS AXYS MLA-042	MLA-110	Y	Y
				SGS AXYS MLA-110	MLA-110	Y	Y
				SGS AXYS MLA-060	MLA-110		Y
			Perfluorododecanoate (PFDoA)	SGS AXYS MLA-060	MLA-060		Y
				SGS AXYS MLA-041	MLA-041	Y	Y
				SGS AXYS MLA-043	MLA-043	Y	Y
				SGS AXYS MLA-042	MLA-042	Y	Y
				SGS AXYS MLA-110	MLA-110	Y	Y
				SGS AXYS MLA-060	MLA-110		Y
			Perfluoroheptanesulfonate (PFHpS)	SGS AXYS MLA-060	MLA-110	Y	Y
				SGS AXYS MLA-041	MLA-110	Y	Y
				SGS AXYS MLA-043	MLA-110	Y	Y
				SGS AXYS MLA-042	MLA-110	Y	Y
				SGS AXYS MLA-110	MLA-110	Y	Y
				SGS AXYS MLA-060	MLA-110		Y
			Perfluoroheptanoate (PFHpA)	SGS AXYS MLA-060	MLA-060		Y
				SGS AXYS MLA-041	MLA-041	Y	Y
				SGS AXYS MLA-043	MLA-043	Y	Y
				SGS AXYS MLA-042	MLA-042	Y	Y
				SGS AXYS MLA-110	MLA-110	Y	Y
				SGS AXYS MLA-060	MLA-110		Y

**Accreditation Scope**

SGS AXYS Analytical Services Ltd.  
file ref.: ACC-101 Rev. 40

Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	Serum	Tissue	Urine	Water
				CALA	CALA California DPH Florida DOH Minnesota DOH New Jersey DEP New York DOH Virginia DGS Washington DE Maine DOH ANAB ISO 17025 ANAB DoD **	CALA Florida DOH Minnesota DOH New Jersey DEP Virginia DGS ANAB ISO 17025 ANAB DoD **	Water, Non-Potable
Perfluorohexanesulfonate (PFHxS)	SGS AXYS MLA-043	MLA-043	Y				
	SGS AXYS MLA-042	MLA-042	Y				
	SGS AXYS MLA-110	MLA-110	Y Y Y	Y Y Y			
	SGS AXYS MLA-060	MLA-060					
	SGS AXYS MLA-041	MLA-041	Y Y Y Y	Y			
	SGS AXYS MLA-043	MLA-043			Y Y Y Y Y		
	SGS AXYS MLA-042	MLA-042	Y				
	SGS AXYS MLA-110	MLA-110	Y Y Y	Y Y Y			
	SGS AXYS MLA-060	MLA-060					
	SGS AXYS MLA-041	MLA-041	Y Y Y Y	Y			
Perfluorohexanoate (PFHxA)	SGS AXYS MLA-043	MLA-043			Y Y Y Y Y		
	SGS AXYS MLA-042	MLA-042	Y				
	SGS AXYS MLA-110	MLA-110	Y Y Y	Y Y Y			
	SGS AXYS MLA-060	MLA-060					
	SGS AXYS MLA-041	MLA-041	Y Y Y Y	Y			
Perfluoronananesulfonate (PFNS)	SGS AXYS MLA-043	MLA-043					
	SGS AXYS MLA-042	MLA-042	Y				
	SGS AXYS MLA-110	MLA-110	Y Y Y	Y Y Y			
Perfluoronanoate (PFNA)	SGS AXYS MLA-060	MLA-060					
	SGS AXYS MLA-041	MLA-041	Y Y Y Y	Y			
	SGS AXYS MLA-043	MLA-043			Y Y Y Y Y		
	SGS AXYS MLA-042	MLA-042	Y				
	SGS AXYS MLA-110	MLA-110	Y Y Y	Y Y Y			
Perfluoroctanesulfonamide (PFOSA), a.k.a. FOSA	SGS AXYS MLA-060	MLA-060					
	SGS AXYS MLA-041	MLA-041	Y Y Y Y	Y			
	SGS AXYS MLA-043	MLA-043			Y Y Y Y Y		
	SGS AXYS MLA-042	MLA-042	Y				
	SGS AXYS MLA-110	MLA-110	Y Y Y	Y Y Y			
Perfluoroctanesulfonate (PFOS)	SGS AXYS MLA-060	MLA-060					
	SGS AXYS MLA-041	MLA-041	Y Y Y Y	Y			
	SGS AXYS MLA-043	MLA-043			Y Y Y Y Y		
	SGS AXYS MLA-042	MLA-042	Y				
	SGS AXYS MLA-110	MLA-110	Y Y Y	Y Y Y			
Perfluoroctanoate (PFOA)	SGS AXYS MLA-060	MLA-060					
	SGS AXYS MLA-041	MLA-041	Y Y Y Y	Y			
	SGS AXYS MLA-043	MLA-043			Y Y Y Y Y		
	SGS AXYS MLA-042	MLA-042	Y				
	SGS AXYS MLA-110	MLA-110	Y Y Y	Y Y Y			
Perfluoropentanesulfonate (PFPeS)	SGS AXYS MLA-110	MLA-110	Y Y Y	Y Y Y			
	SGS AXYS MLA-110	MLA-110	Y Y Y	Y Y Y			
	SGS AXYS MLA-110	MLA-110	Y Y Y	Y Y Y			
Perfluoropentanoate (PFPeA)	SGS AXYS MLA-060	MLA-060					
	SGS AXYS MLA-041	MLA-041	Y Y Y Y	Y			
	SGS AXYS MLA-043	MLA-043			Y Y Y Y Y		
	SGS AXYS MLA-042	MLA-042	Y				
	SGS AXYS MLA-110	MLA-110	Y Y Y	Y Y Y			
Perfluorotetradecanoate (PFTeDA)	SGS AXYS MLA-110	MLA-110	Y Y Y	Y Y Y			
	SGS AXYS MLA-110	MLA-110	Y Y Y	Y Y Y			
	SGS AXYS MLA-110	MLA-110	Y Y Y	Y Y Y			
Perfluorotridecanoate (PFTrDA)	SGS AXYS MLA-060	MLA-060					
	SGS AXYS MLA-041	MLA-041	Y Y Y Y	Y			
	SGS AXYS MLA-043	MLA-043			Y Y Y Y Y		
Perfluoroundecanoate (PFUnA)	SGS AXYS MLA-042	MLA-042	Y				
	SGS AXYS MLA-110	MLA-110	Y Y Y	Y Y Y			
	SGS AXYS MLA-110	MLA-110	Y Y Y	Y Y Y			
	SGS AXYS MLA-110	MLA-110	Y Y Y	Y Y Y			
	SGS AXYS MLA-110	MLA-110	Y Y Y	Y Y Y			
PPCP	1,7-Dimethylxanthine	EPA 1694	MLA-075				
		SGS AXYS MLA-075	MLA-075	Y			
	10-hydroxy-amitriptyline	SGS AXYS MLA-075	MLA-075	Y			
		SGS AXYS MLA-075	MLA-075	Y			

**Accreditation Scope**

SGS AXYS Analytical Services Ltd.  
file ref.: ACC-101 Rev. 40

Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	Serum	CALA Solids	Tissue	Urine	Water
				CALA				
	2-hydroxy-ibuprofen	SGS AXYS MLA-075	MLA-075	Y	California DPH Florida DOH Minnesota DOH New Jersey DEP New York DOH Virginia DGS Washington DE Maine DOH ANAB ISO 17025 ANAB DoD **	California DPH Florida DOH Minnesota DOH New Jersey DEP Virginia DGS ANAB ISO 17025	California DPH Florida DOH Minnesota DOH New Jersey DEP New York DOH Virginia DGS Washington DE * Maine DOH Pennsylvania DEP ANAB ISO 17025 ANAB DoD **	Water, Non-Potable
	4-Epianhydrochlorotetracycline (EACTC)	EPA 1694	MLA-075					Y
	4-Epianhydrotetracycline (EATC)	SGS AXYS MLA-075	MLA-075	Y				Y
	4-Epichlortetracycline (ECTC)	EPA 1694	MLA-075					Y
	4-Epoxytetracycline (EOTC)	SGS AXYS MLA-075	MLA-075	Y				Y
	4-Epitetracycline (ETC)	EPA 1694	MLA-075					Y
	Acetaminophen	EPA 1694	MLA-075					Y
	Albuterol	SGS AXYS MLA-075	MLA-075	Y				Y
	Alprazolam	SGS AXYS MLA-075	MLA-075	Y				Y
	Amitriptyline	SGS AXYS MLA-075	MLA-075	Y				Y
	Amlodipine	SGS AXYS MLA-075	MLA-075	Y				Y
	Amphetamine	SGS AXYS MLA-075	MLA-075	Y				Y
	Anhydrochlortetracycline (ACTC)	EPA 1694	MLA-075					Y
	Anhydrotetracycline (ATC)	SGS AXYS MLA-075	MLA-075	Y				Y
	Atenolol	SGS AXYS MLA-075	MLA-075	Y				Y
	Atorvastatin	SGS AXYS MLA-075	MLA-075	Y				Y
	Azithromycin	EPA 1694	MLA-075					Y
	Benzoyllecgonine	SGS AXYS MLA-075	MLA-075	Y				Y
	Benztropine	SGS AXYS MLA-075	MLA-075	Y				Y
	Betamethasone	SGS AXYS MLA-075	MLA-075	Y				Y
	Bisphenol A	EPA 1694	MLA-075					Y
	Caffeine	SGS AXYS MLA-075	MLA-075	Y				Y
	Carbadox	EPA 1694	MLA-075	Y				Y
	Carbamazepine	SGS AXYS MLA-075	MLA-075	Y				Y
	Cefotaxime	EPA 1694	MLA-075					Y
	Chlortetracycline (CTC)	SGS AXYS MLA-075	MLA-075	Y				Y
	Cimetidine	EPA 1694	MLA-075					Y
	Ciprofloxacin	SGS AXYS MLA-075	MLA-075	Y				Y
	Clarithromycin	EPA 1694	MLA-075					Y
	Cinafloxacin	SGS AXYS MLA-075	MLA-075	Y				Y

**Accreditation Scope**

SGS AXYS Analytical Services Ltd.  
file ref.: ACC-101 Rev. 40

Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	Serum	Tissue	Urine	Water
				CALA			
	Clonidine	SGS AXYS MLA-075	MLA-075	Y	California DPH		
	Cloxacillin	EPA 1694	MLA-075		Florida DOH		
		SGS AXYS MLA-075	MLA-075	Y	Minnesota DOH		
	Cocaine	SGS AXYS MLA-075	MLA-075	Y	New Jersey DEP		
	Codeine	EPA 1694	MLA-075		New York DOH		
		SGS AXYS MLA-075	MLA-075	Y	Virginia DGS		
	Cotinine	EPA 1694	MLA-075		Washington DE		
		SGS AXYS MLA-075	MLA-075	Y	Maine DOH		
	DEET (N,N-diethyl-m-toluamide)	SGS AXYS MLA-075	MLA-075	Y	ANAB ISO 17025		
	Dehydronifedipine	EPA 1694	MLA-075		ANAB DoD **		
		SGS AXYS MLA-075	MLA-075	Y			
	Demeclocycline	EPA 1694	MLA-075				
		SGS AXYS MLA-075	MLA-075	Y			
	Desmethyldiltiazem	SGS AXYS MLA-075	MLA-075	Y			
	Diazepam	SGS AXYS MLA-075	MLA-075	Y			
	Digoxigenin	EPA 1694	MLA-075				
		SGS AXYS MLA-075	MLA-075	Y			
	Digoxin	EPA 1694	MLA-075				
		SGS AXYS MLA-075	MLA-075	Y			
	Diltiazem	EPA 1694	MLA-075				
		SGS AXYS MLA-075	MLA-075	Y			
	Diphenhydramine	EPA 1694	MLA-075				
		SGS AXYS MLA-075	MLA-075	Y			
	Doxycycline	EPA 1694	MLA-075				
		SGS AXYS MLA-075	MLA-075	Y			
	Enalapril	EPA 1694	MLA-075				
		SGS AXYS MLA-075	MLA-075	Y			
	Enrofloxacin	EPA 1694	MLA-075				
		SGS AXYS MLA-075	MLA-075	Y			
	Erythromycin	SGS AXYS MLA-075	MLA-075	Y			
	Erythromycin anhydrate	EPA 1694	MLA-075		Y		
	Flumequine	EPA 1694	MLA-075		Y		
		SGS AXYS MLA-075	MLA-075	Y			
	Fluocinonide	SGS AXYS MLA-075	MLA-075	Y			
	Fluoxetine	EPA 1694	MLA-075		Y		
		SGS AXYS MLA-075	MLA-075	Y			
	Fluticasone propionate	SGS AXYS MLA-075	MLA-075	Y			
	Furosemide	SGS AXYS MLA-075	MLA-075	Y			
	Gemfibrozil	EPA 1694	MLA-075		Y		
		SGS AXYS MLA-075	MLA-075	Y			
	Glipizide	SGS AXYS MLA-075	MLA-075	Y			
	Glyburide	SGS AXYS MLA-075	MLA-075	Y			
	Hydrochlorothiazide	SGS AXYS MLA-075	MLA-075	Y			
	Hydrocodone	SGS AXYS MLA-075	MLA-075	Y			
	Hydrocortisone	SGS AXYS MLA-075	MLA-075	Y			
	Ibuprofen	EPA 1694	MLA-075		Y		
		SGS AXYS MLA-075	MLA-075	Y			
	Isochlordtetracycline (ICTC)	EPA 1694	MLA-075		Y		
		SGS AXYS MLA-075	MLA-075	Y			
	Lincomycin	EPA 1694	MLA-075		Y		

**Accreditation Scope**

SGS AXYS Analytical Services Ltd.  
file ref.: ACC-101 Rev. 40

Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	Serum	CALA Solids	Tissue	Urine	Water
				CALA California DPH Florida DOH Minnesota DOH New Jersey DEP New York DOH Virginia DGS Washington DE Maine DOH ANAB ISO 17025 ANAB DoD **				
	Lomefloxacin	SGS AXYS MLA-075	MLA-075	Y				
		EPA 1694	MLA-075					
	Meprobamate	SGS AXYS MLA-075	MLA-075	Y				
	Metformin	EPA 1694	MLA-075			Y		
	Methylprednisolone	SGS AXYS MLA-075	MLA-075	Y				
		SGS AXYS MLA-075	MLA-075	Y				
	Metoprolol	SGS AXYS MLA-075	MLA-075	Y				
	Miconazole	EPA 1694	MLA-075			Y		
		SGS AXYS MLA-075	MLA-075	Y				
	Minocycline	EPA 1694	MLA-075			Y		
		SGS AXYS MLA-075	MLA-075	Y				
	Naproxen	EPA 1694	MLA-075			Y		
		SGS AXYS MLA-075	MLA-075	Y				
	Norfloxacin	EPA 1694	MLA-075			Y		
		SGS AXYS MLA-075	MLA-075	Y				
	Norfluoxetine	SGS AXYS MLA-075	MLA-075	Y				
	Norgestimate	EPA 1694	MLA-075			Y		
		SGS AXYS MLA-075	MLA-075	Y				
	Norverapamil	SGS AXYS MLA-075	MLA-075	Y				
	Oftloxacin	EPA 1694	MLA-075			Y		
		SGS AXYS MLA-075	MLA-075	Y				
	Ormetoprim	EPA 1694	MLA-075			Y		
		SGS AXYS MLA-075	MLA-075	Y				
	Oxacillin	EPA 1694	MLA-075			Y		
		SGS AXYS MLA-075	MLA-075	Y				
	Oxolinic acid	EPA 1694	MLA-075			Y		
		SGS AXYS MLA-075	MLA-075	Y				
	Oxycodone	EPA 1694	MLA-075			Y		
		SGS AXYS MLA-075	MLA-075	Y				
	Oxytetracycline (OTC)	EPA 1694	MLA-075			Y		
		SGS AXYS MLA-075	MLA-075	Y				
	Paroxetine	EPA 1694	MLA-075			Y		
		SGS AXYS MLA-075	MLA-075	Y				
	Penicillin G	EPA 1694	MLA-075			Y		
		SGS AXYS MLA-075	MLA-075	Y				
	Penicillin V	EPA 1694	MLA-075			Y		
		SGS AXYS MLA-075	MLA-075	Y				
	Prednisolone	SGS AXYS MLA-075	MLA-075	Y				
	Prednisone	SGS AXYS MLA-075	MLA-075	Y				
	Promethazine	SGS AXYS MLA-075	MLA-075	Y				
	Propoxyphene	SGS AXYS MLA-075	MLA-075	Y				
	Propranolol	SGS AXYS MLA-075	MLA-075	Y				
	Ranitidine	EPA 1694	MLA-075			Y		
		SGS AXYS MLA-075	MLA-075	Y				
	Roxithromycin	EPA 1694	MLA-075			Y		
		SGS AXYS MLA-075	MLA-075	Y				
	Sarafloxacin	EPA 1694	MLA-075			Y		
		SGS AXYS MLA-075	MLA-075	Y				
	Sertraline	SGS AXYS MLA-075	MLA-075	Y				
	Simvastatin	SGS AXYS MLA-075	MLA-075	Y				
	Sulfachloropyridazine	EPA 1694	MLA-075			Y		
		SGS AXYS MLA-075	MLA-075	Y				
	Sulfadiazine	EPA 1694	MLA-075			Y		
		SGS AXYS MLA-075	MLA-075	Y				
	Sulfadimethoxine	EPA 1694	MLA-075			Y		
		SGS AXYS MLA-075	MLA-075	Y				

**Accreditation Scope**

SGS AXYS Analytical Services Ltd.  
file ref.: ACC-101 Rev. 40

Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	Serum	Tissue	Urine	Water
				CALA			
Organic Compounds	Sulfamerazine	EPA 1694	MLA-075	Y	California DPH Florida DOH Minnesota DOH New Jersey DEP New York DOH Virginia DGS Washington DE Maine DOH ANAB ISO 17025 ANAB DoD **	Y	Water, Non-Potable
	Sulfamethazine	EPA 1694	MLA-075	Y	Y	Y	Y
	Sulfamethizole	EPA 1694	MLA-075	Y	Y	Y	Y
	Sulfamethoxazole	EPA 1694	MLA-075	Y	Y	Y	Y
	Sulfanilamide	EPA 1694	MLA-075	Y	Y	Y	Y
	Sulfathiazole	EPA 1694	MLA-075	Y	Y	Y	Y
	Tetracycline (TC)	EPA 1694	MLA-075	Y	Y	Y	Y
	Theophylline	SGS AXYS MLA-075	MLA-075	Y	Y	Y	Y
	Thiabendazole	EPA 1694	MLA-075	Y	Y	Y	Y
	Trenbolone	SGS AXYS MLA-075	MLA-075	Y	Y	Y	Y
	Trenbolone acetate	SGS AXYS MLA-075	MLA-075	Y	Y	Y	Y
	Triamterene	SGS AXYS MLA-075	MLA-075	Y	Y	Y	Y
	Triclocarban	EPA 1694	MLA-075	Y	Y	Y	Y
	Triclosan	EPA 1694	MLA-075	Y	Y	Y	Y
	Trimethoprim	EPA 1694	MLA-075	Y	Y	Y	Y
	Tylosin	EPA 1694	MLA-075	Y	Y	Y	Y
	Valsartan	SGS AXYS MLA-075	MLA-075	Y	Y	Y	Y
	Verapamil	SGS AXYS MLA-075	MLA-075	Y	Y	Y	Y
	Virginiamycin	EPA 1694	MLA-075	Y	Y	Y	Y
	Warfarin	EPA 1694	MLA-075	Y	Y	Y	Y
Targeted Metabolites	11, 14, 17-eicosatrienoic acid (eicosatrienoic acid)	SGS AXYS MLM-001	MLM-001	Y			
	11, 14-eicosadienoic acid	SGS AXYS MLM-001	MLM-001	Y			
	3-hydroxytyrosine	SGS AXYS MLM-001	MLM-001	Y	Y	Y	
	Acetyl carnitine	SGS AXYS MLM-001	MLM-001	Y	Y	Y	
	Acetylornithine	SGS AXYS MLM-001	MLM-001	Y	Y	Y	
	Alanine	SGS AXYS MLM-001	MLM-001	Y	Y	Y	
	alpha-Amino adipic acid	SGS AXYS MLM-001	MLM-001	Y	Y	Y	
	Arginine	SGS AXYS MLM-001	MLM-001	Y	Y	Y	
	Asparagine	SGS AXYS MLM-001	MLM-001	Y	Y	Y	
	Aspartate	SGS AXYS MLM-001	MLM-001	Y	Y	Y	
	Asymmetric dimethylarginine	SGS AXYS MLM-001	MLM-001	Y	Y	Y	
	Butenylcarnitine	SGS AXYS MLM-001	MLM-001	Y	Y	Y	
	Butyrylcarnitine	SGS AXYS MLM-001	MLM-001	Y	Y	Y	
	C22:5 ISOMER 1 (tentatively all-cis-4, 8, 12, 15, 19-docosapentaenoic acid)	SGS AXYS MLM-001	MLM-001	Y			
	C22:5 ISOMER 2 (all-cis-7, 10, 13, 16, 19-docosapentaenoic acid (DPA))	SGS AXYS MLM-001	MLM-001	Y			
	C22:5 ISOMER 3 (tentatively all-cis-4, 7, 10, 13, 16-docosapentaenoic acid)	SGS AXYS MLM-001	MLM-001	Y			
	Carnitine	SGS AXYS MLM-001	MLM-001	Y	Y	Y	
	Carnosine	SGS AXYS MLM-001	MLM-001	Y	Y	Y	
	chenodeoxycholic acid	SGS AXYS MLM-001	MLM-001	Y	Y	Y	
	cholic acid	SGS AXYS MLM-001	MLM-001	Y	Y	Y	
	Citrulline	SGS AXYS MLM-001	MLM-001	Y	Y	Y	
	Creatinine	SGS AXYS MLM-001	MLM-001	Y	Y	Y	
	Decadienylcarnitine	SGS AXYS MLM-001	MLM-001	Y	Y	Y	
	decanoic acid (capric acid)	SGS AXYS MLM-001	MLM-001	Y	Y	Y	

**Accreditation Scope**

SGS AXYS Analytical Services Ltd.  
file ref.: ACC-101 Rev. 40

Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	Serum	Tissue	Urine	Water
				CALA			
	Decanoylcarnitine	SGS AXYS MLM-001	MLM-001	Y	Calibration	Y	Y
	Decenoylcarnitine	SGS AXYS MLM-001	MLM-001	Y	Florida DOH	Y	Y
	deoxycholic acid	SGS AXYS MLM-001	MLM-001	Y	Minnesota DOH	Y	Y
	docosahexaenoic acid (DHA)	SGS AXYS MLM-001	MLM-001	Y	New Jersey DEP	Y	Y
	docosatetraenoic acid (adrenic acid)	SGS AXYS MLM-001	MLM-001	Y	New York DOH	Y	Y
	Dodecanedioylcarnitine	SGS AXYS MLM-001	MLM-001	Y	Virginia DGS	Y	Y
	Dodecanoylcarnitine	SGS AXYS MLM-001	MLM-001	Y	Washington DE	Y	Y
	Dodecenoylcarnitine	SGS AXYS MLM-001	MLM-001	Y	Maine DOH	Y	Y
	Dopamine	SGS AXYS MLM-001	MLM-001	Y	ANAB ISO 17025	Y	Y
	eicosapentaenoic acid (EPA)	SGS AXYS MLM-001	MLM-001	Y	ANAB DoD **		
	Eicosatetraenoic acid (arachidonic acid)	SGS AXYS MLM-001	MLM-001				
	eicosatrienoic acid (dihomo-γ-linolenic acid)	SGS AXYS MLM-001	MLM-001				
	Glutaconylcarnitine	SGS AXYS MLM-001	MLM-001	Y	Tissue		
	Glutamate	SGS AXYS MLM-001	MLM-001	Y	Calibration		
	Glutamine	SGS AXYS MLM-001	MLM-001	Y	Florida DOH		
	Glutaryl carnitine (Hydroxyhexanoylcarnitine)	SGS AXYS MLM-001	MLM-001	Y	Minnesota DOH		
	Glycine	SGS AXYS MLM-001	MLM-001	Y	New Jersey DEP		
	glycochenodeoxycholic acid	SGS AXYS MLM-001	MLM-001	Y	Virginia DGS		
	glycocholic acid	SGS AXYS MLM-001	MLM-001	Y	ANAB ISO 17025		
	glycodeoxycholic acid	SGS AXYS MLM-001	MLM-001	Y	Urine		
	Hexadecadienylcarnitine	SGS AXYS MLM-001	MLM-001	Y	Water		
	hexadecanoic acid (palmitic acid)	SGS AXYS MLM-001	MLM-001	Y			
	Hexadecanoylcarnitine	SGS AXYS MLM-001	MLM-001	Y			
	hexadecenoic acid (palmitoleic acid)	SGS AXYS MLM-001	MLM-001	Y			
	Hexadecenoylcarnitine	SGS AXYS MLM-001	MLM-001	Y			
	Hexanoylcarnitine (Fumaryl carnitine)	SGS AXYS MLM-001	MLM-001	Y			
	Hexenoylcarnitine	SGS AXYS MLM-001	MLM-001	Y			
	Hexose (sum isomers)	SGS AXYS MLM-001	MLM-001	Y			
	Histamine	SGS AXYS MLM-001	MLM-001	Y			
	Histidine	SGS AXYS MLM-001	MLM-001	Y			
	Hydroxyhexadecadienylcarnitine	SGS AXYS MLM-001	MLM-001	Y			
	Hydroxyhexadecanoylcarnitine	SGS AXYS MLM-001	MLM-001	Y			
	Hydroxyhexadecenoylcarnitine	SGS AXYS MLM-001	MLM-001	Y			
	Hydroxylbutyrylcarnitine	SGS AXYS MLM-001	MLM-001	Y			
	Hydroxyoctadecenoylcarnitine	SGS AXYS MLM-001	MLM-001	Y			
	Hydroxyproline	SGS AXYS MLM-001	MLM-001	Y			
	Hydroxypropionylcarnitine	SGS AXYS MLM-001	MLM-001	Y			
	Hydroxysphingomyeline C14:1	SGS AXYS MLM-001	MLM-001	Y			
	Hydroxysphingomyeline C16:1	SGS AXYS MLM-001	MLM-001	Y			
	Hydroxysphingomyeline C22:1	SGS AXYS MLM-001	MLM-001	Y			
	Hydroxysphingomyeline C22:2	SGS AXYS MLM-001	MLM-001	Y			
	Hydroxysphingomyeline C24:1	SGS AXYS MLM-001	MLM-001	Y			
	Hydroxytetradecadienylcarnitine	SGS AXYS MLM-001	MLM-001	Y			
	Hydroxytetradecenoylcarnitine	SGS AXYS MLM-001	MLM-001	Y			
	Hydroxyvalerylcarnitine (Methylmalonylcarnitine)	SGS AXYS MLM-001	MLM-001	Y			
	Isoleucine	SGS AXYS MLM-001	MLM-001	Y			
	Kynurenine	SGS AXYS MLM-001	MLM-001	Y			
	Leucine	SGS AXYS MLM-001	MLM-001	Y			
	lithocholic acid	SGS AXYS MLM-001	MLM-001	Y			
	Lysine	SGS AXYS MLM-001	MLM-001	Y			
	lysophosphatidylcholine acyl C14:0	SGS AXYS MLM-001	MLM-001	Y			
	lysophosphatidylcholine acyl C16:0	SGS AXYS MLM-001	MLM-001	Y			
	lysophosphatidylcholine acyl C16:1	SGS AXYS MLM-001	MLM-001	Y			
	lysophosphatidylcholine acyl C17:0	SGS AXYS MLM-001	MLM-001	Y			
	lysophosphatidylcholine acyl C18:0	SGS AXYS MLM-001	MLM-001	Y			
	lysophosphatidylcholine acyl C18:1	SGS AXYS MLM-001	MLM-001	Y			
	lysophosphatidylcholine acyl C18:2	SGS AXYS MLM-001	MLM-001	Y			
	lysophosphatidylcholine acyl C20:3	SGS AXYS MLM-001	MLM-001	Y			

**Accreditation Scope**

SGS AXYS Analytical Services Ltd.  
file ref.: ACC-101 Rev. 40

Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	CALA	Serum	Tissue	Urine
	lysophosphatidylcholine acyl C20:4	SGS AXYS MLM-001	MLM-001	Y	Calif DPH Florida DOH	Y	Water
	lysophosphatidylcholine acyl C24:0	SGS AXYS MLM-001	MLM-001	Y	Minnesota DOH New Jersey DEP New York DOH	Y	Non-Potable Water
	lysophosphatidylcholine acyl C26:1	SGS AXYS MLM-001	MLM-001	Y	Virginia DGS	Y	
	lysophosphatidylcholine acyl C28:0	SGS AXYS MLM-001	MLM-001	Y	Washington DE Maine DOH	Y	
	lysophosphatidylcholine acyl C28:1	SGS AXYS MLM-001	MLM-001	Y	ANAB ISO 17025	ANAB DoD **	
	Methionine	SGS AXYS MLM-001	MLM-001	Y			
	Methioninesulfoxide	SGS AXYS MLM-001	MLM-001	Y			
	Methylglutaryl carnitine	SGS AXYS MLM-001	MLM-001	Y			
	Nitrotyrosine	SGS AXYS MLM-001	MLM-001	Y			
	Nonacylcarnitine	SGS AXYS MLM-001	MLM-001	Y			
	octadecadienoic acid (linoleic acid)	SGS AXYS MLM-001	MLM-001				
	Octadecadienylcarnitine	SGS AXYS MLM-001	MLM-001	Y			
	octadecanoic acid (stearic acid)	SGS AXYS MLM-001	MLM-001				
	Octadecanoylcarnitine	SGS AXYS MLM-001	MLM-001	Y			
	octadecatrienoic acid (γ-linolenic acid)	SGS AXYS MLM-001	MLM-001				
	Octadecenoylcarnitine	SGS AXYS MLM-001	MLM-001	Y			
	Octanoylcarnitine	SGS AXYS MLM-001	MLM-001	Y			
	Ornithine	SGS AXYS MLM-001	MLM-001	Y			
	Phenylalanine	SGS AXYS MLM-001	MLM-001	Y			
	Phenyethylamine	SGS AXYS MLM-001	MLM-001	Y			
	Phosphatidylcholine acyl-alkyl C30:0	SGS AXYS MLM-001	MLM-001	Y			
	Phosphatidylcholine acyl-alkyl C30:1	SGS AXYS MLM-001	MLM-001	Y			
	Phosphatidylcholine acyl-alkyl C30:2	SGS AXYS MLM-001	MLM-001	Y			
	Phosphatidylcholine acyl-alkyl C32:1	SGS AXYS MLM-001	MLM-001	Y			
	Phosphatidylcholine acyl-alkyl C32:2	SGS AXYS MLM-001	MLM-001	Y			
	Phosphatidylcholine acyl-alkyl C34:0	SGS AXYS MLM-001	MLM-001	Y			
	Phosphatidylcholine acyl-alkyl C34:1	SGS AXYS MLM-001	MLM-001	Y			
	Phosphatidylcholine acyl-alkyl C34:2	SGS AXYS MLM-001	MLM-001	Y			
	Phosphatidylcholine acyl-alkyl C34:3	SGS AXYS MLM-001	MLM-001	Y			
	Phosphatidylcholine acyl-alkyl C36:0	SGS AXYS MLM-001	MLM-001	Y			
	Phosphatidylcholine acyl-alkyl C36:1	SGS AXYS MLM-001	MLM-001	Y			
	Phosphatidylcholine acyl-alkyl C36:2	SGS AXYS MLM-001	MLM-001	Y			
	Phosphatidylcholine acyl-alkyl C36:3	SGS AXYS MLM-001	MLM-001	Y			
	Phosphatidylcholine acyl-alkyl C36:4	SGS AXYS MLM-001	MLM-001	Y			
	Phosphatidylcholine acyl-alkyl C36:5	SGS AXYS MLM-001	MLM-001	Y			
	Phosphatidylcholine acyl-alkyl C38:0	SGS AXYS MLM-001	MLM-001	Y			
	Phosphatidylcholine acyl-alkyl C38:1	SGS AXYS MLM-001	MLM-001	Y			
	Phosphatidylcholine acyl-alkyl C38:2	SGS AXYS MLM-001	MLM-001	Y			
	Phosphatidylcholine acyl-alkyl C38:3	SGS AXYS MLM-001	MLM-001	Y			
	Phosphatidylcholine acyl-alkyl C38:5	SGS AXYS MLM-001	MLM-001	Y			
	Phosphatidylcholine acyl-alkyl C38:6	SGS AXYS MLM-001	MLM-001	Y			
	Phosphatidylcholine acyl-alkyl C40:1	SGS AXYS MLM-001	MLM-001	Y			
	Phosphatidylcholine acyl-alkyl C40:2	SGS AXYS MLM-001	MLM-001	Y			
	Phosphatidylcholine acyl-alkyl C40:3	SGS AXYS MLM-001	MLM-001	Y			
	Phosphatidylcholine acyl-alkyl C40:4	SGS AXYS MLM-001	MLM-001	Y			
	Phosphatidylcholine acyl-alkyl C40:5	SGS AXYS MLM-001	MLM-001	Y			
	Phosphatidylcholine acyl-alkyl C40:6	SGS AXYS MLM-001	MLM-001	Y			
	Phosphatidylcholine acyl-alkyl C42:0	SGS AXYS MLM-001	MLM-001	Y			
	Phosphatidylcholine acyl-alkyl C42:1	SGS AXYS MLM-001	MLM-001	Y			
	Phosphatidylcholine acyl-alkyl C42:2	SGS AXYS MLM-001	MLM-001	Y			
	Phosphatidylcholine acyl-alkyl C42:3	SGS AXYS MLM-001	MLM-001	Y			
	Phosphatidylcholine acyl-alkyl C42:4	SGS AXYS MLM-001	MLM-001	Y			
	Phosphatidylcholine acyl-alkyl C42:5	SGS AXYS MLM-001	MLM-001	Y			
	Phosphatidylcholine acyl-alkyl C44:3	SGS AXYS MLM-001	MLM-001	Y			
	Phosphatidylcholine acyl-alkyl C44:4	SGS AXYS MLM-001	MLM-001	Y			
	Phosphatidylcholine acyl-alkyl C44:5	SGS AXYS MLM-001	MLM-001	Y			
	Phosphatidylcholine acyl-alkyl C44:6	SGS AXYS MLM-001	MLM-001	Y			
	Phosphatidylcholine diacyl C24:0	SGS AXYS MLM-001	MLM-001	Y			

**Accreditation Scope**

SGS AXYS Analytical Services Ltd.  
file ref.: ACC-101 Rev. 40

Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	CALA Solids	Serum	Tissue	Urine	Water
	Phosphatidylcholine diacyl C26:0	SGS AXYS MLM-001	MLM-001	Y	Y	Y	Y	Y
	Phosphatidylcholine diacyl C28:1	SGS AXYS MLM-001	MLM-001	Y	Y	Y	Y	Y
	Phosphatidylcholine diacyl C30:0	SGS AXYS MLM-001	MLM-001	Y	Y	Y	Y	Y
	Phosphatidylcholine diacyl C30:2	SGS AXYS MLM-001	MLM-001	Y	Y	Y	Y	Y
	Phosphatidylcholine diacyl C32:0	SGS AXYS MLM-001	MLM-001	Y	Y	Y	Y	Y
	Phosphatidylcholine diacyl C32:1	SGS AXYS MLM-001	MLM-001	Y	Y	Y	Y	Y
	Phosphatidylcholine diacyl C32:2	SGS AXYS MLM-001	MLM-001	Y	Y	Y	Y	Y
	Phosphatidylcholine diacyl C32:3	SGS AXYS MLM-001	MLM-001	Y	Y	Y	Y	Y
	Phosphatidylcholine diacyl C34:1	SGS AXYS MLM-001	MLM-001	Y	Y	Y	Y	Y
	Phosphatidylcholine diacyl C34:2	SGS AXYS MLM-001	MLM-001	Y	Y	Y	Y	Y
	Phosphatidylcholine diacyl C34:3	SGS AXYS MLM-001	MLM-001	Y	Y	Y	Y	Y
	Phosphatidylcholine diacyl C34:4	SGS AXYS MLM-001	MLM-001	Y	Y	Y	Y	Y
	Phosphatidylcholine diacyl C36:0	SGS AXYS MLM-001	MLM-001	Y	Y	Y	Y	Y
	Phosphatidylcholine diacyl C36:1	SGS AXYS MLM-001	MLM-001	Y	Y	Y	Y	Y
	Phosphatidylcholine diacyl C36:2	SGS AXYS MLM-001	MLM-001	Y	Y	Y	Y	Y
	Phosphatidylcholine diacyl C36:3	SGS AXYS MLM-001	MLM-001	Y	Y	Y	Y	Y
	Phosphatidylcholine diacyl C36:4	SGS AXYS MLM-001	MLM-001	Y	Y	Y	Y	Y
	Phosphatidylcholine diacyl C36:5	SGS AXYS MLM-001	MLM-001	Y	Y	Y	Y	Y
	Phosphatidylcholine diacyl C36:6	SGS AXYS MLM-001	MLM-001	Y	Y	Y	Y	Y
	Phosphatidylcholine diacyl C38:0	SGS AXYS MLM-001	MLM-001	Y	Y	Y	Y	Y
	Phosphatidylcholine diacyl C38:1	SGS AXYS MLM-001	MLM-001	Y	Y	Y	Y	Y
	Phosphatidylcholine diacyl C38:3	SGS AXYS MLM-001	MLM-001	Y	Y	Y	Y	Y
	Phosphatidylcholine diacyl C38:4	SGS AXYS MLM-001	MLM-001	Y	Y	Y	Y	Y
	Phosphatidylcholine diacyl C38:5	SGS AXYS MLM-001	MLM-001	Y	Y	Y	Y	Y
	Phosphatidylcholine diacyl C38:6	SGS AXYS MLM-001	MLM-001	Y	Y	Y	Y	Y
	Phosphatidylcholine diacyl C40:1	SGS AXYS MLM-001	MLM-001	Y	Y	Y	Y	Y
	Phosphatidylcholine diacyl C40:2	SGS AXYS MLM-001	MLM-001	Y	Y	Y	Y	Y
	Phosphatidylcholine diacyl C40:3	SGS AXYS MLM-001	MLM-001	Y	Y	Y	Y	Y
	Phosphatidylcholine diacyl C40:4	SGS AXYS MLM-001	MLM-001	Y	Y	Y	Y	Y
	Phosphatidylcholine diacyl C40:5	SGS AXYS MLM-001	MLM-001	Y	Y	Y	Y	Y
	Phosphatidylcholine diacyl C40:6	SGS AXYS MLM-001	MLM-001	Y	Y	Y	Y	Y
	Phosphatidylcholine diacyl C42:0	SGS AXYS MLM-001	MLM-001	Y	Y	Y	Y	Y
	Phosphatidylcholine diacyl C42:1	SGS AXYS MLM-001	MLM-001	Y	Y	Y	Y	Y
	Phosphatidylcholine diacyl C42:2	SGS AXYS MLM-001	MLM-001	Y	Y	Y	Y	Y
	Phosphatidylcholine diacyl C42:4	SGS AXYS MLM-001	MLM-001	Y	Y	Y	Y	Y
	Phosphatidylcholine diacyl C42:5	SGS AXYS MLM-001	MLM-001	Y	Y	Y	Y	Y
	Phosphatidylcholine diacyl C42:6	SGS AXYS MLM-001	MLM-001	Y	Y	Y	Y	Y
	Pimelylcarnitine	SGS AXYS MLM-001	MLM-001	Y	Y	Y	Y	Y
	Proline	SGS AXYS MLM-001	MLM-001	Y	Y	Y	Y	Y
	Propenoylcarnitine	SGS AXYS MLM-001	MLM-001	Y	Y	Y	Y	Y
	Propionylcarnitine	SGS AXYS MLM-001	MLM-001	Y	Y	Y	Y	Y
	Putrescine	SGS AXYS MLM-001	MLM-001	Y	Y	Y	Y	Y
	Sarcosine	SGS AXYS MLM-001	MLM-001	Y	Y	Y	Y	Y
	Serine	SGS AXYS MLM-001	MLM-001	Y	Y	Y	Y	Y
	Serotonin	SGS AXYS MLM-001	MLM-001	Y	Y	Y	Y	Y
	Spermidine	SGS AXYS MLM-001	MLM-001	Y	Y	Y	Y	Y
	Spermine	SGS AXYS MLM-001	MLM-001	Y	Y	Y	Y	Y
	Sphingomyeline C16:0	SGS AXYS MLM-001	MLM-001	Y	Y	Y	Y	Y
	Sphingomyeline C16:1	SGS AXYS MLM-001	MLM-001	Y	Y	Y	Y	Y
	Sphingomyeline C18:0	SGS AXYS MLM-001	MLM-001	Y	Y	Y	Y	Y
	Sphingomyeline C18:1	SGS AXYS MLM-001	MLM-001	Y	Y	Y	Y	Y
	Sphingomyeline C20:2	SGS AXYS MLM-001	MLM-001	Y	Y	Y	Y	Y
	Sphingomyeline C22:3	SGS AXYS MLM-001	MLM-001	Y	Y	Y	Y	Y
	Sphingomyeline C24:0	SGS AXYS MLM-001	MLM-001	Y	Y	Y	Y	Y
	Sphingomyeline C24:1	SGS AXYS MLM-001	MLM-001	Y	Y	Y	Y	Y
	Sphingomyeline C26:0	SGS AXYS MLM-001	MLM-001	Y	Y	Y	Y	Y
	Sphingomyeline C26:1	SGS AXYS MLM-001	MLM-001	Y	Y	Y	Y	Y
	Symmetric dimethylarginine	SGS AXYS MLM-001	MLM-001	Y	Y	Y	Y	Y

**Accreditation Scope**

SGS AXYS Analytical Services Ltd.  
file ref.: ACC-101 Rev. 40

Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	Serum	Tissue	Urine	Water
				CALA			
	Taurine	SGS AXYS MLM-001	MLM-001	Y	Y	Y	Y
	taurochenodeoxycholic acid	SGS AXYS MLM-001	MLM-001	Y	Y	Y	Y
	taurocholic acid	SGS AXYS MLM-001	MLM-001	Y	Y	Y	Y
	taurodeoxycholic acid	SGS AXYS MLM-001	MLM-001	Y	Y	Y	Y
	taurolithocholic acid	SGS AXYS MLM-001	MLM-001	Y	Y	Y	Y
	tauroursodeoxycholic acid	SGS AXYS MLM-001	MLM-001	Y	Y	Y	Y
	Tetradecadienylcarnitine	SGS AXYS MLM-001	MLM-001	Y	Y	Y	Y
	tetradecanoic acid (myristic acid)	SGS AXYS MLM-001	MLM-001	Y	Y	Y	Y
	Tetradecanoylcarnitine	SGS AXYS MLM-001	MLM-001	Y	Y	Y	Y
	Tetradecenoylcarnitine	SGS AXYS MLM-001	MLM-001	Y	Y	Y	Y
	Threonine	SGS AXYS MLM-001	MLM-001	Y	Y	Y	Y
	Tiglylcarnitine	SGS AXYS MLM-001	MLM-001	Y	Y	Y	Y
	Total dimethylarginine	SGS AXYS MLM-001	MLM-001	Y	Y	Y	Y
	Tryptophan	SGS AXYS MLM-001	MLM-001	Y	Y	Y	Y
	Tyrosine	SGS AXYS MLM-001	MLM-001	Y	Y	Y	Y
	ursodexoxycholic acid	SGS AXYS MLM-001	MLM-001	Y	Y	Y	Y
	Valerylcarnitine	SGS AXYS MLM-001	MLM-001	Y	Y	Y	Y
	Valine	SGS AXYS MLM-001	MLM-001	Y	Y	Y	Y
TBBPA	Tetrabromobisphenol A	SGS AXYS MLA-079	MLA-079	Y			
TOP	Perfluorobutanesulfonate (PFBS)	SGS AXYS MLA-111	MLA-111	Y			Y
	Perfluorobutanoate (PFBA)	SGS AXYS MLA-111	MLA-111	Y			Y
	Perfluorodecanesulfonate (PFDS)	SGS AXYS MLA-111	MLA-111	Y			Y
	Perfluorodecanoate (PFDA)	SGS AXYS MLA-111	MLA-111	Y			Y
	Perfluorododecanesulfonate (PFDoS)	SGS AXYS MLA-111	MLA-111	Y			Y
	Perfluorododecanoate (PFDaO)	SGS AXYS MLA-111	MLA-111	Y			Y
	Perfluoroheptanesulfonate (PFHpS)	SGS AXYS MLA-111	MLA-111	Y			Y
	Perfluoroheptanoate (PFHpA)	SGS AXYS MLA-111	MLA-111	Y			Y
	Perfluorohexanesulfonate (PFHxS)	SGS AXYS MLA-111	MLA-111	Y			Y
	Perfluorohexanoate (PFHxA)	SGS AXYS MLA-111	MLA-111	Y			Y
	Perfluorononanesulfonate (PFNS)	SGS AXYS MLA-111	MLA-111	Y			Y
	Perfluorononanoate (PFNA)	SGS AXYS MLA-111	MLA-111	Y			Y
	Perfluorooctanesulfonate (PFOS)	SGS AXYS MLA-111	MLA-111	Y			Y
	Perfluorooctanoate (PFOA)	SGS AXYS MLA-111	MLA-111	Y			Y
	Perfluoropentanesulfonate (PFPeS)	SGS AXYS MLA-111	MLA-111	Y			Y
	Perfluoropentanoate (PFPeA)	SGS AXYS MLA-111	MLA-111	Y			Y
	Perfluorotetradecanoate (PFTeDA)	SGS AXYS MLA-111	MLA-111	Y			Y
	Perfluorotridecanoate (PFTrDA)	SGS AXYS MLA-111	MLA-111	Y			Y
	Perfluoroundecanoate (PFUnA)	SGS AXYS MLA-111	MLA-111	Y			Y

Note \* Analysis of pesticides and PCBs in non-potable water samples by AXYS method MLA-007, with the exception of NPDES or State permitted discharges and Stormwater applications, may fall within the scope of Washington State Department of Ecology solids matrix accreditation, subject to approval of the Ecology Project Manager.

Note \*\* PFAS by LC-MS/MS compliant with US DoD QSM 5.1 table B-15

**Legend**

Y	Accreditation scope
BFR	Brominated flame retardants (non-PBDPE)
BPA and mPE	Bisphenol A and mono-Phthalate Esters
HBCDD	Hexabromocyclododecane
OC Pesticides	Organochlorine Pesticides
PAH	Polycyclic Aromatic Hydrocarbons
PBDPE	Polybrominated diphenylethers
PCB	Polychlorinated Biphenyls
PCDDF	Polychlorinated dibenzodioxins/turans
PFAS	Per- and Polyfluoroalkyl Substances
PPCP	Pharmaceutical and Personal Care Products
TBBPA	Tetrabromobisphenol A
TOP	Total Oxidizable Precursors
California DPH	California Department of Public Health, Lab ID 2911
Florida DOH	Florida Department of Health, Lab ID E871007, (NELAC Standard)
Pennsylvania DEP	Pennsylvania Department of Environmental Protection
Minnesota DOH	Minnesota Department of Health, Lab ID 232-999-430, (NELAC Standard)
New Jersey DEP	New Jersey Department of Environmental Protection, Lab ID CANA005, (NELAC Standard)
New York DOH	New York Department of Health, Lab ID 11674, (NELAC Standard)
Washington DE	Washington Department of Ecology, Lab ID C404
Virginia DGS	Virginia Department of General Services, Division of Consolidated Laboratory Services, Lab ID 460224, (NELAC Standard)
Maine DOH	Maine Center for Disease Control and Prevention, Department of Health and Human Services, Lab ID CN00003

ANAB DoD      ANSI-ASQ National Accreditation Board, certificate ADE-1861, (US DoD QSM 5.1 Standard)



CALA      Canadian Association for Laboratory Accreditation Inc., Lab ID A2637, (ISO/IEC 17025:2005 Standard)



ANAB ISO 17025      ANSI-ASQ National Accreditation Board, certificate ADE-1861.01, (ISO/IEC 17025:2005 Standard)

