SGS AXYS

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SGS AXYS Client No.: 4972

Client Address: AECOM
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Seattle, WA, US, 98101

The SGS AXYS contact for these data is Sean Campbell.

BATCH SUMMARY

Batch ID: WG65252	***Date:*** 14-Nov-2018
Analysis Type: PCB Congener	***Matrix Type:*** Tissue

BATCH MAKEUP

Contract: 4972

Samples:

L29961-1	PDI-TF-SMB128
L29961-3	PDI-TF-SMB009
L29961-4	PDI-TF-SMB058
L29961-5	PDI-TF-SMB066
L29961-6	PDI-TF-SMB109
L29961-7	PDI-TF-SMB069
L29961-8	PDI-TF-SMB056
L29961-9	PDI-TF-SMB007
L29961-10	PDI-TF-SMB008
L29961-11	PDI-TF-SMB003
L29961-12	PDI-TF-SMB098
L29961-13	PDI-TF-SMB076
L29961-14	PDI-TF-SMB083
L29961-15	PDI-TF-SMB051
L29961-16	PDI-TF-SMB048
L29961-17	PDI-TF-SMB129
L29961-18	PDI-TF-SMB050
L29961-19	PDI-TF-SMB095
L29961-20	PDI-TF-SMB054

Blank:
WG65252-101

Reference or Spike:
WG65252-102

Duplicate:
WG65252-103

RESUBMISSION 14-Nov-2018: *Data are being resubmitted to update the format for reporting the PCB coelutions. No other changes to the data have been made.*

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. The percent recoveries of ^{13}C-labeled PCB 170 and/or ^{13}C-labeled PCB 180 did not meet the method criteria in the samples named 'PDI-TF-SMB076', 'PDI-TF-SMB095' and 'PDI-TF-SMB054' (AXYS IDs: L29961-13, -19 and -20, respectively). The affected surrogates have been flagged with a 'V'. As the isotope dilution 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.
5. Disturbances of the mass ion used to monitor instrument performance (lock-mass) greater than the method specification were observed in multiple client samples near the retention times corresponding to some PCB congeners. The affected analytes have been flagged with a 'G'.
6. Sample 'PDI-TF-SMB053' (AXYS ID: L29961-2) was initially analyzed in this batch. However, this sample was lost in a lab accident. A repeat analysis for this sample will be conducted and the sample data will be reported at a later date.

SGS AXYS METHOD MLA-010 Rev 12

Form 1A

PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.
PDI-TF-SMB128
Sample Collection:
24-Aug-2018 10:48

SGS AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
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Project No.	PORTLAND HARBOR PDI AND BASELINE TISSUE		
Contract No.:	4972	**Lab Sample I.D.:**	L29961-1
Matrix:	TISSUE	**Sample Size:**	10.2 g (wet)
Sample Receipt Date:	31-Aug-2018	**Initial Calibration Date:**	07-Jul-2018
Extraction Date:	19-Sep-2018	**Instrument ID:**	HR GC/MS
Analysis Date:	19-Oct-2018 **Time:** 05:54:59	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	100	**Sample Data Filename:**	**PB8C_358 S: 8**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB8C_358 S: 4
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PB8C_358 S: 1
Concentration Units:	pg/g (wet weight basis)	**% Lipid:**	6.12

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This test is not NELAP accredited. Sample results relate only to the sample tested.

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2-MoCB	1		K	3.02	0.206 (S)	2.64	1.001
3-MoCB	2		J	0.739	0.264 (S)	3.51	0.988
4-MoCB	3		K J	1.02	0.271 (S)	5.16	1.001
2,2'-DiCB	4			17.6	1.84 (S)	1.37	1.001
2,3-DiCB	5		U		1.62 (S)		
2,3'-DiCB	6			3.90	1.40 (S)	1.34	1.176
2,4-DiCB	7		U		1.41 (S)		
2,4'-DiCB	8			12.6	1.23 (S)	1.61	1.208
2,5-DiCB	9		U		1.36 (S)		
2,6-DiCB	10		U		1.39 (S)		
3,3'-DiCB	11			88.6	1.51 (S)	1.53	0.968
3,4-DiCB	12	12 + 13	C U		1.49 (S)		
3,4'-DiCB	13	12 + 13	C12				
3,5-DiCB	14		U		1.45 (S)		
4,4'-DiCB	15			5.48	1.59 (S)	1.34	1.000
2,2',3-TriCB	16			8.62	0.251 (S)	1.12	1.167
2,2',4-TriCB	17			14.7	0.212 (S)	1.06	1.138
2,2',5-TriCB	18	18 + 30	C	28.3	0.180 (S)	1.03	1.114
2,2',6-TriCB	19		K	5.63	0.208 (S)	1.47	1.000
2,3,3'-TriCB	20	20 + 28	C	99.0	0.411 (S)	1.03	0.847
2,3,4-TriCB	21	21 + 33	C	14.6	0.390 (S)	0.92	0.855
2,3,4'-TriCB	22			15.9	0.461 (S)	1.03	0.871
2,3,5-TriCB	23		U		0.425 (S)		
2,3,6-TriCB	24		K J	0.354	0.154 (S)	0.31	1.158
2,3',4-TriCB	25			5.46	0.347 (S)	0.96	0.824
2,3',5-TriCB	26	26 + 29	C	14.6	0.411 (S)	1.14	1.301
2,3',6-TriCB	27			3.31	0.155 (S)	1.18	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			43.8	0.386 (S)	1.00	0.836
2,4',6-TriCB	32			6.43	0.399 (S)	1.09	1.198
2',3,4-TriCB	33	21 + 33	C21				
2',3,5-TriCB	34		K J	0.480	0.430 (S)	0.57	1.274
3,3',4-TriCB	35		U		0.441 (S)		
3,3',5-TriCB	36			4.63	0.399 (S)	1.13	0.934
3,4,4'-TriCB	37			11.6	0.499 (S)	1.17	1.000
3,4,5-TriCB	38		U		0.426 (S)		
3,4',5-TriCB	39		J	1.02	0.414 (S)	0.89	0.945

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2,2',3,3'-TeCB	40	40 + 41 + 71	C	38.0	0.241 (S)	0.85	1.337
2,2',3,4-TeCB	41	40 + 41 + 71	C40				
2,2',3,4'-TeCB	42			27.6	0.237 (S)	0.80	1.313
2,2',3,5-TeCB	43			4.75	0.251 (S)	0.84	1.247
2,2',3,5'-TeCB	44	44 + 47 + 65	C	179	0.216 (S)	0.80	1.286
2,2',3,6-TeCB	45	45 + 51	C	11.9	0.225 (S)	0.69	1.146
2,2',3,6'-TeCB	46			2.97	0.254 (S)	0.67	1.162
2,2',4,4'-TeCB	47	44 + 47 + 65	C44				
2,2',4,5-TeCB	48			20.6	0.235 (S)	0.78	1.274
2,2',4,5'-TeCB	49	49 + 69	C	128	0.199 (S)	0.81	1.260
2,2',4,6-TeCB	50	50 + 53	C	9.81	0.217 (S)	0.69	1.112
2,2',4,6'-TeCB	51	45 + 51	C45				
2,2',5,5'-TeCB	52			236	0.220 (S)	0.80	1.234
2,2',5,6'-TeCB	53	50 + 53	C50				
2,2',6,6'-TeCB	54		J	0.588	0.160 (S)	0.85	1.001
2,3,3',4-TeCB	55		U		2.59 (S)		
2,3,3',4'-TeCB	56			23.9	2.62 (S)	0.77	0.903
2,3,3',5-TeCB	57		U		2.38 (S)		
2,3,3',5'-TeCB	58		U		2.47 (S)		
2,3,3',6-TeCB	59	59 + 62 + 75	C	12.9	0.178 (S)	0.67	1.303
2,3,4,4'-TeCB	60			52.2	2.61 (S)	0.75	0.911
2,3,4,5-TeCB	61	61 + 70 + 74 + 76	C	377	2.36 (S)	0.76	0.874
2,3,4,6-TeCB	62	59 + 62 + 75	C59				
2,3,4',5-TeCB	63			21.2	2.41 (S)	0.75	0.863
2,3,4',6-TeCB	64			61.3	0.173 (S)	0.83	1.350
2,3,5,6-TeCB	65	44 + 47 + 65	C44				
2,3',4,4'-TeCB	66			360	2.46 (S)	0.77	0.883
2,3',4,5-TeCB	67			3.45	2.08 (S)	0.71	0.855
2,3',4,5'-TeCB	68			9.17	2.29 (S)	0.69	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			7.27	2.31 (S)	0.69	0.822
2,3',5',6-TeCB	73		U		0.186 (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			21.2	2.60 (S)	0.73	1.000
3,3',4,5-TeCB	78		U		2.60 (S)		
3,3',4,5'-TeCB	79			6.87	2.09 (S)	0.73	0.968
3,3',5,5'-TeCB	80		U		2.36 (S)		
3,4,4',5-TeCB	81		U		2.57 (S)		
2,2',3,3',4-PeCB	82			29.7	1.17 (S)	1.70	0.934
2,2',3,3',5-PeCB	83	83 + 99	C	904	1.06 (S)	1.54	0.886
2,2',3,3',6-PeCB	84			47.4	1.15 (S)	1.63	1.164
2,2',3,4,4'-PeCB	85	85 + 116 + 117	C	261	0.893 (S)	1.60	0.919
2,2',3,4,5-PeCB	86	86 + 87 + 97 + 108 + 119 + 125	C G	373	0.915 (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	53.6	1.01 (S)	1.60	1.155
2,2',3,4,6'-PeCB	89		U		1.09 (S)		
2,2',3,4',5-PeCB	90	90 + 101 + 113	C	707	0.909 (S)	1.55	0.869
2,2',3,4',6-PeCB	91	88 + 91	C88				
2,2',3,5,5'-PeCB	92			136	1.03 (S)	1.56	0.853
2,2',3,5,6-PeCB	93	93 + 95 + 98 + 100 + 102	C	271	0.981 (S)	1.53	1.121
2,2',3,5,6'-PeCB	94		U		1.06 (S)		
2,2',3,5',6-PeCB	95	93 + 95 + 98 + 100 + 102	C93				
2,2',3,6,6'-PeCB	96		K J	1.18	0.185 (S)	0.88	1.015
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				

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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			6.02	0.885 (S)	1.61	1.094
2,2',4,6,6'-PeCB	104		U		0.231 (S)		
2,3,3',4,4'-PeCB	105			525	3.03 (S)	1.52	1.000
2,3,3',4,5-PeCB	106		U		3.41 (S)		
2,3,3',4',5-PeCB	107	107 + 124	C	38.9	3.77 (S)	1.51	0.991
2,3,3',4,5'-PeCB	108	86 + 87 + 97 + 108 + 119 + 125	C86				
2,3,3',4,6-PeCB	109			166	3.54 (S)	1.58	0.997
2,3,3',4',6-PeCB	110	110 + 115	C	543	0.797 (S)	1.60	0.925
2,3,3',5,5'-PeCB	111		K J	1.94	0.819 (S)	2.11	0.945
2,3,3',5,6-PeCB	112		U		0.764 (S)		
2,3,3',5',6-PeCB	113	90 + 101 + 113	C90				
2,3,4,4',5-PeCB	114			55.9	4.06 (S)	1.62	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			2000	3.56 (S)	1.55	1.000
2,3',4,4',6-PeCB	119	86 + 87 + 97 + 108 + 119 + 125	C86				
2,3',4,5,5'-PeCB	120			9.38	0.793 (S)	1.76	0.958
2,3',4,5',6-PeCB	121		J	1.27	0.783 (S)	1.40	1.200
2',3,3',4,5-PeCB	122		K	5.67	4.02 (S)	2.09	1.010
2',3,4,4',5-PeCB	123			45.4	3.79 (S)	1.59	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	5.68	4.86 (S)	1.57	1.000
3,3',4,5,5'-PeCB	127			7.04	3.98 (S)	1.42	1.041
2,2',3,3',4,4'-HxCB	128	128 + 166	C	436	4.22 (S)	1.28	0.959
2,2',3,3',4,5-HxCB	129	129 + 138 + 160 + 163	C	3230	4.10 (S)	1.26	0.928
2,2',3,3',4,5'-HxCB	130			125	5.20 (S)	1.28	0.913
2,2',3,3',4,6-HxCB	131			8.64	4.56 (S)	1.19	1.161
2,2',3,3',4,6'-HxCB	132			160	4.89 (S)	1.28	1.176
2,2',3,3',5,5'-HxCB	133			60.8	4.55 (S)	1.27	1.193
2,2',3,3',5,6-HxCB	134	134 + 143	C	39.7	4.64 (S)	1.10	1.141
2,2',3,3',5,6'-HxCB	135	135 + 151 + 154	C	355	0.382 (S)	1.36	1.105
2,2',3,3',6,6'-HxCB	136			47.3	0.281 (S)	1.27	1.026
2,2',3,4,4',5-HxCB	137			187	4.73 (S)	1.26	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	40.5	4.19 (S)	1.31	1.153
2,2',3,4,4',6'-HxCB	140	139 + 140	C139				
2,2',3,4,5,5'-HxCB	141			215	4.35 (S)	1.22	0.903
2,2',3,4,5,6-HxCB	142		U		4.75 (S)		
2,2',3,4,5,6'-HxCB	143	134 + 143	C134				
2,2',3,4,5',6-HxCB	144			46.0	0.399 (S)	1.26	1.122
2,2',3,4,6,6'-HxCB	145		K J	0.393	0.300 (S)	0.88	1.034
2,2',3,4',5,5'-HxCB	146			701	3.83 (S)	1.27	0.883
2,2',3,4',5,6-HxCB	147	147 + 149	C	767	4.11 (S)	1.26	1.134
2,2',3,4',5,6'-HxCB	148		K J	2.88	0.382 (S)	1.45	1.084
2,2',3,4',5',6-HxCB	149	147 + 149	C147				
2,2',3,4',6,6'-HxCB	150		J	1.29	0.289 (S)	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	0.438	0.274 (S)	0.92	1.008
2,2',4,4',5,5'-HxCB	153	153 + 168	C	3610	3.53 (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	7.63	0.280 (S)	1.46	1.001
2,3,3',4,4',5-HxCB	156	156 + 157	C	423	4.94 (S)	1.19	1.000
2,3,3',4,4',5'-HxCB	157	156 + 157	C156				
2,3,3',4,4',6-HxCB	158			239	3.28 (S)	1.24	0.938
2,3,3',4,5,5'-HxCB	159		U		3.65 (S)		
2,3,3',4,5,6-HxCB	160	129 + 138 + 160 + 163	C129				

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COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2,3,3',4,5',6-HxCB	161		U		3.40 (S)		
2,3,3',4',5,5'-HxCB	162			16.4	3.29 (S)	1.27	0.989
2,3,3',4',5,6-HxCB	163	129 + 138 + 160 + 163	C129				
2,3,3',4',5',6-HxCB	164			107	3.57 (S)	1.29	0.921
2,3,3',5,5',6-HxCB	165		U		3.81 (S)		
2,3,4,4',5,6-HxCB	166	128 + 166	C128				
2,3',4,4',5,5'-HxCB	167			177	3.70 (S)	1.26	1.000
2,3',4,4',5',6-HxCB	168	153 + 168	C153				
3,3',4,4',5,5'-HxCB	169		U		3.84 (S)		
2,2',3,3',4,4',5-HpCB	170			549	0.427 (S)	1.02	1.000
2,2',3,3',4,4',6-HpCB	171	171 + 173	C	124	0.420 (S)	1.02	1.163
2,2',3,3',4,5,5'-HpCB	172			107	0.447 (S)	1.03	0.896
2,2',3,3',4,5,6-HpCB	173	171 + 173	C171				
2,2',3,3',4,5,6'-HpCB	174			184	0.394 (S)	1.12	1.134
2,2',3,3',4,5',6-HpCB	175			20.0	0.391 (S)	0.98	1.103
2,2',3,3',4,6,6'-HpCB	176			19.9	0.289 (S)	0.97	1.034
2,2',3,3',4',5,6-HpCB	177			175	0.291 (S)	1.12	1.146
2,2',3,3',5,5',6-HpCB	178			148	0.402 (S)	1.03	1.085
2,2',3,3',5,6,6'-HpCB	179			56.4	0.279 (S)	1.10	1.010
2,2',3,4,4',5,5'-HpCB	180	180 + 193	C	2110	0.405 (S)	1.04	1.000
2,2',3,4,4',5,6-HpCB	181			9.70	0.402 (S)	1.18	1.157
2,2',3,4,4',5,6'-HpCB	182			2.89	0.381 (S)	1.04	1.116
2,2',3,4,4',5',6-HpCB	183	183 + 185	C	388	0.400 (S)	1.07	1.127
2,2',3,4,4',6,6'-HpCB	184			9.36	0.275 (S)	1.18	1.024
2,2',3,4,5,5',6-HpCB	185	183 + 185	C183				
2,2',3,4,5,6,6'-HpCB	186		U		0.310 (S)		
2,2',3,4',5,5',6-HpCB	187			1560	0.372 (S)	1.06	1.110
2,2',3,4',5,6,6'-HpCB	188			3.28	0.345 (S)	0.91	1.000
2,3,3',4,4',5,5'-HpCB	189			26.1	0.522 (S)	1.03	1.001
2,3,3',4,4',5,6-HpCB	190			179	0.361 (S)	1.03	0.946
2,3,3',4,4',5',6-HpCB	191			32.1	0.351 (S)	1.01	0.917
2,3,3',4,5,5',6-HpCB	192		U		0.379 (S)		
2,3,3',4',5,5',6-HpCB	193	180 + 193	C180				
2,2',3,3',4,4',5,5'-OcCB	194		G	243	0.422 (S)	0.88	0.991
2,2',3,3',4,4',5,6-OcCB	195			154	0.458 (S)	0.92	0.945
2,2',3,3',4,4',5,6'-OcCB	196			181	0.455 (S)	0.91	0.915
2,2',3,3',4,4',6,6'-OcCB	197	197 + 200	C	29.1	0.319 (S)	0.85	1.046
2,2',3,3',4,5,5',6-OcCB	198	198 + 199	C	375	0.464 (S)	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			33.1	0.313 (S)	0.83	1.023
2,2',3,3',5,5',6,6'-OcCB	202			120	0.489 (S)	0.94	1.000
2,2',3,4,4',5,5',6-OcCB	203			305	0.438 (S)	0.92	0.918
2,2',3,4,4',5,6,6'-OcCB	204		U		0.325 (S)		
2,3,3',4,4',5,5',6-OcCB	205			13.7	0.302 (S)	0.82	1.000
2,2',3,3',4,4',5,5',6-NoCB	206			109	0.305 (S)	0.78	1.000
2,2',3,3',4,4',5,6,6'-NoCB	207			21.3	0.227 (S)	0.75	1.019
2,2',3,3',4,5,5',6,6'-NoCB	208			47.9	0.272 (S)	0.89	1.000
2,2',3,3',4,4',5,5',6,6'-DeCB	209			82.9	0.257 (S)	1.07	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.
(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: _____Ting Chen_____

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Report Filename: 1668_PCB1668_PCBTF_L29961-1_Form1A_PB8C_358S8_SJ2452900.html; Workgroup: WG65252; Design ID: 3360]

SGS AXYS METHOD MLA-010 Rev 12

Form 2

PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.
PDI-TF-SMB128
Sample Collection:
24-Aug-2018 10:48

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

Project No.	PORTLAND HARBOR PDI AND BASELINE TISSUE		
Contract No.:	4972	**Lab Sample I.D.:**	L29961-1
Matrix:	TISSUE	**Sample Size:**	10.2 g (wet)
Sample Receipt Date:	31-Aug-2018	**Initial Calibration Date:**	07-Jul-2018
Extraction Date:	19-Sep-2018	**Instrument ID:**	HR GC/MS
Analysis Date:	19-Oct-2018 **Time:** 05:54:59	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	100	**Sample Data Filename:**	**PB8C_358 S: 8**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB8C_358 S: 4
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PB8C_358 S: 1
Concentration Units:	pg absolute	**% Lipid:**	6.12

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. [1]	CO-ELUTIONS	LAB FLAG [2]	SPIKE CONC.	CONC. FOUND	R(%) [3]	ION ABUND. RATIO	RRT
13C12-2-MoCB	1L			2000	854	42.7	3.07	0.718
13C12-4-MoCB	3L			2000	850	42.5	3.10	0.858
13C12-2,2'-DiCB	4L			2000	878	43.9	1.60	0.873
13C12-4,4'-DiCB	15L			2000	984	49.2	1.57	1.255
13C12-2,2',6-TriCB	19L			2000	1170	58.3	1.11	1.071
13C12-3,4,4'-TriCB	37L			2000	1160	58.0	1.04	1.093
13C12-2,2',6,6'-TeCB	54L			2000	1170	58.3	0.80	0.811
13C12-3,3',4,4'-TeCB	77L			2000	1440	72.1	0.79	1.399
13C12-3,4,4',5-TeCB	81L			2000	1390	69.5	0.76	1.375
13C12-2,2',4,6,6'-PeCB	104L			2000	976	48.8	1.71	0.808
13C12-2,3,3',4,4'-PeCB	105L			2000	1820	90.9	1.67	1.201
13C12-2,3,4,4',5-PeCB	114L			2000	1410	70.7	1.58	1.179
13C12-2,3',4,4',5-PeCB	118L			2000	1520	75.9	1.58	1.162
13C12-2',3,4,4',5-PeCB	123L			2000	1570	78.4	1.74	1.151
13C12-3,3',4,4',5-PeCB	126L			2000	1410	70.3	1.68	1.302
13C12-2,2',4,4',6,6'-HxCB	155L			2000	875	43.8	1.23	0.785
13C12-2,3,3',4,4',5-HxCB	156L	156L + 157L	C	4000	2390	59.9	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			2000	1220	61.0	1.25	1.078
13C12-3,3',4,4',5,5'-HxCB	169L			2000	1320	65.9	1.31	1.192
13C12-2,2',3,3',4,4',5-HpCB	170L			2000	1850	92.4	1.06	0.897
13C12-2,2',3,4,4',5,5'-HpCB	180L			2000	1820	90.9	1.00	0.872
13C12-2,2',3,4',5,6,6'-HpCB	188L			2000	1200	59.8	1.10	0.711
13C12-2,3,3',4,4',5,5'-HpCB	189L			2000	1900	95.2	1.09	0.959
13C12-2,2',3,3',5,5',6,6'-OcCB	202L			2000	833	41.6	0.99	0.816
13C12-2,3,3',4,4',5,5',6-OcCB	205L			2000	1830	91.7	0.89	1.009
13C12-2,2',3,3',4,4',5,5',6-NoCB	206L			2000	2000	100	0.82	1.043
13C12-2,2',3,3',4,5,5',6,6'-NoCB	208L			2000	1940	96.9	0.78	0.948
13C12-2,2',3,3',4,4',5,5',6,6'-DeCB	209L			2000	1370	68.6	1.25	1.074
CLEANUP STANDARD								
13C12-2,4,4'-TriCB	28L			2000	1400	69.9	1.04	0.925
13C12-2,3,3',5,5'-PeCB	111L			2000	1580	78.8	1.56	1.088
13C12-2,2',3,3',5,5',6-HpCB	178L			2000	1300	65.0	1.05	1.011

(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: _____Ting Chen_____

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Report Filename: 1668_PCB1668_PCBTF_L29961-1_Form2_PB8C_358S8_SJ2452900.html; Workgroup: WG65252; Design ID: 3360]

SGS AXYS METHOD MLA-010 Rev 12

Form 1A

PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.
PDI-TF-SMB009
Sample Collection:
22-Aug-2018 07:29

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

Project No.	PORTLAND HARBOR PDI AND BASELINE TISSUE		
Contract No.:	4972	**Lab Sample I.D.:**	L29961-3
Matrix:	TISSUE	**Sample Size:**	10.1 g (wet)
Sample Receipt Date:	31-Aug-2018	**Initial Calibration Date:**	07-Jul-2018
Extraction Date:	19-Sep-2018	**Instrument ID:**	HR GC/MS
Analysis Date:	19-Oct-2018 **Time:** 06:58:54	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	100	**Sample Data Filename:**	**PB8C_358 S: 9**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB8C_358 S: 4
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PB8C_358 S: 1
Concentration Units:	pg/g (wet weight basis)	**% Lipid:**	5.45

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 [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2-MoCB	1			12.7	0.331 (S)	2.83	1.001
3-MoCB	2		K J	1.90	0.436 (S)	2.39	0.988
4-MoCB	3			6.40	0.455 (S)	2.91	1.002
2,2'-DiCB	4			288	2.98 (S)	1.54	1.001
2,3-DiCB	5		U		2.75 (S)		
2,3'-DiCB	6			53.6	2.39 (S)	1.63	1.177
2,4-DiCB	7			6.43	2.40 (S)	1.68	1.158
2,4'-DiCB	8			166	2.08 (S)	1.52	1.208
2,5-DiCB	9			12.1	2.32 (S)	1.41	1.147
2,6-DiCB	10			15.4	2.37 (S)	1.74	1.014
3,3'-DiCB	11			101	2.56 (S)	1.59	0.968
3,4-DiCB	12	12 + 13	C	6.99	2.53 (S)	1.61	0.983
3,4'-DiCB	13	12 + 13	C12				
3,5-DiCB	14		U		2.46 (S)		
4,4'-DiCB	15			49.1	2.79 (S)	1.47	1.000
2,2',3-TriCB	16			138	0.347 (S)	1.10	1.167
2,2',4-TriCB	17			382	0.293 (S)	1.04	1.138
2,2',5-TriCB	18	18 + 30	C	500	0.249 (S)	1.11	1.114
2,2',6-TriCB	19			433	0.296 (S)	1.04	1.001
2,3,3'-TriCB	20	20 + 28	C	1380	3.56 (S)	1.01	0.847
2,3,4-TriCB	21	21 + 33	C	332	3.38 (S)	1.05	0.856
2,3,4'-TriCB	22			306	3.99 (S)	1.02	0.871
2,3,5-TriCB	23		U		3.68 (S)		
2,3,6-TriCB	24			10.2	0.213 (S)	1.05	1.159
2,3',4-TriCB	25			101	3.00 (S)	1.02	0.824
2,3',5-TriCB	26	26 + 29	C	227	3.56 (S)	0.99	1.302
2,3',6-TriCB	27			93.5	0.215 (S)	1.05	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			751	3.34 (S)	1.02	0.835
2,4',6-TriCB	32			228	3.46 (S)	1.00	1.198
2',3,4-TriCB	33	21 + 33	C21				
2',3,5-TriCB	34			10.6	3.72 (S)	0.93	1.274
3,3',4-TriCB	35			4.77	3.82 (S)	0.89	0.987
3,3',5-TriCB	36			82.7	3.45 (S)	0.99	0.934
3,4,4'-TriCB	37			86.6	4.24 (S)	1.03	1.001
3,4,5-TriCB	38		U		3.69 (S)		
3,4',5-TriCB	39			11.9	3.59 (S)	1.07	0.945

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2,2',3,3'-TeCB	40	40 + 41 + 71	C	864	0.419 (S)	0.79	1.337
2,2',3,4-TeCB	41	40 + 41 + 71	C40				
2,2',3,4'-TeCB	42			505	0.411 (S)	0.78	1.313
2,2',3,5-TeCB	43			115	0.436 (S)	0.76	1.247
2,2',3,5'-TeCB	44	44 + 47 + 65	C	3160	0.376 (S)	0.78	1.287
2,2',3,6-TeCB	45	45 + 51	C	382	0.390 (S)	0.79	1.148
2,2',3,6'-TeCB	46			72.9	0.441 (S)	0.78	1.162
2,2',4,4'-TeCB	47	44 + 47 + 65	C44				
2,2',4,5-TeCB	48			365	0.408 (S)	0.74	1.274
2,2',4,5'-TeCB	49	49 + 69	C	2080	0.345 (S)	0.78	1.260
2,2',4,6-TeCB	50	50 + 53	C	370	0.377 (S)	0.84	1.112
2,2',4,6'-TeCB	51	45 + 51	C45				
2,2',5,5'-TeCB	52			3500	0.382 (S)	0.79	1.235
2,2',5,6'-TeCB	53	50 + 53	C50				
2,2',6,6'-TeCB	54			72.4	0.273 (S)	0.82	1.001
2,3,3',4-TeCB	55		U		13.6 (S)		
2,3,3',4'-TeCB	56			662	13.7 (S)	0.77	0.904
2,3,3',5-TeCB	57		U		12.5 (S)		
2,3,3',5'-TeCB	58		U		13.0 (S)		
2,3,3',6-TeCB	59	59 + 62 + 75	C	247	0.309 (S)	0.76	1.303
2,3,4,4'-TeCB	60			582	13.7 (S)	0.75	0.911
2,3,4,5-TeCB	61	61 + 70 + 74 + 76	C	3730	12.4 (S)	0.77	0.874
2,3,4,6-TeCB	62	59 + 62 + 75	C59				
2,3,4',5-TeCB	63			155	12.7 (S)	0.72	0.863
2,3,4',6-TeCB	64			1080	0.301 (S)	0.78	1.350
2,3,5,6-TeCB	65	44 + 47 + 65	C44				
2,3',4,4'-TeCB	66			3230	12.9 (S)	0.76	0.883
2,3',4,5-TeCB	67			47.6	10.9 (S)	0.69	0.855
2,3',4,5'-TeCB	68			48.4	12.0 (S)	0.74	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			62.9	12.2 (S)	0.66	0.822
2,3',5',6-TeCB	73		U		0.323 (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			117	13.6 (S)	0.70	1.000
3,3',4,5-TeCB	78		U		13.6 (S)		
3,3',4,5'-TeCB	79			39.6	11.0 (S)	0.85	0.968
3,3',5,5'-TeCB	80		U		12.4 (S)		
3,4,4',5-TeCB	81		U		13.8 (S)		
2,2',3,3',4-PeCB	82			287	4.16 (S)	1.66	0.934
2,2',3,3',5-PeCB	83	83 + 99	C	4130	3.77 (S)	1.57	0.886
2,2',3,3',6-PeCB	84			580	4.08 (S)	1.55	1.164
2,2',3,4,4'-PeCB	85	85 + 116 + 117	C	1220	3.17 (S)	1.57	0.919
2,2',3,4,5-PeCB	86	86 + 87 + 97 + 108 + 119 + 125	C G	2770	3.25 (S)	1.59	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	663	3.57 (S)	1.61	1.155
2,2',3,4,6'-PeCB	89			21.8	3.87 (S)	1.58	1.183
2,2',3,4',5-PeCB	90	90 + 101 + 113	C	5600	3.23 (S)	1.58	0.869
2,2',3,4',6-PeCB	91	88 + 91	C88				
2,2',3,5,5'-PeCB	92			1200	3.67 (S)	1.62	0.853
2,2',3,5,6-PeCB	93	93 + 95 + 98 + 100 + 102	C	3110	3.48 (S)	1.59	1.122
2,2',3,5,6'-PeCB	94			23.7	3.77 (S)	1.51	1.102
2,2',3,5',6-PeCB	95	93 + 95 + 98 + 100 + 102	C93				
2,2',3,6,6'-PeCB	96			27.8	0.228 (S)	1.55	1.015
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				

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	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			100	3.14 (S)	1.50	1.094
2,2',4,6,6'-PeCB	104			8.51	0.267 (S)	1.34	1.001
2,3,3',4,4'-PeCB	105			1910	13.0 (S)	1.54	1.000
2,3,3',4,5-PeCB	106		U		13.6 (S)		
2,3,3',4',5-PeCB	107	107 + 124	C	177	15.1 (S)	1.51	0.991
2,3,3',4,5'-PeCB	108	86 + 87 + 97 + 108 + 119 + 125	C86				
2,3,3',4,6-PeCB	109			514	14.1 (S)	1.52	0.997
2,3,3',4',6-PeCB	110	110 + 115	C	4620	2.83 (S)	1.57	0.925
2,3,3',5,5'-PeCB	111			11.0	2.91 (S)	1.40	0.945
2,3,3',5,6-PeCB	112		U		2.71 (S)		
2,3,3',5',6-PeCB	113	90 + 101 + 113	C90				
2,3,4,4',5-PeCB	114			132	16.1 (S)	1.60	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			5230	13.7 (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			44.5	2.82 (S)	1.61	0.958
2,3',4,5',6-PeCB	121			9.58	2.78 (S)	1.38	1.200
2',3,3',4,5-PeCB	122			40.3	16.0 (S)	1.75	1.010
2',3,4,4',5-PeCB	123			121	15.1 (S)	1.54	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	20.8	17.9 (S)	1.35	1.000
3,3',4,5,5'-PeCB	127		U		15.9 (S)		
2,2',3,3',4,4'-HxCB	128	128 + 166	C	1400	6.61 (S)	1.25	0.959
2,2',3,3',4,5-HxCB	129	129 + 138 + 160 + 163	C	10200	6.42 (S)	1.26	0.928
2,2',3,3',4,5'-HxCB	130			525	8.14 (S)	1.22	0.913
2,2',3,3',4,6-HxCB	131			37.8	7.14 (S)	1.33	1.161
2,2',3,3',4,6'-HxCB	132			1320	7.65 (S)	1.26	1.176
2,2',3,3',5,5'-HxCB	133			200	7.13 (S)	1.28	1.193
2,2',3,3',5,6-HxCB	134	134 + 143	C	225	7.26 (S)	1.21	1.141
2,2',3,3',5,6'-HxCB	135	135 + 151 + 154	C	2640	0.415 (S)	1.28	1.105
2,2',3,3',6,6'-HxCB	136			474	0.306 (S)	1.36	1.026
2,2',3,4,4',5-HxCB	137			373	7.41 (S)	1.25	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	165	6.57 (S)	1.39	1.153
2,2',3,4,4',6'-HxCB	140	139 + 140	C139				
2,2',3,4,5,5'-HxCB	141			1200	6.82 (S)	1.26	0.903
2,2',3,4,5,6-HxCB	142		U		7.43 (S)		
2,2',3,4,5,6'-HxCB	143	134 + 143	C134				
2,2',3,4,5',6-HxCB	144			277	0.433 (S)	1.31	1.123
2,2',3,4,6,6'-HxCB	145		K J	1.96	0.326 (S)	1.46	1.035
2,2',3,4',5,5'-HxCB	146			2000	6.00 (S)	1.24	0.883
2,2',3,4',5,6-HxCB	147	147 + 149	C	4960	6.44 (S)	1.25	1.134
2,2',3,4',5,6'-HxCB	148			34.5	0.415 (S)	1.25	1.084
2,2',3,4',5',6-HxCB	149	147 + 149	C147				
2,2',3,4',6,6'-HxCB	150			18.7	0.314 (S)	1.15	1.013
2,2',3,5,5',6-HxCB	151	135 + 151 + 154	C135				
2,2',3,5,6,6'-HxCB	152		K	8.70	0.298 (S)	1.63	1.008
2,2',4,4',5,5'-HxCB	153	153 + 168	C	10500	5.53 (S)	1.28	0.898
2,2',4,4',5,6'-HxCB	154	135 + 151 + 154	C135				
2,2',4,4',6,6'-HxCB	155			9.95	0.291 (S)	1.29	1.001
2,3,3',4,4',5-HxCB	156	156 + 157	C	780	7.57 (S)	1.24	1.000
2,3,3',4,4',5'-HxCB	157	156 + 157	C156				
2,3,3',4,4',6-HxCB	158			744	5.14 (S)	1.28	0.938
2,3,3',4,5,5'-HxCB	159			53.7	5.72 (S)	1.06	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 [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2,3,3',4,5',6-HxCB	161		U		5.33 (S)		
2,3,3',4',5,5'-HxCB	162			35.1	5.15 (S)	1.11	0.989
2,3,3',4',5,6-HxCB	163	129 + 138 + 160 + 163	C129				
2,3,3',4',5',6-HxCB	164			430	5.60 (S)	1.26	0.921
2,3,3',5,5',6-HxCB	165		K	8.99	5.97 (S)	0.95	0.878
2,3,4,4',5,6-HxCB	166	128 + 166	C128				
2,3',4,4',5,5'-HxCB	167			342	5.98 (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		8.71 (S)		
2,2',3,3',4,4',5-HpCB	170			1620	0.616 (S)	1.04	1.000
2,2',3,3',4,4',6-HpCB	171	171 + 173	C	465	0.540 (S)	1.04	1.163
2,2',3,3',4,5,5'-HpCB	172			316	0.574 (S)	1.08	0.896
2,2',3,3',4,5,6-HpCB	173	171 + 173	C171				
2,2',3,3',4,5,6'-HpCB	174			951	0.506 (S)	1.02	1.134
2,2',3,3',4,5',6-HpCB	175			64.6	0.501 (S)	1.05	1.103
2,2',3,3',4,6,6'-HpCB	176			111	0.372 (S)	1.04	1.034
2,2',3,3',4',5,6-HpCB	177			676	0.373 (S)	1.05	1.146
2,2',3,3',5,5',6-HpCB	178			500	0.517 (S)	1.10	1.085
2,2',3,3',5,6,6'-HpCB	179			529	0.359 (S)	1.11	1.011
2,2',3,4,4',5,5'-HpCB	180	180 + 193	C	5050	0.580 (S)	1.06	1.000
2,2',3,4,4',5,6-HpCB	181			18.4	0.516 (S)	1.13	1.157
2,2',3,4,4',5,6'-HpCB	182			18.6	0.489 (S)	1.05	1.116
2,2',3,4,4',5',6-HpCB	183	183 + 185	C	1380	0.514 (S)	1.10	1.128
2,2',3,4,4',6,6'-HpCB	184			9.33	0.354 (S)	1.14	1.024
2,2',3,4,5,5',6-HpCB	185	183 + 185	C183				
2,2',3,4,5,6,6'-HpCB	186		J	0.720	0.399 (S)	0.99	1.046
2,2',3,4',5,5',6-HpCB	187			3850	0.478 (S)	1.05	1.110
2,2',3,4',5,6,6'-HpCB	188			11.0	0.456 (S)	1.17	1.000
2,3,3',4,4',5,5'-HpCB	189			50.1	0.968 (S)	1.07	1.000
2,3,3',4,4',5,6-HpCB	190			371	0.464 (S)	1.04	0.947
2,3,3',4,4',5',6-HpCB	191			66.6	0.451 (S)	1.12	0.917
2,3,3',4,5,5',6-HpCB	192		U		0.487 (S)		
2,3,3',4',5,5',6-HpCB	193	180 + 193	C180				
2,2',3,3',4,4',5,5'-OcCB	194			722	0.739 (S)	0.90	0.991
2,2',3,3',4,4',5,6-OcCB	195			338	0.802 (S)	0.87	0.945
2,2',3,3',4,4',5,6'-OcCB	196			385	0.501 (S)	0.88	0.915
2,2',3,3',4,4',6,6'-OcCB	197	197 + 200	C	86.7	0.351 (S)	0.93	1.046
2,2',3,3',4,5,5',6-OcCB	198	198 + 199	C	824	0.511 (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			76.7	0.345 (S)	0.84	1.023
2,2',3,3',5,5',6,6'-OcCB	202			317	0.530 (S)	0.93	1.000
2,2',3,4,4',5,5',6-OcCB	203			603	0.482 (S)	0.91	0.919
2,2',3,4,4',5,6,6'-OcCB	204		J	1.71	0.358 (S)	0.99	1.039
2,3,3',4,4',5,5',6-OcCB	205			33.6	0.544 (S)	1.01	1.000
2,2',3,3',4,4',5,5',6-NoCB	206			275	0.479 (S)	0.78	1.000
2,2',3,3',4,4',5,6,6'-NoCB	207			40.6	0.352 (S)	0.79	1.020
2,2',3,3',4,5,5',6,6'-NoCB	208			113	0.417 (S)	0.75	1.000
2,2',3,3',4,4',5,5',6,6'-DeCB	209			101	0.446 (S)	1.18	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.
(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: _____Ting Chen_____

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Report Filename: 1668_PCB1668_PCBTF_L29961-3_Form1A_PB8C_358S9_SJ2452902.html; Workgroup: WG65252; Design ID: 3360]

SGS AXYS METHOD MLA-010 Rev 12

Form 2

PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.
PDI-TF-SMB009
Sample Collection:
22-Aug-2018 07:29

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

Project No.	PORTLAND HARBOR PDI AND BASELINE TISSUE		
Contract No.:	4972	**Lab Sample I.D.:**	L29961-3
Matrix:	TISSUE	**Sample Size:**	10.1 g (wet)
Sample Receipt Date:	31-Aug-2018	**Initial Calibration Date:**	07-Jul-2018
Extraction Date:	19-Sep-2018	**Instrument ID:**	HR GC/MS
Analysis Date:	19-Oct-2018 **Time:** 06:58:54	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	100	**Sample Data Filename:**	**PB8C_358 S: 9**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB8C_358 S: 4
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PB8C_358 S: 1
Concentration Units:	pg absolute	**% Lipid:**	5.45

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. [1]	CO-ELUTIONS	LAB FLAG [2]	SPIKE CONC.	CONC. FOUND	R(%) [3]	ION ABUND. RATIO	RRT
13C12-2-MoCB	1L			2000	764	38.2	3.23	0.719
13C12-4-MoCB	3L			2000	785	39.2	2.79	0.858
13C12-2,2'-DiCB	4L			2000	828	41.4	1.64	0.873
13C12-4,4'-DiCB	15L			2000	901	45.0	1.49	1.255
13C12-2,2',6-TriCB	19L			2000	1040	52.0	1.06	1.071
13C12-3,4,4'-TriCB	37L			2000	968	48.4	1.03	1.093
13C12-2,2',6,6'-TeCB	54L			2000	1100	55.2	0.82	0.811
13C12-3,3',4,4'-TeCB	77L			2000	1330	66.4	0.76	1.399
13C12-3,4,4',5-TeCB	81L			2000	1310	65.5	0.77	1.375
13C12-2,2',4,6,6'-PeCB	104L			2000	927	46.3	1.55	0.808
13C12-2,3,3',4,4'-PeCB	105L			2000	1550	77.6	1.45	1.201
13C12-2,3,4,4',5-PeCB	114L			2000	1340	67.0	1.52	1.179
13C12-2,3',4,4',5-PeCB	118L			2000	1490	74.6	1.54	1.162
13C12-2',3,4,4',5-PeCB	123L			2000	1500	75.2	1.63	1.151
13C12-3,3',4,4',5-PeCB	126L			2000	1400	69.8	1.56	1.302
13C12-2,2',4,4',6,6'-HxCB	155L			2000	885	44.3	1.34	0.785
13C12-2,3,3',4,4',5-HxCB	156L	156L + 157L	C	4000	2340	58.5	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			2000	1220	61.0	1.35	1.078
13C12-3,3',4,4',5,5'-HxCB	169L			2000	1240	61.9	1.30	1.192
13C12-2,2',3,3',4,4',5-HpCB	170L			2000	1110	55.4	1.07	0.897
13C12-2,2',3,4,4',5,5'-HpCB	180L			2000	1160	57.9	0.95	0.872
13C12-2,2',3,4',5,6,6'-HpCB	188L			2000	799	40.0	1.03	0.711
13C12-2,3,3',4,4',5,5'-HpCB	189L			2000	1290	64.3	1.14	0.959
13C12-2,2',3,3',5,5',6,6'-OcCB	202L			2000	613	30.6	0.81	0.817
13C12-2,3,3',4,4',5,5',6-OcCB	205L			2000	1420	71.0	0.90	1.009
13C12-2,2',3,3',4,4',5,5',6-NoCB	206L			2000	1190	59.7	0.75	1.043
13C12-2,2',3,3',4,5,5',6,6'-NoCB	208L			2000	1210	60.3	0.80	0.949
13C12-2,2',3,3',4,4',5,5',6,6'-DeCB	209L			2000	930	46.5	1.04	1.074
CLEANUP STANDARD								
13C12-2,4,4'-TriCB	28L			2000	1360	67.9	1.04	0.925
13C12-2,3,3',5,5'-PeCB	111L			2000	1430	71.4	1.57	1.088
13C12-2,2',3,3',5,5',6-HpCB	178L			2000	1200	60.2	1.20	1.011

(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: _____Ting Chen_____

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Report Filename: 1668_PCB1668_PCBTF_L29961-3_Form2_PB8C_358S9_SJ2452902.html; Workgroup: WG65252; Design ID: 3360]

SGS AXYS METHOD MLA-010 Rev 12

Form 1A

PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.
PDI-TF-SMB058
Sample Collection:
22-Aug-2018 12:25

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

Project No.	PORTLAND HARBOR PDI AND BASELINE TISSUE		
Contract No.:	4972	**Lab Sample I.D.:**	L29961-4
Matrix:	TISSUE	**Sample Size:**	10.1 g (wet)
Sample Receipt Date:	31-Aug-2018	**Initial Calibration Date:**	07-Jul-2018
Extraction Date:	19-Sep-2018	**Instrument ID:**	HR GC/MS
Analysis Date:	19-Oct-2018 **Time:** 08:02:40	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	100	**Sample Data Filename:**	**PB8C_358 S: 10**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB8C_358 S: 4
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PB8C_358 S: 1
Concentration Units:	pg/g (wet weight basis)	**% Lipid:**	3.28

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 [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2-MoCB	1		K	4.23	0.474 (S)	3.61	1.000
3-MoCB	2		K J	0.888	0.554 (S)	2.61	0.988
4-MoCB	3		J	1.39	0.521 (S)	2.97	1.001
2,2'-DiCB	4			148	1.59 (S)	1.53	1.001
2,3-DiCB	5		U		1.36 (S)		
2,3'-DiCB	6			8.80	1.18 (S)	1.57	1.174
2,4-DiCB	7		J	2.06	1.19 (S)	1.64	1.158
2,4'-DiCB	8			40.6	1.03 (S)	1.57	1.207
2,5-DiCB	9		K	2.94	1.14 (S)	1.20	1.145
2,6-DiCB	10			6.70	1.17 (S)	1.62	1.013
3,3'-DiCB	11			27.0	1.26 (S)	1.55	0.968
3,4-DiCB	12	12 + 13	C J	2.35	1.25 (S)	1.63	0.983
3,4'-DiCB	13	12 + 13	C12				
3,5-DiCB	14		U		1.21 (S)		
4,4'-DiCB	15			11.9	1.31 (S)	1.55	1.000
2,2',3-TriCB	16			39.0	0.254 (S)	1.03	1.166
2,2',4-TriCB	17			293	0.215 (S)	1.09	1.137
2,2',5-TriCB	18	18 + 30	C	137	0.183 (S)	1.10	1.113
2,2',6-TriCB	19			500	0.244 (S)	1.11	1.001
2,3,3'-TriCB	20	20 + 28	C	441	0.866 (S)	1.00	0.847
2,3,4-TriCB	21	21 + 33	C	93.9	0.823 (S)	0.95	0.855
2,3,4'-TriCB	22			78.6	0.971 (S)	1.08	0.871
2,3,5-TriCB	23		U		0.896 (S)		
2,3,6-TriCB	24		J	2.82	0.156 (S)	1.13	1.159
2,3',4-TriCB	25			43.8	0.730 (S)	0.97	0.824
2,3',5-TriCB	26	26 + 29	C	62.3	0.867 (S)	1.02	1.302
2,3',6-TriCB	27			59.9	0.158 (S)	0.99	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			220	0.814 (S)	1.01	0.836
2,4',6-TriCB	32			119	0.841 (S)	1.02	1.197
2',3,4-TriCB	33	21 + 33	C21				
2',3,5-TriCB	34			2.91	0.905 (S)	1.05	1.274
3,3',4-TriCB	35		J	0.958	0.929 (S)	1.17	0.988
3,3',5-TriCB	36			56.1	0.840 (S)	1.05	0.935
3,4,4'-TriCB	37			32.7	0.956 (S)	0.99	1.001
3,4,5-TriCB	38		K J	1.05	0.898 (S)	1.21	0.967
3,4',5-TriCB	39			3.91	0.873 (S)	1.08	0.945

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2,2',3,3'-TeCB	40	40 + 41 + 71	C	252	0.564 (S)	0.78	1.337
2,2',3,4-TeCB	41	40 + 41 + 71	C40				
2,2',3,4'-TeCB	42			189	0.554 (S)	0.78	1.311
2,2',3,5-TeCB	43			21.0	0.587 (S)	0.86	1.246
2,2',3,5'-TeCB	44	44 + 47 + 65	C	2530	0.507 (S)	0.79	1.286
2,2',3,6-TeCB	45	45 + 51	C	461	0.526 (S)	0.79	1.149
2,2',3,6'-TeCB	46			27.5	0.595 (S)	0.74	1.160
2,2',4,4'-TeCB	47	44 + 47 + 65	C44				
2,2',4,5-TeCB	48			79.1	0.549 (S)	0.82	1.273
2,2',4,5'-TeCB	49	49 + 69	C	1380	0.465 (S)	0.78	1.259
2,2',4,6-TeCB	50	50 + 53	C	363	0.508 (S)	0.79	1.111
2,2',4,6'-TeCB	51	45 + 51	C45				
2,2',5,5'-TeCB	52			1760	0.514 (S)	0.79	1.233
2,2',5,6'-TeCB	53	50 + 53	C50				
2,2',6,6'-TeCB	54			124	0.348 (S)	0.76	1.001
2,3,3',4-TeCB	55		U		2.52 (S)		
2,3,3',4'-TeCB	56			161	2.55 (S)	0.73	0.904
2,3,3',5-TeCB	57			5.36	2.32 (S)	0.68	0.843
2,3,3',5'-TeCB	58			21.0	2.41 (S)	0.74	0.852
2,3,3',6-TeCB	59	59 + 62 + 75	C	125	0.416 (S)	0.77	1.302
2,3,4,4'-TeCB	60			145	2.54 (S)	0.70	0.910
2,3,4,5-TeCB	61	61 + 70 + 74 + 76	C	1500	2.30 (S)	0.76	0.874
2,3,4,6-TeCB	62	59 + 62 + 75	C59				
2,3,4',5-TeCB	63			75.8	2.35 (S)	0.78	0.864
2,3,4',6-TeCB	64			327	0.405 (S)	0.80	1.348
2,3,5,6-TeCB	65	44 + 47 + 65	C44				
2,3',4,4'-TeCB	66			1340	2.40 (S)	0.76	0.884
2,3',4,5-TeCB	67			17.8	2.02 (S)	0.73	0.855
2,3',4,5'-TeCB	68			67.6	2.23 (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			66.9	2.26 (S)	0.73	0.822
2,3',5',6-TeCB	73		U		0.435 (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			56.3	2.66 (S)	0.72	1.000
3,3',4,5-TeCB	78		U		2.53 (S)		
3,3',4,5'-TeCB	79			39.4	2.04 (S)	0.71	0.969
3,3',5,5'-TeCB	80		U		2.30 (S)		
3,4,4',5-TeCB	81		K	3.01	2.58 (S)	0.84	1.000
2,2',3,3',4-PeCB	82			184	4.73 (S)	1.47	0.933
2,2',3,3',5-PeCB	83	83 + 99	C	4610	4.29 (S)	1.58	0.885
2,2',3,3',6-PeCB	84			436	4.64 (S)	1.59	1.164
2,2',3,4,4'-PeCB	85	85 + 116 + 117	C	902	3.61 (S)	1.55	0.919
2,2',3,4,5-PeCB	86	86 + 87 + 97 + 108 + 119 + 125	C G	2290	3.70 (S)	1.56	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	735	4.06 (S)	1.59	1.155
2,2',3,4,6'-PeCB	89		K	7.34	4.40 (S)	2.02	1.183
2,2',3,4',5-PeCB	90	90 + 101 + 113	C	6520	3.67 (S)	1.59	0.869
2,2',3,4',6-PeCB	91	88 + 91	C88				
2,2',3,5,5'-PeCB	92			1430	4.18 (S)	1.57	0.853
2,2',3,5,6-PeCB	93	93 + 95 + 98 + 100 + 102	C	3330	3.96 (S)	1.58	1.122
2,2',3,5,6'-PeCB	94			21.7	4.28 (S)	1.56	1.102
2,2',3,5',6-PeCB	95	93 + 95 + 98 + 100 + 102	C93				
2,2',3,6,6'-PeCB	96			20.8	0.181 (S)	1.75	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 [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	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			195	3.58 (S)	1.59	1.094
2,2',4,6,6'-PeCB	104			10.6	0.215 (S)	1.53	1.001
2,3,3',4,4'-PeCB	105			1440	12.8 (S)	1.51	1.001
2,3,3',4,5-PeCB	106		U		14.2 (S)		
2,3,3',4',5-PeCB	107	107 + 124	C	132	15.7 (S)	1.49	0.991
2,3,3',4,5'-PeCB	108	86 + 87 + 97 + 108 + 119 + 125	C86				
2,3,3',4,6-PeCB	109			532	14.7 (S)	1.55	0.997
2,3,3',4',6-PeCB	110	110 + 115	C	4200	3.22 (S)	1.57	0.925
2,3,3',5,5'-PeCB	111			19.9	3.31 (S)	1.53	0.945
2,3,3',5,6-PeCB	112		U		3.09 (S)		
2,3,3',5',6-PeCB	113	90 + 101 + 113	C90				
2,3,4,4',5-PeCB	114			105	16.7 (S)	1.40	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			5180	15.1 (S)	1.52	1.000
2,3',4,4',6-PeCB	119	86 + 87 + 97 + 108 + 119 + 125	C86				
2,3',4,5,5'-PeCB	120			81.8	3.20 (S)	1.61	0.958
2,3',4,5',6-PeCB	121			15.9	3.16 (S)	1.71	1.200
2',3,3',4,5-PeCB	122			17.4	16.7 (S)	1.68	1.009
2',3,4,4',5-PeCB	123		K	91.8	15.8 (S)	1.49	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	16.7	14.3 (S)	1.43	1.000
3,3',4,5,5'-PeCB	127			18.2	16.5 (S)	1.48	1.041
2,2',3,3',4,4'-HxCB	128	128 + 166	C	2740	23.6 (S)	1.25	0.959
2,2',3,3',4,5-HxCB	129	129 + 138 + 160 + 163	C	21500	22.9 (S)	1.25	0.929
2,2',3,3',4,5'-HxCB	130			909	29.1 (S)	1.27	0.913
2,2',3,3',4,6-HxCB	131			51.6	25.5 (S)	1.32	1.160
2,2',3,3',4,6'-HxCB	132			2220	27.3 (S)	1.25	1.176
2,2',3,3',5,5'-HxCB	133			444	25.5 (S)	1.28	1.192
2,2',3,3',5,6-HxCB	134	134 + 143	C	374	25.9 (S)	1.19	1.141
2,2',3,3',5,6'-HxCB	135	135 + 151 + 154	C	5560	0.327 (S)	1.27	1.105
2,2',3,3',6,6'-HxCB	136			781	0.241 (S)	1.27	1.025
2,2',3,4,4',5-HxCB	137			490	26.5 (S)	1.26	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	240	23.5 (S)	1.27	1.153
2,2',3,4,4',6'-HxCB	140	139 + 140	C139				
2,2',3,4,5,5'-HxCB	141			2340	24.4 (S)	1.27	0.903
2,2',3,4,5,6-HxCB	142		U		26.6 (S)		
2,2',3,4,5,6'-HxCB	143	134 + 143	C134				
2,2',3,4,5',6-HxCB	144			529	0.342 (S)	1.27	1.122
2,2',3,4,6,6'-HxCB	145		J	1.94	0.257 (S)	1.14	1.033
2,2',3,4',5,5'-HxCB	146			4650	21.4 (S)	1.26	0.884
2,2',3,4',5,6-HxCB	147	147 + 149	C	10800	23.0 (S)	1.25	1.134
2,2',3,4',5,6'-HxCB	148			79.9	0.327 (S)	1.36	1.084
2,2',3,4',5',6-HxCB	149	147 + 149	C147				
2,2',3,4',6,6'-HxCB	150			42.5	0.248 (S)	1.33	1.013
2,2',3,5,5',6-HxCB	151	135 + 151 + 154	C135				
2,2',3,5,6,6'-HxCB	152		K	7.33	0.235 (S)	0.99	1.007
2,2',4,4',5,5'-HxCB	153	153 + 168	C	22200	19.7 (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			14.9	0.239 (S)	1.13	1.001
2,3,3',4,4',5-HxCB	156	156 + 157	C	1310	27.0 (S)	1.25	1.000
2,3,3',4,4',5'-HxCB	157	156 + 157	C156				
2,3,3',4,4',6-HxCB	158			1300	18.4 (S)	1.26	0.938
2,3,3',4,5,5'-HxCB	159			144	20.4 (S)	1.37	0.981
2,3,3',4,5,6-HxCB	160	129 + 138 + 160 + 163	C129				

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COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2,3,3',4,5',6-HxCB	161		U		19.0 (S)		
2,3,3',4',5,5'-HxCB	162			45.4	18.4 (S)	1.10	0.989
2,3,3',4',5,6-HxCB	163	129 + 138 + 160 + 163	C129				
2,3,3',4',5',6-HxCB	164			846	20.0 (S)	1.29	0.921
2,3,3',5,5',6-HxCB	165		U		21.3 (S)		
2,3,4,4',5,6-HxCB	166	128 + 166	C128				
2,3',4,4',5,5'-HxCB	167			622	20.9 (S)	1.29	1.001
2,3',4,4',5',6-HxCB	168	153 + 168	C153				
3,3',4,4',5,5'-HxCB	169		U		22.1 (S)		
2,2',3,3',4,4',5-HpCB	170			4360	0.369 (S)	1.06	1.000
2,2',3,3',4,4',6-HpCB	171	171 + 173	C	1300	0.360 (S)	1.07	1.163
2,2',3,3',4,5,5'-HpCB	172			880	0.383 (S)	1.06	0.896
2,2',3,3',4,5,6-HpCB	173	171 + 173	C171				
2,2',3,3',4,5,6'-HpCB	174			2700	0.337 (S)	1.06	1.134
2,2',3,3',4,5',6-HpCB	175			198	0.335 (S)	1.08	1.103
2,2',3,3',4,6,6'-HpCB	176			296	0.248 (S)	1.09	1.034
2,2',3,3',4',5,6-HpCB	177			1990	0.249 (S)	1.05	1.146
2,2',3,3',5,5',6-HpCB	178			1350	0.345 (S)	1.03	1.085
2,2',3,3',5,6,6'-HpCB	179			1260	0.239 (S)	1.03	1.010
2,2',3,4,4',5,5'-HpCB	180	180 + 193	C	14000	0.356 (S)	1.05	1.000
2,2',3,4,4',5,6-HpCB	181			30.6	0.344 (S)	0.97	1.157
2,2',3,4,4',5,6'-HpCB	182			39.4	0.326 (S)	1.04	1.116
2,2',3,4,4',5',6-HpCB	183	183 + 185	C	3670	0.343 (S)	1.06	1.128
2,2',3,4,4',6,6'-HpCB	184			8.96	0.236 (S)	1.00	1.025
2,2',3,4,5,5',6-HpCB	185	183 + 185	C183				
2,2',3,4,5,6,6'-HpCB	186		U		0.266 (S)		
2,2',3,4',5,5',6-HpCB	187			13500	0.319 (S)	1.05	1.110
2,2',3,4',5,6,6'-HpCB	188			28.7	0.297 (S)	1.20	1.000
2,3,3',4,4',5,5'-HpCB	189			144	0.857 (S)	1.01	1.000
2,3,3',4,4',5,6-HpCB	190			1120	0.310 (S)	1.11	0.946
2,3,3',4,4',5',6-HpCB	191			200	0.301 (S)	1.05	0.917
2,3,3',4,5,5',6-HpCB	192		U		0.325 (S)		
2,3,3',4',5,5',6-HpCB	193	180 + 193	C180				
2,2',3,3',4,4',5,5'-OcCB	194		G	1890	1.77 (S)	0.90	0.991
2,2',3,3',4,4',5,6-OcCB	195			989	1.92 (S)	0.90	0.945
2,2',3,3',4,4',5,6'-OcCB	196			1160	0.430 (S)	0.90	0.915
2,2',3,3',4,4',6,6'-OcCB	197	197 + 200	C	259	0.301 (S)	0.95	1.046
2,2',3,3',4,5,5',6-OcCB	198	198 + 199	C	2600	0.439 (S)	0.92	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			252	0.296 (S)	0.88	1.023
2,2',3,3',5,5',6,6'-OcCB	202			753	0.447 (S)	0.93	1.001
2,2',3,4,4',5,5',6-OcCB	203			1780	0.414 (S)	0.89	0.919
2,2',3,4,4',5,6,6'-OcCB	204		J	1.17	0.307 (S)	0.86	1.038
2,3,3',4,4',5,5',6-OcCB	205			100	1.32 (S)	0.90	1.000
2,2',3,3',4,4',5,5',6-NoCB	206			527	0.422 (S)	0.78	1.000
2,2',3,3',4,4',5,6,6'-NoCB	207			74.6	0.295 (S)	0.72	1.020
2,2',3,3',4,5,5',6,6'-NoCB	208			178	0.335 (S)	0.80	1.001
2,2',3,3',4,4',5,5',6,6'-DeCB	209			142	0.243 (S)	1.21	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.
(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: _____Ting Chen_____

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Report Filename: 1668_PCB1668_PCBTF_L29961-4_Form1A_PB8C_358S10_SJ2452904.html; Workgroup: WG65252; Design ID: 3360]

SGS AXYS METHOD MLA-010 Rev 12

Form 2

PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.
PDI-TF-SMB058
Sample Collection:
22-Aug-2018 12:25

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

Project No.	PORTLAND HARBOR PDI AND BASELINE TISSUE		
Contract No.:	4972	**Lab Sample I.D.:**	L29961-4
Matrix:	TISSUE	**Sample Size:**	10.1 g (wet)
Sample Receipt Date:	31-Aug-2018	**Initial Calibration Date:**	07-Jul-2018
Extraction Date:	19-Sep-2018	**Instrument ID:**	HR GC/MS
Analysis Date:	19-Oct-2018 **Time:** 08:02:40	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	100	**Sample Data Filename:**	**PB8C_358 S: 10**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB8C_358 S: 4
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PB8C_358 S: 1
Concentration Units:	pg absolute	**% Lipid:**	3.28

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LABELED COMPOUND	IUPAC NO. [1]	CO-ELUTIONS	LAB FLAG [2]	SPIKE CONC.	CONC. FOUND	R(%) [3]	ION ABUND. RATIO	RRT
13C12-2-MoCB	1L			2000	685	34.3	3.09	0.719
13C12-4-MoCB	3L			2000	757	37.9	3.31	0.858
13C12-2,2'-DiCB	4L			2000	876	43.8	1.48	0.874
13C12-4,4'-DiCB	15L			2000	1010	50.5	1.58	1.255
13C12-2,2',6-TriCB	19L			2000	890	44.5	1.07	1.072
13C12-3,4,4'-TriCB	37L			2000	1080	53.8	1.01	1.092
13C12-2,2',6,6'-TeCB	54L			2000	1310	65.4	0.80	0.811
13C12-3,3',4,4'-TeCB	77L			2000	1410	70.6	0.76	1.398
13C12-3,4,4',5-TeCB	81L			2000	1350	67.6	0.78	1.374
13C12-2,2',4,6,6'-PeCB	104L			2000	960	48.0	1.68	0.808
13C12-2,3,3',4,4'-PeCB	105L			2000	1680	83.9	1.63	1.201
13C12-2,3,4,4',5-PeCB	114L			2000	1320	66.0	1.59	1.179
13C12-2,3',4,4',5-PeCB	118L			2000	1490	74.4	1.62	1.162
13C12-2',3,4,4',5-PeCB	123L			2000	1490	74.6	1.55	1.151
13C12-3,3',4,4',5-PeCB	126L			2000	1750	87.6	1.63	1.302
13C12-2,2',4,4',6,6'-HxCB	155L			2000	770	38.5	1.31	0.785
13C12-2,3,3',4,4',5-HxCB	156L	156L + 157L	C	4000	2010	50.4	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			2000	1040	52.1	1.20	1.078
13C12-3,3',4,4',5,5'-HxCB	169L			2000	1060	52.9	1.28	1.192
13C12-2,2',3,3',4,4',5-HpCB	170L			2000	1560	77.9	1.01	0.897
13C12-2,2',3,4,4',5,5'-HpCB	180L			2000	1570	78.5	1.07	0.872
13C12-2,2',3,4',5,6,6'-HpCB	188L			2000	989	49.5	0.97	0.711
13C12-2,3,3',4,4',5,5'-HpCB	189L			2000	1570	78.4	1.06	0.959
13C12-2,2',3,3',5,5',6,6'-OcCB	202L			2000	713	35.7	0.88	0.817
13C12-2,3,3',4,4',5,5',6-OcCB	205L			2000	1640	81.8	0.88	1.009
13C12-2,2',3,3',4,4',5,5',6-NoCB	206L			2000	1600	80.1	0.79	1.043
13C12-2,2',3,3',4,5,5',6,6'-NoCB	208L			2000	1660	82.9	0.77	0.948
13C12-2,2',3,3',4,4',5,5',6,6'-DeCB	209L			2000	1130	56.5	1.12	1.074
CLEANUP STANDARD								
13C12-2,4,4'-TriCB	28L			2000	1360	67.9	1.07	0.925
13C12-2,3,3',5,5'-PeCB	111L			2000	1440	72.2	1.64	1.088
13C12-2,2',3,3',5,5',6-HpCB	178L			2000	1050	52.6	1.07	1.011

(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: _____Ting Chen_____

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Report Filename: 1668_PCB1668_PCBTF_L29961-4_Form2_PB8C_358S10_SJ2452904.html; Workgroup: WG65252; Design ID: 3360]

SGS AXYS METHOD MLA-010 Rev 12

Form 1A

PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.
PDI-TF-SMB066
Sample Collection:
23-Aug-2018 11:20

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

Project No.	PORTLAND HARBOR PDI AND BASELINE TISSUE		
Contract No.:	4972	**Lab Sample I.D.:**	L29961-5
Matrix:	TISSUE	**Sample Size:**	10.1 g (wet)
Sample Receipt Date:	28-Aug-2018	**Initial Calibration Date:**	07-Jul-2018
Extraction Date:	19-Sep-2018	**Instrument ID:**	HR GC/MS
Analysis Date:	19-Oct-2018 **Time:** 15:46:45	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	100	**Sample Data Filename:**	**PB8C_359A S: 3**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB8C_358 S: 4
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PB8C_359A S: 1
Concentration Units:	pg/g (wet weight basis)	**% Lipid:**	7.34

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COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2-MoCB	1			18.1	0.272 (S)	3.00	1.001
3-MoCB	2		J	2.55	0.319 (S)	3.36	0.988
4-MoCB	3			8.25	0.318 (S)	3.38	1.001
2,2'-DiCB	4			332	1.77 (S)	1.52	1.001
2,3-DiCB	5			5.27	1.39 (S)	1.49	1.198
2,3'-DiCB	6			113	1.24 (S)	1.50	1.175
2,4-DiCB	7			15.1	1.29 (S)	1.55	1.157
2,4'-DiCB	8			490	1.16 (S)	1.48	1.207
2,5-DiCB	9			28.5	1.21 (S)	1.46	1.146
2,6-DiCB	10			15.0	1.25 (S)	1.49	1.013
3,3'-DiCB	11			147	1.36 (S)	1.49	0.968
3,4-DiCB	12	12 + 13	C	11.7	1.39 (S)	1.51	0.983
3,4'-DiCB	13	12 + 13	C12				
3,5-DiCB	14		U		1.30 (S)		
4,4'-DiCB	15			113	1.38 (S)	1.57	1.000
2,2',3-TriCB	16			722	0.333 (S)	1.06	1.166
2,2',4-TriCB	17			1240	0.279 (S)	1.09	1.138
2,2',5-TriCB	18	18 + 30	C	2430	0.237 (S)	1.05	1.113
2,2',6-TriCB	19			635	0.313 (S)	1.06	1.001
2,3,3'-TriCB	20	20 + 28	C	8390	0.937 (S)	1.02	0.847
2,3,4-TriCB	21	21 + 33	C	1550	0.977 (S)	1.03	0.856
2,3,4'-TriCB	22			1610	1.07 (S)	1.01	0.872
2,3,5-TriCB	23			6.32	1.05 (S)	0.97	1.282
2,3,6-TriCB	24			44.2	0.220 (S)	1.03	1.158
2,3',4-TriCB	25			287	0.852 (S)	1.03	0.824
2,3',5-TriCB	26	26 + 29	C	933	0.976 (S)	1.01	1.301
2,3',6-TriCB	27			243	0.197 (S)	1.08	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			3820	0.888 (S)	1.01	0.836
2,4',6-TriCB	32			1420	0.925 (S)	1.01	1.197
2',3,4-TriCB	33	21 + 33	C21				
2',3,5-TriCB	34			31.0	0.986 (S)	1.01	1.273
3,3',4-TriCB	35		U		1.04 (S)		
3,3',5-TriCB	36		U		0.941 (S)		
3,4,4'-TriCB	37			417	1.11 (S)	1.02	1.001
3,4,5-TriCB	38			10.8	1.03 (S)	0.96	0.967
3,4',5-TriCB	39			53.0	1.01 (S)	0.96	0.946

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COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2,2',3,3'-TeCB	40	40 + 41 + 71	C	4090	0.318 (S)	0.80	1.336
2,2',3,4-TeCB	41	40 + 41 + 71	C40				
2,2',3,4'-TeCB	42			2660	0.338 (S)	0.78	1.311
2,2',3,5-TeCB	43			371	0.356 (S)	0.76	1.245
2,2',3,5'-TeCB	44	44 + 47 + 65	C	13000	0.288 (S)	0.79	1.286
2,2',3,6-TeCB	45	45 + 51	C	1560	0.303 (S)	0.80	1.146
2,2',3,6'-TeCB	46			300	0.350 (S)	0.80	1.160
2,2',4,4'-TeCB	47	44 + 47 + 65	C44				
2,2',4,5-TeCB	48			1660	0.317 (S)	0.79	1.273
2,2',4,5'-TeCB	49	49 + 69	C	9240	0.265 (S)	0.78	1.258
2,2',4,6-TeCB	50	50 + 53	C	1060	0.294 (S)	0.80	1.110
2,2',4,6'-TeCB	51	45 + 51	C45				
2,2',5,5'-TeCB	52			18400	0.283 (S)	0.79	1.234
2,2',5,6'-TeCB	53	50 + 53	C50				
2,2',6,6'-TeCB	54			88.1	0.221 (S)	0.84	1.001
2,3,3',4-TeCB	55		U		8.12 (S)		
2,3,3',4'-TeCB	56			2380	8.30 (S)	0.77	0.904
2,3,3',5-TeCB	57			30.7	7.58 (S)	0.74	0.843
2,3,3',5'-TeCB	58			23.2	7.63 (S)	0.78	0.851
2,3,3',6-TeCB	59	59 + 62 + 75	C	889	0.236 (S)	0.79	1.302
2,3,4,4'-TeCB	60			2610	8.37 (S)	0.75	0.911
2,3,4,5-TeCB	61	61 + 70 + 74 + 76	C	16800	7.59 (S)	0.77	0.875
2,3,4,6-TeCB	62	59 + 62 + 75	C59				
2,3,4',5-TeCB	63			545	7.45 (S)	0.75	0.864
2,3,4',6-TeCB	64			5210	0.234 (S)	0.79	1.348
2,3,5,6-TeCB	65	44 + 47 + 65	C44				
2,3',4,4'-TeCB	66			12800	7.44 (S)	0.77	0.884
2,3',4,5-TeCB	67			180	6.57 (S)	0.73	0.855
2,3',4,5'-TeCB	68			93.7	7.33 (S)	0.67	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			139	7.26 (S)	0.71	0.822
2,3',5',6-TeCB	73		U		0.245 (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			384	8.00 (S)	0.77	1.000
3,3',4,5-TeCB	78		U		7.86 (S)		
3,3',4,5'-TeCB	79			192	6.72 (S)	0.75	0.969
3,3',5,5'-TeCB	80		U		7.41 (S)		
3,4,4',5-TeCB	81		K	18.9	7.44 (S)	0.72	1.000
2,2',3,3',4-PeCB	82			1510	7.01 (S)	1.60	0.933
2,2',3,3',5-PeCB	83	83 + 99	C	17000	7.09 (S)	1.59	0.885
2,2',3,3',6-PeCB	84			3600	7.87 (S)	1.60	1.164
2,2',3,4,4'-PeCB	85	85 + 116 + 117	C	5110	5.63 (S)	1.58	0.920
2,2',3,4,5-PeCB	86	86 + 87 + 97 + 108 + 119 + 125	C G	14900	5.95 (S)	1.58	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	3260	6.78 (S)	1.58	1.155
2,2',3,4,6'-PeCB	89			129	7.23 (S)	1.58	1.183
2,2',3,4',5-PeCB	90	90 + 101 + 113	C	26800	6.06 (S)	1.57	0.869
2,2',3,4',6-PeCB	91	88 + 91	C88				
2,2',3,5,5'-PeCB	92			4860	7.03 (S)	1.56	0.853
2,2',3,5,6-PeCB	93	93 + 95 + 98 + 100 + 102	C	16000	6.69 (S)	1.59	1.122
2,2',3,5,6'-PeCB	94			77.2	7.30 (S)	1.58	1.102
2,2',3,5',6-PeCB	95	93 + 95 + 98 + 100 + 102	C93				
2,2',3,6,6'-PeCB	96			96.6	0.293 (S)	1.60	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				

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	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			271	6.04 (S)	1.55	1.094
2,2',4,6,6'-PeCB	104			16.0	0.323 (S)	1.65	1.001
2,3,3',4,4'-PeCB	105			7810	22.7 (S)	1.52	1.000
2,3,3',4,5-PeCB	106		U		26.9 (S)		
2,3,3',4',5-PeCB	107	107 + 124	C	621	27.7 (S)	1.54	0.991
2,3,3',4,5'-PeCB	108	86 + 87 + 97 + 108 + 119 + 125	C86				
2,3,3',4,6-PeCB	109			1520	26.9 (S)	1.53	0.997
2,3,3',4',6-PeCB	110	110 + 115	C	23700	4.87 (S)	1.59	0.925
2,3,3',5,5'-PeCB	111		K	16.9	4.98 (S)	1.29	0.945
2,3,3',5,6-PeCB	112		U		5.10 (S)		
2,3,3',5',6-PeCB	113	90 + 101 + 113	C90				
2,3,4,4',5-PeCB	114			484	29.9 (S)	1.51	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			21000	24.9 (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			71.4	4.84 (S)	1.55	0.958
2,3',4,5',6-PeCB	121			18.0	5.45 (S)	1.41	1.200
2',3,3',4,5-PeCB	122			130	29.8 (S)	1.46	1.010
2',3,4,4',5-PeCB	123			384	29.4 (S)	1.57	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		34.6 (S)		
3,3',4,5,5'-PeCB	127			46.5	29.4 (S)	1.47	1.041
2,2',3,3',4,4'-HxCB	128	128 + 166	C	5350	23.4 (S)	1.26	0.959
2,2',3,3',4,5-HxCB	129	129 + 138 + 160 + 163	C	41000	23.1 (S)	1.26	0.928
2,2',3,3',4,5'-HxCB	130			1630	28.6 (S)	1.29	0.913
2,2',3,3',4,6-HxCB	131			196	27.5 (S)	1.40	1.160
2,2',3,3',4,6'-HxCB	132			6440	28.2 (S)	1.24	1.175
2,2',3,3',5,5'-HxCB	133			615	27.2 (S)	1.28	1.192
2,2',3,3',5,6-HxCB	134	134 + 143	C	990	27.1 (S)	1.30	1.141
2,2',3,3',5,6'-HxCB	135	135 + 151 + 154	C	9680	0.510 (S)	1.28	1.104
2,2',3,3',6,6'-HxCB	136			2110	0.404 (S)	1.30	1.025
2,2',3,4,4',5-HxCB	137			1470	27.6 (S)	1.25	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	522	24.3 (S)	1.26	1.153
2,2',3,4,4',6'-HxCB	140	139 + 140	C139				
2,2',3,4,5,5'-HxCB	141			5260	24.4 (S)	1.26	0.903
2,2',3,4,5,6-HxCB	142		U		26.5 (S)		
2,2',3,4,5,6'-HxCB	143	134 + 143	C134				
2,2',3,4,5',6-HxCB	144			1110	0.536 (S)	1.32	1.122
2,2',3,4,6,6'-HxCB	145		K	3.91	0.427 (S)	0.76	1.035
2,2',3,4',5,5'-HxCB	146			6790	22.1 (S)	1.27	0.884
2,2',3,4',5,6-HxCB	147	147 + 149	C	18900	23.7 (S)	1.26	1.134
2,2',3,4',5,6'-HxCB	148			73.7	0.514 (S)	1.24	1.084
2,2',3,4',5',6-HxCB	149	147 + 149	C147				
2,2',3,4',6,6'-HxCB	150			53.1	0.415 (S)	1.23	1.013
2,2',3,5,5',6-HxCB	151	135 + 151 + 154	C135				
2,2',3,5,6,6'-HxCB	152		K	21.6	0.392 (S)	1.47	1.007
2,2',4,4',5,5'-HxCB	153	153 + 168	C	39100	20.5 (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			15.6	0.366 (S)	1.24	1.001
2,3,3',4,4',5-HxCB	156	156 + 157	C	2820	27.2 (S)	1.27	1.000
2,3,3',4,4',5'-HxCB	157	156 + 157	C156				
2,3,3',4,4',6-HxCB	158			2980	18.4 (S)	1.28	0.938
2,3,3',4,5,5'-HxCB	159			212	20.2 (S)	1.26	0.981
2,3,3',4,5,6-HxCB	160	129 + 138 + 160 + 163	C129				

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COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2,3,3',4,5',6-HxCB	161		U		18.4 (S)		
2,3,3',4',5,5'-HxCB	162			74.4	18.7 (S)	1.22	0.989
2,3,3',4',5,6-HxCB	163	129 + 138 + 160 + 163	C129				
2,3,3',4',5',6-HxCB	164			1570	19.2 (S)	1.28	0.921
2,3,3',5,5',6-HxCB	165		U		22.1 (S)		
2,3,4,4',5,6-HxCB	166	128 + 166	C128				
2,3',4,4',5,5'-HxCB	167			1150	20.9 (S)	1.25	1.000
2,3',4,4',5',6-HxCB	168	153 + 168	C153				
3,3',4,4',5,5'-HxCB	169		U		32.3 (S)		
2,2',3,3',4,4',5-HpCB	170			6880	0.686 (S)	1.05	1.000
2,2',3,3',4,4',6-HpCB	171	171 + 173	C	1830	0.640 (S)	1.06	1.164
2,2',3,3',4,5,5'-HpCB	172			1140	0.667 (S)	1.05	0.897
2,2',3,3',4,5,6-HpCB	173	171 + 173	C171				
2,2',3,3',4,5,6'-HpCB	174			3680	0.582 (S)	1.04	1.134
2,2',3,3',4,5',6-HpCB	175			238	0.599 (S)	1.07	1.103
2,2',3,3',4,6,6'-HpCB	176			472	0.454 (S)	1.07	1.035
2,2',3,3',4',5,6-HpCB	177			2630	0.482 (S)	1.05	1.146
2,2',3,3',5,5',6-HpCB	178			1590	0.619 (S)	1.06	1.086
2,2',3,3',5,6,6'-HpCB	179			1760	0.446 (S)	1.07	1.011
2,2',3,4,4',5,5'-HpCB	180	180 + 193	C	20600	0.645 (S)	1.06	1.001
2,2',3,4,4',5,6-HpCB	181			47.9	0.621 (S)	0.98	1.157
2,2',3,4,4',5,6'-HpCB	182		U		0.580 (S)		
2,2',3,4,4',5',6-HpCB	183	183 + 185	C	5250	0.612 (S)	1.05	1.128
2,2',3,4,4',6,6'-HpCB	184			16.0	0.428 (S)	1.17	1.025
2,2',3,4,5,5',6-HpCB	185	183 + 185	C183				
2,2',3,4,5,6,6'-HpCB	186		U		0.475 (S)		
2,2',3,4',5,5',6-HpCB	187			16100	0.555 (S)	1.05	1.111
2,2',3,4',5,6,6'-HpCB	188			24.0	0.507 (S)	0.99	1.001
2,3,3',4,4',5,5'-HpCB	189			203	1.36 (S)	1.02	1.001
2,3,3',4,4',5,6-HpCB	190			1480	0.497 (S)	1.07	0.947
2,3,3',4,4',5',6-HpCB	191			272	0.497 (S)	1.09	0.917
2,3,3',4,5,5',6-HpCB	192		U		0.555 (S)		
2,3,3',4',5,5',6-HpCB	193	180 + 193	C180				
2,2',3,3',4,4',5,5'-OcCB	194		G	2340	2.76 (S)	0.90	0.992
2,2',3,3',4,4',5,6-OcCB	195			1430	2.63 (S)	0.91	0.945
2,2',3,3',4,4',5,6'-OcCB	196			1900	0.659 (S)	0.91	0.915
2,2',3,3',4,4',6,6'-OcCB	197	197 + 200	C	406	0.489 (S)	0.90	1.046
2,2',3,3',4,5,5',6-OcCB	198	198 + 199	C	3950	0.676 (S)	0.91	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			346	0.485 (S)	0.89	1.023
2,2',3,3',5,5',6,6'-OcCB	202			947	0.670 (S)	0.87	1.000
2,2',3,4,4',5,5',6-OcCB	203			2800	0.652 (S)	0.90	0.919
2,2',3,4,4',5,6,6'-OcCB	204		K J	2.63	0.502 (S)	0.74	1.039
2,3,3',4,4',5,5',6-OcCB	205			142	2.21 (S)	0.90	1.001
2,2',3,3',4,4',5,5',6-NoCB	206			863	0.409 (S)	0.81	1.000
2,2',3,3',4,4',5,6,6'-NoCB	207			110	0.287 (S)	0.79	1.020
2,2',3,3',4,5,5',6,6'-NoCB	208			317	0.331 (S)	0.81	1.001
2,2',3,3',4,4',5,5',6,6'-DeCB	209			295	0.347 (S)	1.14	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.
(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: _____Ting Chen_____

For Axys Internal Use Only [XSL Template: Form16681A.xsl; Created: 02-Nov-2018 08:45:27; Application: XMLTransformer-1.16.51;
Report Filename: 1668_PCB1668_PCBTF_L29961-5_Form1A_PB8C_359AS3_SJ2452944.html; Workgroup: WG65252; Design ID: 3360]

SGS AXYS METHOD MLA-010 Rev 12

Form 2

PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.
PDI-TF-SMB066
Sample Collection:
23-Aug-2018 11:20

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

Project No.	PORTLAND HARBOR PDI AND BASELINE TISSUE		
Contract No.:	4972	**Lab Sample I.D.:**	L29961-5
Matrix:	TISSUE	**Sample Size:**	10.1 g (wet)
Sample Receipt Date:	28-Aug-2018	**Initial Calibration Date:**	07-Jul-2018
Extraction Date:	19-Sep-2018	**Instrument ID:**	HR GC/MS
Analysis Date:	19-Oct-2018 **Time:** 15:46:45	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	100	**Sample Data Filename:**	**PB8C_359A S: 3**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB8C_358 S: 4
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PB8C_359A S: 1
Concentration Units:	pg absolute	**% Lipid:**	7.34

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LABELED COMPOUND	IUPAC NO. [1]	CO-ELUTIONS	LAB FLAG [2]	SPIKE CONC.	CONC. FOUND	R(%) [3]	ION ABUND. RATIO	RRT
13C12-2-MoCB	1L			2000	751	37.5	3.14	0.719
13C12-4-MoCB	3L			2000	790	39.5	3.25	0.858
13C12-2,2'-DiCB	4L			2000	852	42.6	1.51	0.873
13C12-4,4'-DiCB	15L			2000	1020	51.0	1.61	1.254
13C12-2,2',6-TriCB	19L			2000	1090	54.5	0.99	1.072
13C12-3,4,4'-TriCB	37L			2000	1170	58.3	1.07	1.092
13C12-2,2',6,6'-TeCB	54L			2000	1030	51.3	0.81	0.811
13C12-3,3',4,4'-TeCB	77L			2000	1390	69.4	0.79	1.398
13C12-3,4,4',5-TeCB	81L			2000	1430	71.7	0.79	1.374
13C12-2,2',4,6,6'-PeCB	104L			2000	845	42.3	1.61	0.808
13C12-2,3,3',4,4'-PeCB	105L			2000	1530	76.5	1.46	1.201
13C12-2,3,4,4',5-PeCB	114L			2000	1190	59.7	1.63	1.180
13C12-2,3',4,4',5-PeCB	118L			2000	1370	68.4	1.60	1.163
13C12-2',3,4,4',5-PeCB	123L			2000	1260	63.0	1.57	1.152
13C12-3,3',4,4',5-PeCB	126L			2000	1170	58.4	1.63	1.302
13C12-2,2',4,4',6,6'-HxCB	155L			2000	773	38.7	1.23	0.785
13C12-2,3,3',4,4',5-HxCB	156L	156L + 157L	C	4000	2000	50.0	1.31	1.108
13C12-2,3,3',4,4',5'-HxCB	157L	156L + 157L	C156L					
13C12-2,3',4,4',5,5'-HxCB	167L			2000	1030	51.3	1.29	1.078
13C12-3,3',4,4',5,5'-HxCB	169L			2000	1110	55.4	1.33	1.192
13C12-2,2',3,3',4,4',5-HpCB	170L			2000	1900	94.8	1.06	0.897
13C12-2,2',3,4,4',5,5'-HpCB	180L			2000	1910	95.7	1.01	0.871
13C12-2,2',3,4',5,6,6'-HpCB	188L			2000	1320	65.8	1.12	0.711
13C12-2,3,3',4,4',5,5'-HpCB	189L			2000	1870	93.3	1.06	0.958
13C12-2,2',3,3',5,5',6,6'-OcCB	202L			2000	856	42.8	0.97	0.816
13C12-2,3,3',4,4',5,5',6-OcCB	205L			2000	1570	78.3	0.86	1.009
13C12-2,2',3,3',4,4',5,5',6-NoCB	206L			2000	1900	95.1	0.76	1.043
13C12-2,2',3,3',4,5,5',6,6'-NoCB	208L			2000	2000	99.9	0.76	0.948
13C12-2,2',3,3',4,4',5,5',6,6'-DeCB	209L			2000	1370	68.3	1.14	1.074
CLEANUP STANDARD								
13C12-2,4,4'-TriCB	28L			2000	1470	73.5	1.03	0.924
13C12-2,3,3',5,5'-PeCB	111L			2000	1300	65.1	1.56	1.088
13C12-2,2',3,3',5,5',6-HpCB	178L			2000	1070	53.5	1.04	1.011

(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: _____Ting Chen_____

For Axys Internal Use Only [XSL Template: Form16682.xsl; Created: 02-Nov-2018 08:45:27; Application: XMLTransformer-1.16.51;
Report Filename: 1668_PCB1668_PCBTF_L29961-5_Form2_PB8C_359AS3_SJ2452944.html; Workgroup: WG65252; Design ID: 3360]

SGS AXYS METHOD MLA-010 Rev 12

Form 1A

PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.
PDI-TF-SMB109
Sample Collection:
24-Aug-2018 09:55

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

Project No.	PORTLAND HARBOR PDI AND BASELINE TISSUE		
Contract No.:	4972	**Lab Sample I.D.:**	L29961-6
Matrix:	TISSUE	**Sample Size:**	10.0 g (wet)
Sample Receipt Date:	31-Aug-2018	**Initial Calibration Date:**	07-Jul-2018
Extraction Date:	19-Sep-2018	**Instrument ID:**	HR GC/MS
Analysis Date:	19-Oct-2018 **Time:** 16:50:30	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	100	**Sample Data Filename:**	**PB8C_359A S: 4**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB8C_358 S: 4
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PB8C_359A S: 1
Concentration Units:	pg/g (wet weight basis)	**% Lipid:**	4.64

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 [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2-MoCB	1		J	2.02	0.308 (S)	3.34	1.001
3-MoCB	2		J	1.36	0.395 (S)	3.35	0.987
4-MoCB	3		K J	1.73	0.438 (S)	3.60	1.001
2,2'-DiCB	4			26.4	1.69 (S)	1.53	1.000
2,3-DiCB	5		U		1.94 (S)		
2,3'-DiCB	6			32.9	1.73 (S)	1.56	1.176
2,4-DiCB	7		K	3.22	1.80 (S)	0.99	1.158
2,4'-DiCB	8			55.3	1.62 (S)	1.49	1.207
2,5-DiCB	9			5.71	1.68 (S)	1.34	1.146
2,6-DiCB	10		U		1.74 (S)		
3,3'-DiCB	11			84.1	1.90 (S)	1.52	0.969
3,4-DiCB	12	12 + 13	C K	3.11	1.94 (S)	0.74	0.984
3,4'-DiCB	13	12 + 13	C12				
3,5-DiCB	14		U		1.81 (S)		
4,4'-DiCB	15			10.6	2.55 (S)	1.73	1.001
2,2',3-TriCB	16			22.4	0.541 (S)	1.07	1.167
2,2',4-TriCB	17			117	0.452 (S)	1.01	1.139
2,2',5-TriCB	18	18 + 30	C	95.9	0.384 (S)	1.01	1.114
2,2',6-TriCB	19			24.9	0.403 (S)	1.05	1.001
2,3,3'-TriCB	20	20 + 28	C	321	0.762 (S)	1.01	0.847
2,3,4-TriCB	21	21 + 33	C	43.5	0.794 (S)	1.01	0.856
2,3,4'-TriCB	22			60.8	0.874 (S)	0.99	0.872
2,3,5-TriCB	23		U		0.852 (S)		
2,3,6-TriCB	24		J	1.65	0.357 (S)	1.14	1.160
2,3',4-TriCB	25			32.9	0.693 (S)	0.97	0.824
2,3',5-TriCB	26	26 + 29	C	78.9	0.793 (S)	0.99	1.303
2,3',6-TriCB	27			30.3	0.320 (S)	1.18	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			197	0.722 (S)	1.01	0.836
2,4',6-TriCB	32			36.5	0.752 (S)	0.94	1.198
2',3,4-TriCB	33	21 + 33	C21				
2',3,5-TriCB	34			3.46	0.801 (S)	0.92	1.274
3,3',4-TriCB	35		U		0.847 (S)		
3,3',5-TriCB	36		U		0.765 (S)		
3,4,4'-TriCB	37			31.8	1.06 (S)	1.08	1.001
3,4,5-TriCB	38		U		0.833 (S)		
3,4',5-TriCB	39		J	2.10	0.819 (S)	0.95	0.946

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COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2,2',3,3'-TeCB	40	40 + 41 + 71	C	129	0.395 (S)	0.76	1.337
2,2',3,4-TeCB	41	40 + 41 + 71	C40				
2,2',3,4'-TeCB	42			112	0.419 (S)	0.79	1.312
2,2',3,5-TeCB	43			19.5	0.442 (S)	0.73	1.246
2,2',3,5'-TeCB	44	44 + 47 + 65	C	790	0.357 (S)	0.78	1.286
2,2',3,6-TeCB	45	45 + 51	C	57.6	0.376 (S)	0.85	1.147
2,2',3,6'-TeCB	46		K	8.78	0.434 (S)	1.06	1.160
2,2',4,4'-TeCB	47	44 + 47 + 65	C44				
2,2',4,5-TeCB	48			55.4	0.394 (S)	0.73	1.272
2,2',4,5'-TeCB	49	49 + 69	C	575	0.329 (S)	0.80	1.258
2,2',4,6-TeCB	50	50 + 53	C	64.8	0.364 (S)	0.80	1.110
2,2',4,6'-TeCB	51	45 + 51	C45				
2,2',5,5'-TeCB	52			1020	0.351 (S)	0.79	1.234
2,2',5,6'-TeCB	53	50 + 53	C50				
2,2',6,6'-TeCB	54		K	5.22	0.252 (S)	0.59	1.001
2,3,3',4-TeCB	55		U		4.67 (S)		
2,3,3',4'-TeCB	56			130	4.77 (S)	0.80	0.903
2,3,3',5-TeCB	57		U		4.36 (S)		
2,3,3',5'-TeCB	58			7.09	4.39 (S)	0.77	0.851
2,3,3',6-TeCB	59	59 + 62 + 75	C	54.4	0.293 (S)	0.81	1.302
2,3,4,4'-TeCB	60			163	4.81 (S)	0.79	0.911
2,3,4,5-TeCB	61	61 + 70 + 74 + 76	C	1350	4.36 (S)	0.78	0.874
2,3,4,6-TeCB	62	59 + 62 + 75	C59				
2,3,4',5-TeCB	63			51.9	4.29 (S)	0.80	0.863
2,3,4',6-TeCB	64			243	0.291 (S)	0.74	1.348
2,3,5,6-TeCB	65	44 + 47 + 65	C44				
2,3',4,4'-TeCB	66			1030	4.28 (S)	0.78	0.883
2,3',4,5-TeCB	67			14.8	3.78 (S)	0.85	0.855
2,3',4,5'-TeCB	68			23.1	4.21 (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			24.3	4.18 (S)	0.78	0.822
2,3',5',6-TeCB	73		U		0.303 (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			59.8	4.69 (S)	0.81	1.001
3,3',4,5-TeCB	78		U		4.52 (S)		
3,3',4,5'-TeCB	79			34.3	3.86 (S)	0.87	0.968
3,3',5,5'-TeCB	80		U		4.26 (S)		
3,4,4',5-TeCB	81		U		4.51 (S)		
2,2',3,3',4-PeCB	82			168	3.27 (S)	1.57	0.934
2,2',3,3',5-PeCB	83	83 + 99	C	4200	3.31 (S)	1.58	0.885
2,2',3,3',6-PeCB	84			304	3.67 (S)	1.55	1.164
2,2',3,4,4'-PeCB	85	85 + 116 + 117	C	1100	2.63 (S)	1.60	0.919
2,2',3,4,5-PeCB	86	86 + 87 + 97 + 108 + 119 + 125	C G	2270	2.78 (S)	1.59	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	381	3.17 (S)	1.60	1.156
2,2',3,4,6'-PeCB	89			5.44	3.37 (S)	1.59	1.184
2,2',3,4',5-PeCB	90	90 + 101 + 113	C	4600	2.83 (S)	1.55	0.869
2,2',3,4',6-PeCB	91	88 + 91	C88				
2,2',3,5,5'-PeCB	92			1030	3.28 (S)	1.60	0.853
2,2',3,5,6-PeCB	93	93 + 95 + 98 + 100 + 102	C	1900	3.12 (S)	1.56	1.122
2,2',3,5,6'-PeCB	94			5.20	3.41 (S)	1.46	1.102
2,2',3,5',6-PeCB	95	93 + 95 + 98 + 100 + 102	C93				
2,2',3,6,6'-PeCB	96		K	6.23	0.391 (S)	1.94	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				

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COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	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			47.1	2.82 (S)	1.60	1.094
2,2',4,6,6'-PeCB	104		K J	0.752	0.447 (S)	2.03	1.001
2,3,3',4,4'-PeCB	105			2070	8.39 (S)	1.53	1.000
2,3,3',4,5-PeCB	106		U		11.1 (S)		
2,3,3',4',5-PeCB	107	107 + 124	C	189	11.4 (S)	1.46	0.991
2,3,3',4,5'-PeCB	108	86 + 87 + 97 + 108 + 119 + 125	C86				
2,3,3',4,6-PeCB	109			584	11.1 (S)	1.56	0.997
2,3,3',4',6-PeCB	110	110 + 115	C	3460	2.27 (S)	1.58	0.925
2,3,3',5,5'-PeCB	111			10.4	2.32 (S)	1.59	0.945
2,3,3',5,6-PeCB	112		U		2.38 (S)		
2,3,3',5',6-PeCB	113	90 + 101 + 113	C90				
2,3,4,4',5-PeCB	114			151	12.0 (S)	1.49	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			6730	11.5 (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			43.1	2.26 (S)	1.69	0.958
2,3',4,5',6-PeCB	121			4.57	2.54 (S)	1.69	1.201
2',3,3',4,5-PeCB	122			35.4	12.3 (S)	1.33	1.011
2',3,4,4',5-PeCB	123			121	12.2 (S)	1.58	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	18.0	13.4 (S)	1.61	1.000
3,3',4,5,5'-PeCB	127			22.2	12.1 (S)	1.76	1.041
2,2',3,3',4,4'-HxCB	128	128 + 166	C	2200	15.2 (S)	1.24	0.959
2,2',3,3',4,5-HxCB	129	129 + 138 + 160 + 163	C	16100	15.0 (S)	1.26	0.928
2,2',3,3',4,5'-HxCB	130			723	18.6 (S)	1.24	0.913
2,2',3,3',4,6-HxCB	131			48.1	17.9 (S)	1.11	1.160
2,2',3,3',4,6'-HxCB	132			1250	18.3 (S)	1.26	1.175
2,2',3,3',5,5'-HxCB	133			275	17.7 (S)	1.19	1.192
2,2',3,3',5,6-HxCB	134	134 + 143	C	250	17.6 (S)	1.23	1.141
2,2',3,3',5,6'-HxCB	135	135 + 151 + 154	C	2940	0.523 (S)	1.32	1.105
2,2',3,3',6,6'-HxCB	136			438	0.415 (S)	1.32	1.025
2,2',3,4,4',5-HxCB	137			711	18.0 (S)	1.24	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	197	15.8 (S)	1.19	1.153
2,2',3,4,4',6'-HxCB	140	139 + 140	C139				
2,2',3,4,5,5'-HxCB	141			1410	15.9 (S)	1.27	0.903
2,2',3,4,5,6-HxCB	142		U		17.3 (S)		
2,2',3,4,5,6'-HxCB	143	134 + 143	C134				
2,2',3,4,5',6-HxCB	144			290	0.550 (S)	1.27	1.123
2,2',3,4,6,6'-HxCB	145		K J	1.08	0.438 (S)	1.72	1.034
2,2',3,4',5,5'-HxCB	146			3480	14.4 (S)	1.27	0.884
2,2',3,4',5,6-HxCB	147	147 + 149	C	5310	15.4 (S)	1.26	1.134
2,2',3,4',5,6'-HxCB	148		K	17.1	0.527 (S)	1.03	1.084
2,2',3,4',5',6-HxCB	149	147 + 149	C147				
2,2',3,4',6,6'-HxCB	150			12.9	0.426 (S)	1.08	1.013
2,2',3,5,5',6-HxCB	151	135 + 151 + 154	C135				
2,2',3,5,6,6'-HxCB	152		K	3.98	0.402 (S)	1.44	1.008
2,2',4,4',5,5'-HxCB	153	153 + 168	C	16800	13.3 (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			10.3	0.372 (S)	1.35	1.001
2,3,3',4,4',5-HxCB	156	156 + 157	C	1410	17.5 (S)	1.23	1.000
2,3,3',4,4',5'-HxCB	157	156 + 157	C156				
2,3,3',4,4',6-HxCB	158			1110	12.0 (S)	1.27	0.937
2,3,3',4,5,5'-HxCB	159			65.9	13.1 (S)	1.25	0.981
2,3,3',4,5,6-HxCB	160	129 + 138 + 160 + 163	C129				

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COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2,3,3',4,5',6-HxCB	161		U		12.0 (S)		
2,3,3',4',5,5'-HxCB	162			52.6	12.2 (S)	1.40	0.989
2,3,3',4',5,6-HxCB	163	129 + 138 + 160 + 163	C129				
2,3,3',4',5',6-HxCB	164			542	12.5 (S)	1.30	0.921
2,3,3',5,5',6-HxCB	165		U		14.4 (S)		
2,3,4,4',5,6-HxCB	166	128 + 166	C128				
2,3',4,4',5,5'-HxCB	167			630	13.8 (S)	1.20	1.000
2,3',4,4',5',6-HxCB	168	153 + 168	C153				
3,3',4,4',5,5'-HxCB	169		U		17.7 (S)		
2,2',3,3',4,4',5-HpCB	170			2930	0.624 (S)	1.05	1.000
2,2',3,3',4,4',6-HpCB	171	171 + 173	C	664	0.564 (S)	1.06	1.163
2,2',3,3',4,5,5'-HpCB	172			549	0.587 (S)	1.03	0.896
2,2',3,3',4,5,6-HpCB	173	171 + 173	C171				
2,2',3,3',4,5,6'-HpCB	174			1170	0.513 (S)	1.03	1.134
2,2',3,3',4,5',6-HpCB	175			94.7	0.528 (S)	1.11	1.103
2,2',3,3',4,6,6'-HpCB	176			124	0.400 (S)	1.03	1.034
2,2',3,3',4',5,6-HpCB	177			1120	0.425 (S)	1.07	1.146
2,2',3,3',5,5',6-HpCB	178			876	0.546 (S)	1.04	1.085
2,2',3,3',5,6,6'-HpCB	179			584	0.393 (S)	1.04	1.010
2,2',3,4,4',5,5'-HpCB	180	180 + 193	C	9840	0.572 (S)	1.06	1.001
2,2',3,4,4',5,6-HpCB	181			30.7	0.548 (S)	1.02	1.157
2,2',3,4,4',5,6'-HpCB	182		U		0.511 (S)		
2,2',3,4,4',5',6-HpCB	183	183 + 185	C	2130	0.540 (S)	1.07	1.127
2,2',3,4,4',6,6'-HpCB	184			12.6	0.377 (S)	1.19	1.024
2,2',3,4,5,5',6-HpCB	185	183 + 185	C183				
2,2',3,4,5,6,6'-HpCB	186		U		0.419 (S)		
2,2',3,4',5,5',6-HpCB	187			9000	0.489 (S)	1.05	1.110
2,2',3,4',5,6,6'-HpCB	188			9.86	0.453 (S)	1.11	1.000
2,3,3',4,4',5,5'-HpCB	189			99.8	1.12 (S)	1.06	1.000
2,3,3',4,4',5,6-HpCB	190			660	0.438 (S)	1.06	0.947
2,3,3',4,4',5',6-HpCB	191			116	0.438 (S)	1.10	0.917
2,3,3',4,5,5',6-HpCB	192		U		0.489 (S)		
2,3,3',4',5,5',6-HpCB	193	180 + 193	C180				
2,2',3,3',4,4',5,5'-OcCB	194		G	1060	1.65 (S)	0.88	0.991
2,2',3,3',4,4',5,6-OcCB	195			591	1.57 (S)	0.88	0.945
2,2',3,3',4,4',5,6'-OcCB	196			794	0.618 (S)	0.90	0.915
2,2',3,3',4,4',6,6'-OcCB	197	197 + 200	C	150	0.459 (S)	0.92	1.046
2,2',3,3',4,5,5',6-OcCB	198	198 + 199	C	1950	0.635 (S)	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			155	0.455 (S)	0.94	1.022
2,2',3,3',5,5',6,6'-OcCB	202			514	0.590 (S)	0.91	1.000
2,2',3,4,4',5,5',6-OcCB	203			1280	0.612 (S)	0.90	0.919
2,2',3,4,4',5,6,6'-OcCB	204		U		0.471 (S)		
2,3,3',4,4',5,5',6-OcCB	205			65.1	1.40 (S)	0.86	1.000
2,2',3,3',4,4',5,5',6-NoCB	206			521	0.536 (S)	0.80	1.000
2,2',3,3',4,4',5,6,6'-NoCB	207			68.4	0.377 (S)	0.79	1.020
2,2',3,3',4,5,5',6,6'-NoCB	208			228	0.438 (S)	0.83	1.000
2,2',3,3',4,4',5,5',6,6'-DeCB	209			333	0.415 (S)	1.14	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.
(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: _____Ting Chen_____

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Report Filename: 1668_PCB1668_PCBTF_L29961-6_Form1A_PB8C_359AS4_SJ2452946.html; Workgroup: WG65252; Design ID: 3360]

SGS AXYS METHOD MLA-010 Rev 12

Form 2

PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.
PDI-TF-SMB109
Sample Collection:
24-Aug-2018 09:55

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

Project No.	PORTLAND HARBOR PDI AND BASELINE TISSUE		
Contract No.:	4972	**Lab Sample I.D.:**	L29961-6
Matrix:	TISSUE	**Sample Size:**	10.0 g (wet)
Sample Receipt Date:	31-Aug-2018	**Initial Calibration Date:**	07-Jul-2018
Extraction Date:	19-Sep-2018	**Instrument ID:**	HR GC/MS
Analysis Date:	19-Oct-2018 **Time:** 16:50:30	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	100	**Sample Data Filename:**	**PB8C_359A S: 4**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB8C_358 S: 4
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PB8C_359A S: 1
Concentration Units:	pg absolute	**% Lipid:**	4.64

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. [1]	CO-ELUTIONS	LAB FLAG [2]	SPIKE CONC.	CONC. FOUND	R(%) [3]	ION ABUND. RATIO	RRT
13C12-2-MoCB	1L			2000	928	46.4	3.18	0.719
13C12-4-MoCB	3L			2000	787	39.4	3.50	0.859
13C12-2,2'-DiCB	4L			2000	1050	52.6	1.58	0.873
13C12-4,4'-DiCB	15L			2000	664	33.2	1.46	1.254
13C12-2,2',6-TriCB	19L			2000	1210	60.4	1.12	1.071
13C12-3,4,4'-TriCB	37L			2000	1080	54.1	1.05	1.092
13C12-2,2',6,6'-TeCB	54L			2000	1300	65.2	0.83	0.811
13C12-3,3',4,4'-TeCB	77L			2000	1600	80.0	0.79	1.398
13C12-3,4,4',5-TeCB	81L			2000	1600	80.0	0.78	1.374
13C12-2,2',4,6,6'-PeCB	104L			2000	934	46.7	1.70	0.808
13C12-2,3,3',4,4'-PeCB	105L			2000	1900	94.9	1.54	1.201
13C12-2,3,4,4',5-PeCB	114L			2000	1410	70.6	1.67	1.180
13C12-2,3',4,4',5-PeCB	118L			2000	1560	77.8	1.51	1.162
13C12-2',3,4,4',5-PeCB	123L			2000	1510	75.3	1.49	1.152
13C12-3,3',4,4',5-PeCB	126L			2000	1510	75.5	1.52	1.303
13C12-2,2',4,4',6,6'-HxCB	155L			2000	919	46.0	1.20	0.785
13C12-2,3,3',4,4',5-HxCB	156L	156L + 157L	C	4000	2420	60.6	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			2000	1230	61.6	1.25	1.078
13C12-3,3',4,4',5,5'-HxCB	169L			2000	1340	66.9	1.24	1.192
13C12-2,2',3,3',4,4',5-HpCB	170L			2000	1980	99.1	1.05	0.897
13C12-2,2',3,4,4',5,5'-HpCB	180L			2000	2050	102	1.04	0.872
13C12-2,2',3,4',5,6,6'-HpCB	188L			2000	1380	69.2	1.06	0.711
13C12-2,3,3',4,4',5,5'-HpCB	189L			2000	2010	101	0.99	0.959
13C12-2,2',3,3',5,5',6,6'-OcCB	202L			2000	1010	50.6	0.96	0.817
13C12-2,3,3',4,4',5,5',6-OcCB	205L			2000	1790	89.4	0.88	1.009
13C12-2,2',3,3',4,4',5,5',6-NoCB	206L			2000	1910	95.7	0.74	1.043
13C12-2,2',3,3',4,5,5',6,6'-NoCB	208L			2000	2080	104	0.76	0.949
13C12-2,2',3,3',4,4',5,5',6,6'-DeCB	209L			2000	1330	66.4	1.12	1.074
CLEANUP STANDARD								
13C12-2,4,4'-TriCB	28L			2000	1310	65.3	0.97	0.925
13C12-2,3,3',5,5'-PeCB	111L			2000	1240	61.9	1.66	1.088
13C12-2,2',3,3',5,5',6-HpCB	178L			2000	1120	55.9	1.01	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: _____Ting Chen_____

For Axys Internal Use Only [XSL Template: Form16682.xsl; Created: 02-Nov-2018 08:45:27; Application: XMLTransformer-1.16.51;
Report Filename: 1668_PCB1668_PCBTF_L29961-6_Form2_PB8C_359AS4_SJ2452946.html; Workgroup: WG65252; Design ID: 3360]

SGS AXYS METHOD MLA-010 Rev 12

Form 1A

PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.
PDI-TF-SMB069
Sample Collection:
23-Aug-2018 10:50

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

Project No.	PORTLAND HARBOR PDI AND BASELINE TISSUE		
Contract No.:	4972	**Lab Sample I.D.:**	L29961-7
Matrix:	TISSUE	**Sample Size:**	10.1 g (wet)
Sample Receipt Date:	31-Aug-2018	**Initial Calibration Date:**	07-Jul-2018
Extraction Date:	19-Sep-2018	**Instrument ID:**	HR GC/MS
Analysis Date:	19-Oct-2018 **Time:** 17:54:18	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	100	**Sample Data Filename:**	**PB8C_359A S: 5**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB8C_358 S: 4
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PB8C_359A S: 1
Concentration Units:	pg/g (wet weight basis)	**% Lipid:**	3.27

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 [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2-MoCB	1			11.7	0.354 (S)	2.88	1.001
3-MoCB	2		J	1.83	0.383 (S)	3.50	0.988
4-MoCB	3		K	4.66	0.355 (S)	3.85	1.001
2,2'-DiCB	4			181	1.72 (S)	1.50	1.001
2,3-DiCB	5		J	2.03	1.36 (S)	1.51	1.199
2,3'-DiCB	6			57.6	1.21 (S)	1.57	1.176
2,4-DiCB	7			7.63	1.26 (S)	1.50	1.158
2,4'-DiCB	8			225	1.13 (S)	1.50	1.209
2,5-DiCB	9			13.1	1.18 (S)	1.44	1.146
2,6-DiCB	10			7.79	1.22 (S)	1.52	1.014
3,3'-DiCB	11			54.8	1.33 (S)	1.48	0.968
3,4-DiCB	12	12 + 13	C	4.66	1.36 (S)	1.36	0.982
3,4'-DiCB	13	12 + 13	C12				
3,5-DiCB	14		U		1.27 (S)		
4,4'-DiCB	15			43.5	1.36 (S)	1.63	1.000
2,2',3-TriCB	16			256	0.294 (S)	1.11	1.166
2,2',4-TriCB	17			457	0.246 (S)	1.04	1.139
2,2',5-TriCB	18	18 + 30	C	760	0.209 (S)	1.06	1.113
2,2',6-TriCB	19			308	0.252 (S)	1.06	1.000
2,3,3'-TriCB	20	20 + 28	C	1620	1.22 (S)	1.00	0.847
2,3,4-TriCB	21	21 + 33	C	452	1.28 (S)	1.00	0.856
2,3,4'-TriCB	22			413	1.40 (S)	1.01	0.871
2,3,5-TriCB	23		U		1.37 (S)		
2,3,6-TriCB	24			10.8	0.194 (S)	1.00	1.159
2,3',4-TriCB	25			116	1.11 (S)	1.02	0.824
2,3',5-TriCB	26	26 + 29	C	262	1.27 (S)	1.00	1.302
2,3',6-TriCB	27			76.2	0.174 (S)	1.09	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			1050	1.16 (S)	1.00	0.836
2,4',6-TriCB	32			276	1.21 (S)	1.02	1.198
2',3,4-TriCB	33	21 + 33	C21				
2',3,5-TriCB	34			9.77	1.29 (S)	1.01	1.274
3,3',4-TriCB	35		U		1.36 (S)		
3,3',5-TriCB	36		U		1.23 (S)		
3,4,4'-TriCB	37			148	1.54 (S)	0.98	1.001
3,4,5-TriCB	38		K	2.94	1.34 (S)	1.20	0.967
3,4',5-TriCB	39			12.3	1.32 (S)	0.95	0.945

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2,2',3,3'-TeCB	40	40 + 41 + 71	C	867	0.286 (S)	0.80	1.337
2,2',3,4-TeCB	41	40 + 41 + 71	C40				
2,2',3,4'-TeCB	42			677	0.304 (S)	0.78	1.312
2,2',3,5-TeCB	43			90.9	0.320 (S)	0.79	1.246
2,2',3,5'-TeCB	44	44 + 47 + 65	C	3820	0.259 (S)	0.79	1.287
2,2',3,6-TeCB	45	45 + 51	C	536	0.273 (S)	0.80	1.147
2,2',3,6'-TeCB	46			97.1	0.315 (S)	0.76	1.161
2,2',4,4'-TeCB	47	44 + 47 + 65	C44				
2,2',4,5-TeCB	48			351	0.286 (S)	0.78	1.273
2,2',4,5'-TeCB	49	49 + 69	C	2500	0.238 (S)	0.78	1.259
2,2',4,6-TeCB	50	50 + 53	C	365	0.264 (S)	0.78	1.111
2,2',4,6'-TeCB	51	45 + 51	C45				
2,2',5,5'-TeCB	52			4080	0.254 (S)	0.78	1.235
2,2',5,6'-TeCB	53	50 + 53	C50				
2,2',6,6'-TeCB	54			61.2	0.188 (S)	0.79	1.001
2,3,3',4-TeCB	55		U		9.84 (S)		
2,3,3',4'-TeCB	56			717	10.1 (S)	0.77	0.904
2,3,3',5-TeCB	57			14.9	9.19 (S)	0.72	0.843
2,3,3',5'-TeCB	58			19.1	9.25 (S)	0.73	0.850
2,3,3',6-TeCB	59	59 + 62 + 75	C	253	0.213 (S)	0.80	1.303
2,3,4,4'-TeCB	60			638	10.1 (S)	0.78	0.911
2,3,4,5-TeCB	61	61 + 70 + 74 + 76	C	4730	9.20 (S)	0.77	0.874
2,3,4,6-TeCB	62	59 + 62 + 75	C59				
2,3,4',5-TeCB	63			176	9.04 (S)	0.77	0.863
2,3,4',6-TeCB	64			1220	0.211 (S)	0.77	1.349
2,3,5,6-TeCB	65	44 + 47 + 65	C44				
2,3',4,4'-TeCB	66			3640	9.02 (S)	0.76	0.883
2,3',4,5-TeCB	67			61.8	7.97 (S)	0.82	0.855
2,3',4,5'-TeCB	68			59.7	8.88 (S)	0.84	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			55.3	8.81 (S)	0.81	0.822
2,3',5',6-TeCB	73		U		0.220 (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			153	9.67 (S)	0.83	1.000
3,3',4,5-TeCB	78		U		9.53 (S)		
3,3',4,5'-TeCB	79			73.5	8.14 (S)	0.75	0.968
3,3',5,5'-TeCB	80		U		8.99 (S)		
3,4,4',5-TeCB	81		U		9.43 (S)		
2,2',3,3',4-PeCB	82			474	5.98 (S)	1.59	0.933
2,2',3,3',5-PeCB	83	83 + 99	C	6620	6.05 (S)	1.58	0.885
2,2',3,3',6-PeCB	84			1060	6.72 (S)	1.64	1.165
2,2',3,4,4'-PeCB	85	85 + 116 + 117	C	1720	4.80 (S)	1.56	0.920
2,2',3,4,5-PeCB	86	86 + 87 + 97 + 108 + 119 + 125	C G	4820	5.08 (S)	1.59	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	1170	5.79 (S)	1.60	1.156
2,2',3,4,6'-PeCB	89			27.6	6.17 (S)	1.66	1.184
2,2',3,4',5-PeCB	90	90 + 101 + 113	C	9620	5.17 (S)	1.56	0.869
2,2',3,4',6-PeCB	91	88 + 91	C88				
2,2',3,5,5'-PeCB	92			1920	6.00 (S)	1.62	0.853
2,2',3,5,6-PeCB	93	93 + 95 + 98 + 100 + 102	C	5210	5.71 (S)	1.59	1.122
2,2',3,5,6'-PeCB	94			33.7	6.24 (S)	1.66	1.103
2,2',3,5',6-PeCB	95	93 + 95 + 98 + 100 + 102	C93				
2,2',3,6,6'-PeCB	96			31.4	0.308 (S)	1.51	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				

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	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			173	5.16 (S)	1.65	1.095
2,2',4,6,6'-PeCB	104			12.9	0.333 (S)	1.71	1.001
2,3,3',4,4'-PeCB	105			2790	7.03 (S)	1.55	1.000
2,3,3',4,5-PeCB	106		U		8.32 (S)		
2,3,3',4',5-PeCB	107	107 + 124	C	252	8.58 (S)	1.56	0.991
2,3,3',4,5'-PeCB	108	86 + 87 + 97 + 108 + 119 + 125	C86				
2,3,3',4,6-PeCB	109			720	8.33 (S)	1.55	0.997
2,3,3',4',6-PeCB	110	110 + 115	C	7370	4.16 (S)	1.58	0.925
2,3,3',5,5'-PeCB	111			15.9	4.25 (S)	1.50	0.945
2,3,3',5,6-PeCB	112		U		4.35 (S)		
2,3,3',5',6-PeCB	113	90 + 101 + 113	C90				
2,3,4,4',5-PeCB	114			200	8.84 (S)	1.55	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			8380	8.09 (S)	1.54	1.001
2,3',4,4',6-PeCB	119	86 + 87 + 97 + 108 + 119 + 125	C86				
2,3',4,5,5'-PeCB	120			62.3	4.13 (S)	1.48	0.958
2,3',4,5',6-PeCB	121			14.0	4.65 (S)	1.69	1.201
2',3,3',4,5-PeCB	122			55.0	9.21 (S)	1.49	1.010
2',3,4,4',5-PeCB	123			162	9.17 (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	17.7	9.30 (S)	1.35	1.000
3,3',4,5,5'-PeCB	127			26.9	9.08 (S)	1.71	1.041
2,2',3,3',4,4'-HxCB	128	128 + 166	C	2520	17.2 (S)	1.27	0.959
2,2',3,3',4,5-HxCB	129	129 + 138 + 160 + 163	C	19700	16.9 (S)	1.26	0.928
2,2',3,3',4,5'-HxCB	130			894	20.9 (S)	1.29	0.913
2,2',3,3',4,6-HxCB	131			94.8	20.2 (S)	1.24	1.160
2,2',3,3',4,6'-HxCB	132			2870	20.7 (S)	1.27	1.175
2,2',3,3',5,5'-HxCB	133			387	19.9 (S)	1.20	1.192
2,2',3,3',5,6-HxCB	134	134 + 143	C	474	19.9 (S)	1.29	1.140
2,2',3,3',5,6'-HxCB	135	135 + 151 + 154	C	5000	0.596 (S)	1.32	1.104
2,2',3,3',6,6'-HxCB	136			944	0.472 (S)	1.27	1.025
2,2',3,4,4',5-HxCB	137			769	20.3 (S)	1.29	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	272	17.8 (S)	1.32	1.153
2,2',3,4,4',6'-HxCB	140	139 + 140	C139				
2,2',3,4,5,5'-HxCB	141			2470	17.9 (S)	1.25	0.903
2,2',3,4,5,6-HxCB	142		U		19.4 (S)		
2,2',3,4,5,6'-HxCB	143	134 + 143	C134				
2,2',3,4,5',6-HxCB	144			567	0.626 (S)	1.33	1.122
2,2',3,4,6,6'-HxCB	145		K J	0.766	0.499 (S)	0.55	1.034
2,2',3,4',5,5'-HxCB	146			3830	16.2 (S)	1.26	0.883
2,2',3,4',5,6-HxCB	147	147 + 149	C	10400	17.4 (S)	1.25	1.134
2,2',3,4',5,6'-HxCB	148			61.9	0.600 (S)	1.30	1.084
2,2',3,4',5',6-HxCB	149	147 + 149	C147				
2,2',3,4',6,6'-HxCB	150			43.3	0.484 (S)	1.21	1.013
2,2',3,5,5',6-HxCB	151	135 + 151 + 154	C135				
2,2',3,5,6,6'-HxCB	152			11.8	0.457 (S)	1.41	1.007
2,2',4,4',5,5'-HxCB	153	153 + 168	C	20600	15.0 (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			14.1	0.433 (S)	1.20	1.001
2,3,3',4,4',5-HxCB	156	156 + 157	C	1420	19.5 (S)	1.26	1.000
2,3,3',4,4',5'-HxCB	157	156 + 157	C156				
2,3,3',4,4',6-HxCB	158			1390	13.5 (S)	1.25	0.938
2,3,3',4,5,5'-HxCB	159			122	14.8 (S)	1.19	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 [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2,3,3',4,5',6-HxCB	161		U		13.5 (S)		
2,3,3',4',5,5'-HxCB	162			47.2	13.7 (S)	1.23	0.989
2,3,3',4',5,6-HxCB	163	129 + 138 + 160 + 163	C129				
2,3,3',4',5',6-HxCB	164			761	14.1 (S)	1.26	0.921
2,3,3',5,5',6-HxCB	165		U		16.2 (S)		
2,3,4,4',5,6-HxCB	166	128 + 166	C128				
2,3',4,4',5,5'-HxCB	167			623	14.8 (S)	1.27	1.000
2,3',4,4',5',6-HxCB	168	153 + 168	C153				
3,3',4,4',5,5'-HxCB	169		U		23.0 (S)		
2,2',3,3',4,4',5-HpCB	170			3280	0.335 (S)	1.05	1.001
2,2',3,3',4,4',6-HpCB	171	171 + 173	C	908	0.313 (S)	1.05	1.164
2,2',3,3',4,5,5'-HpCB	172			632	0.326 (S)	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			1990	0.285 (S)	1.05	1.134
2,2',3,3',4,5',6-HpCB	175			143	0.293 (S)	1.05	1.103
2,2',3,3',4,6,6'-HpCB	176			253	0.222 (S)	1.04	1.035
2,2',3,3',4',5,6-HpCB	177			1520	0.236 (S)	1.06	1.146
2,2',3,3',5,5',6-HpCB	178			931	0.303 (S)	1.04	1.086
2,2',3,3',5,6,6'-HpCB	179			954	0.218 (S)	1.05	1.011
2,2',3,4,4',5,5'-HpCB	180	180 + 193	C	10600	0.282 (S)	1.05	1.001
2,2',3,4,4',5,6-HpCB	181			28.0	0.304 (S)	1.16	1.157
2,2',3,4,4',5,6'-HpCB	182		U		0.283 (S)		
2,2',3,4,4',5',6-HpCB	183	183 + 185	C	2820	0.299 (S)	1.06	1.127
2,2',3,4,4',6,6'-HpCB	184			13.4	0.209 (S)	1.20	1.024
2,2',3,4,5,5',6-HpCB	185	183 + 185	C183				
2,2',3,4,5,6,6'-HpCB	186		U		0.232 (S)		
2,2',3,4',5,5',6-HpCB	187			7850	0.271 (S)	1.06	1.111
2,2',3,4',5,6,6'-HpCB	188		K	16.4	0.237 (S)	1.29	1.001
2,3,3',4,4',5,5'-HpCB	189			108	0.956 (S)	1.06	1.000
2,3,3',4,4',5,6-HpCB	190			687	0.243 (S)	1.03	0.947
2,3,3',4,4',5',6-HpCB	191			139	0.243 (S)	1.10	0.917
2,3,3',4,5,5',6-HpCB	192		U		0.271 (S)		
2,3,3',4',5,5',6-HpCB	193	180 + 193	C180				
2,2',3,3',4,4',5,5'-OcCB	194		G	1190	1.08 (S)	0.87	0.991
2,2',3,3',4,4',5,6-OcCB	195			605	1.03 (S)	0.90	0.945
2,2',3,3',4,4',5,6'-OcCB	196			871	0.500 (S)	0.91	0.915
2,2',3,3',4,4',6,6'-OcCB	197	197 + 200	C	197	0.371 (S)	0.94	1.046
2,2',3,3',4,5,5',6-OcCB	198	198 + 199	C	1920	0.514 (S)	0.92	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			194	0.368 (S)	0.93	1.023
2,2',3,3',5,5',6,6'-OcCB	202			548	0.502 (S)	0.88	1.000
2,2',3,4,4',5,5',6-OcCB	203			1380	0.495 (S)	0.91	0.919
2,2',3,4,4',5,6,6'-OcCB	204		K J	1.12	0.381 (S)	2.25	1.039
2,3,3',4,4',5,5',6-OcCB	205			68.2	0.885 (S)	0.96	1.001
2,2',3,3',4,4',5,5',6-NoCB	206			496	0.514 (S)	0.79	1.000
2,2',3,3',4,4',5,6,6'-NoCB	207			69.2	0.367 (S)	0.77	1.020
2,2',3,3',4,5,5',6,6'-NoCB	208			188	0.430 (S)	0.79	1.000
2,2',3,3',4,4',5,5',6,6'-DeCB	209			210	0.396 (S)	1.21	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.
(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: _____Ting Chen_____

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Report Filename: 1668_PCB1668_PCBTF_L29961-7_Form1A_PB8C_359AS5_SJ2452948.html; Workgroup: WG65252; Design ID: 3360]

SGS AXYS METHOD MLA-010 Rev 12

Form 2

PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.
PDI-TF-SMB069
Sample Collection:
23-Aug-2018 10:50

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

Project No.	PORTLAND HARBOR PDI AND BASELINE TISSUE		
Contract No.:	4972	**Lab Sample I.D.:**	L29961-7
Matrix:	TISSUE	**Sample Size:**	10.1 g (wet)
Sample Receipt Date:	31-Aug-2018	**Initial Calibration Date:**	07-Jul-2018
Extraction Date:	19-Sep-2018	**Instrument ID:**	HR GC/MS
Analysis Date:	19-Oct-2018 **Time:** 17:54:18	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	100	**Sample Data Filename:**	**PB8C_359A S: 5**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB8C_358 S: 4
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PB8C_359A S: 1
Concentration Units:	pg absolute	**% Lipid:**	3.27

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. [1]	CO-ELUTIONS	LAB FLAG [2]	SPIKE CONC.	CONC. FOUND	R(%) [3]	ION ABUND. RATIO	RRT
13C12-2-MoCB	1L			2000	682	34.1	3.17	0.719
13C12-4-MoCB	3L			2000	850	42.5	3.06	0.858
13C12-2,2'-DiCB	4L			2000	896	44.8	1.59	0.872
13C12-4,4'-DiCB	15L			2000	1120	55.9	1.60	1.254
13C12-2,2',6-TriCB	19L			2000	1280	64.1	1.11	1.071
13C12-3,4,4'-TriCB	37L			2000	1320	66.0	1.02	1.092
13C12-2,2',6,6'-TeCB	54L			2000	1250	62.7	0.84	0.810
13C12-3,3',4,4'-TeCB	77L			2000	1690	84.7	0.77	1.398
13C12-3,4,4',5-TeCB	81L			2000	1670	83.6	0.79	1.374
13C12-2,2',4,6,6'-PeCB	104L			2000	999	49.9	1.50	0.807
13C12-2,3,3',4,4'-PeCB	105L			2000	1810	90.5	1.63	1.201
13C12-2,3,4,4',5-PeCB	114L			2000	1490	74.4	1.65	1.179
13C12-2,3',4,4',5-PeCB	118L			2000	1640	81.8	1.56	1.162
13C12-2',3,4,4',5-PeCB	123L			2000	1590	79.4	1.55	1.152
13C12-3,3',4,4',5-PeCB	126L			2000	1570	78.6	1.55	1.302
13C12-2,2',4,4',6,6'-HxCB	155L			2000	850	42.5	1.30	0.785
13C12-2,3,3',4,4',5-HxCB	156L	156L + 157L	C	4000	2370	59.2	1.30	1.108
13C12-2,3,3',4,4',5'-HxCB	157L	156L + 157L	C156L					
13C12-2,3',4,4',5,5'-HxCB	167L			2000	1200	60.2	1.25	1.078
13C12-3,3',4,4',5,5'-HxCB	169L			2000	1240	62.0	1.27	1.192
13C12-2,2',3,3',4,4',5-HpCB	170L			2000	1980	99.2	1.03	0.897
13C12-2,2',3,4,4',5,5'-HpCB	180L			2000	2040	102	1.02	0.871
13C12-2,2',3,4',5,6,6'-HpCB	188L			2000	1400	69.9	1.10	0.711
13C12-2,3,3',4,4',5,5'-HpCB	189L			2000	1830	91.7	1.00	0.959
13C12-2,2',3,3',5,5',6,6'-OcCB	202L			2000	945	47.2	0.88	0.817
13C12-2,3,3',4,4',5,5',6-OcCB	205L			2000	1800	90.1	0.95	1.009
13C12-2,2',3,3',4,4',5,5',6-NoCB	206L			2000	1870	93.3	0.73	1.043
13C12-2,2',3,3',4,5,5',6,6'-NoCB	208L			2000	1930	96.6	0.83	0.948
13C12-2,2',3,3',4,4',5,5',6,6'-DeCB	209L			2000	1290	64.5	1.15	1.074
CLEANUP STANDARD								
13C12-2,4,4'-TriCB	28L			2000	1650	82.4	1.05	0.924
13C12-2,3,3',5,5'-PeCB	111L			2000	1640	82.1	1.69	1.088
13C12-2,2',3,3',5,5',6-HpCB	178L			2000	1170	58.6	1.02	1.011

(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: _____Ting Chen_____

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Report Filename: 1668_PCB1668_PCBTF_L29961-7_Form2_PB8C_359AS5_SJ2452948.html; Workgroup: WG65252; Design ID: 3360]

SGS AXYS METHOD MLA-010 Rev 12

Form 1A

PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.
PDI-TF-SMB056
Sample Collection:
22-Aug-2018 11:51

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

Project No.	PORTLAND HARBOR PDI AND BASELINE TISSUE		
Contract No.:	4972	**Lab Sample I.D.:**	L29961-8
Matrix:	TISSUE	**Sample Size:**	10.1 g (wet)
Sample Receipt Date:	28-Aug-2018	**Initial Calibration Date:**	07-Jul-2018
Extraction Date:	19-Sep-2018	**Instrument ID:**	HR GC/MS
Analysis Date:	19-Oct-2018 **Time:** 18:58:03	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	100	**Sample Data Filename:**	**PB8C_359A S: 6**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB8C_358 S: 4
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PB8C_359A S: 1
Concentration Units:	pg/g (wet weight basis)	**% Lipid:**	4.11

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 [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2-MoCB	1			6.17	0.357 (S)	3.05	1.001
3-MoCB	2		J	1.16	0.413 (S)	3.58	0.989
4-MoCB	3		K J	2.23	0.407 (S)	3.89	1.001
2,2'-DiCB	4			244	1.61 (S)	1.49	1.000
2,3-DiCB	5		U		1.28 (S)		
2,3'-DiCB	6			11.4	1.14 (S)	1.55	1.175
2,4-DiCB	7		K J	3.08	1.19 (S)	1.24	1.157
2,4'-DiCB	8			54.5	1.07 (S)	1.49	1.206
2,5-DiCB	9		K	4.17	1.11 (S)	1.32	1.146
2,6-DiCB	10			9.18	1.15 (S)	1.68	1.012
3,3'-DiCB	11			41.8	1.25 (S)	1.43	0.967
3,4-DiCB	12	12 + 13	C K J	2.40	1.28 (S)	2.42	0.983
3,4'-DiCB	13	12 + 13	C12				
3,5-DiCB	14		U		1.19 (S)		
4,4'-DiCB	15			17.9	1.29 (S)	1.61	1.001
2,2',3-TriCB	16			39.3	0.443 (S)	1.09	1.166
2,2',4-TriCB	17			291	0.370 (S)	1.05	1.138
2,2',5-TriCB	18	18 + 30	C	140	0.314 (S)	1.05	1.113
2,2',6-TriCB	19			682	0.410 (S)	1.08	1.001
2,3,3'-TriCB	20	20 + 28	C	464	0.645 (S)	1.02	0.847
2,3,4-TriCB	21	21 + 33	C	102	0.672 (S)	1.04	0.855
2,3,4'-TriCB	22			70.7	0.739 (S)	1.04	0.871
2,3,5-TriCB	23		U		0.721 (S)		
2,3,6-TriCB	24		J	3.17	0.292 (S)	0.97	1.159
2,3',4-TriCB	25			45.3	0.587 (S)	0.92	0.825
2,3',5-TriCB	26	26 + 29	C	66.8	0.671 (S)	0.95	1.302
2,3',6-TriCB	27			65.6	0.262 (S)	1.01	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			207	0.611 (S)	1.03	0.836
2,4',6-TriCB	32			122	0.636 (S)	0.98	1.197
2',3,4-TriCB	33	21 + 33	C21				
2',3,5-TriCB	34		K J	2.79	0.678 (S)	0.77	1.274
3,3',4-TriCB	35		U		0.717 (S)		
3,3',5-TriCB	36		U		0.648 (S)		
3,4,4'-TriCB	37			47.3	0.773 (S)	1.00	1.001
3,4,5-TriCB	38		J	2.33	0.705 (S)	1.01	0.967
3,4',5-TriCB	39		J	3.10	0.693 (S)	1.11	0.945

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2,2',3,3'-TeCB	40	40 + 41 + 71	C	369	0.550 (S)	0.77	1.338
2,2',3,4-TeCB	41	40 + 41 + 71	C40				
2,2',3,4'-TeCB	42			217	0.584 (S)	0.81	1.312
2,2',3,5-TeCB	43			22.0	0.615 (S)	0.71	1.247
2,2',3,5'-TeCB	44	44 + 47 + 65	C	3520	0.497 (S)	0.79	1.287
2,2',3,6-TeCB	45	45 + 51	C	653	0.524 (S)	0.78	1.149
2,2',3,6'-TeCB	46			30.8	0.605 (S)	0.74	1.161
2,2',4,4'-TeCB	47	44 + 47 + 65	C44				
2,2',4,5-TeCB	48			82.3	0.548 (S)	0.81	1.273
2,2',4,5'-TeCB	49	49 + 69	C	1970	0.458 (S)	0.78	1.259
2,2',4,6-TeCB	50	50 + 53	C	497	0.508 (S)	0.78	1.111
2,2',4,6'-TeCB	51	45 + 51	C45				
2,2',5,5'-TeCB	52			2310	0.488 (S)	0.77	1.235
2,2',5,6'-TeCB	53	50 + 53	C50				
2,2',6,6'-TeCB	54			159	0.368 (S)	0.77	1.001
2,3,3',4-TeCB	55		U		5.07 (S)		
2,3,3',4'-TeCB	56			156	5.18 (S)	0.78	0.904
2,3,3',5-TeCB	57			6.06	4.73 (S)	0.88	0.843
2,3,3',5'-TeCB	58			31.2	4.76 (S)	0.69	0.852
2,3,3',6-TeCB	59	59 + 62 + 75	C	148	0.408 (S)	0.81	1.303
2,3,4,4'-TeCB	60			213	5.22 (S)	0.73	0.911
2,3,4,5-TeCB	61	61 + 70 + 74 + 76	C	2090	4.74 (S)	0.76	0.875
2,3,4,6-TeCB	62	59 + 62 + 75	C59				
2,3,4',5-TeCB	63			116	4.65 (S)	0.76	0.863
2,3,4',6-TeCB	64			389	0.405 (S)	0.78	1.349
2,3,5,6-TeCB	65	44 + 47 + 65	C44				
2,3',4,4'-TeCB	66			2010	4.64 (S)	0.76	0.883
2,3',4,5-TeCB	67			19.3	4.10 (S)	0.66	0.856
2,3',4,5'-TeCB	68			99.9	4.57 (S)	0.79	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			88.4	4.53 (S)	0.71	0.822
2,3',5',6-TeCB	73			53.2	0.423 (S)	0.75	1.241
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			89.2	4.94 (S)	0.77	1.000
3,3',4,5-TeCB	78		U		4.91 (S)		
3,3',4,5'-TeCB	79			56.4	4.19 (S)	0.76	0.969
3,3',5,5'-TeCB	80		U		4.63 (S)		
3,4,4',5-TeCB	81		U		4.81 (S)		
2,2',3,3',4-PeCB	82			220	4.13 (S)	1.54	0.934
2,2',3,3',5-PeCB	83	83 + 99	C	7240	4.18 (S)	1.59	0.885
2,2',3,3',6-PeCB	84			544	4.64 (S)	1.59	1.164
2,2',3,4,4'-PeCB	85	85 + 116 + 117	C	1310	3.32 (S)	1.58	0.919
2,2',3,4,5-PeCB	86	86 + 87 + 97 + 108 + 119 + 125	C G	3160	3.51 (S)	1.55	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	940	4.00 (S)	1.59	1.156
2,2',3,4,6'-PeCB	89			5.49	4.26 (S)	1.68	1.183
2,2',3,4',5-PeCB	90	90 + 101 + 113	C	9810	3.57 (S)	1.60	0.869
2,2',3,4',6-PeCB	91	88 + 91	C88				
2,2',3,5,5'-PeCB	92			2050	4.14 (S)	1.57	0.853
2,2',3,5,6-PeCB	93	93 + 95 + 98 + 100 + 102	C	4830	3.94 (S)	1.59	1.122
2,2',3,5,6'-PeCB	94			25.2	4.31 (S)	1.72	1.102
2,2',3,5',6-PeCB	95	93 + 95 + 98 + 100 + 102	C93				
2,2',3,6,6'-PeCB	96			30.2	0.350 (S)	1.73	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				

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	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			286	3.56 (S)	1.61	1.093
2,2',4,6,6'-PeCB	104			13.4	0.411 (S)	1.77	1.001
2,3,3',4,4'-PeCB	105			2300	8.46 (S)	1.55	1.000
2,3,3',4,5-PeCB	106		U		10.0 (S)		
2,3,3',4',5-PeCB	107	107 + 124	C	186	10.3 (S)	1.52	0.991
2,3,3',4,5'-PeCB	108	86 + 87 + 97 + 108 + 119 + 125	C86				
2,3,3',4,6-PeCB	109			965	10.0 (S)	1.53	0.997
2,3,3',4',6-PeCB	110	110 + 115	C	5640	2.87 (S)	1.58	0.925
2,3,3',5,5'-PeCB	111			33.1	2.94 (S)	1.67	0.945
2,3,3',5,6-PeCB	112		U		3.01 (S)		
2,3,3',5',6-PeCB	113	90 + 101 + 113	C90				
2,3,4,4',5-PeCB	114			186	10.3 (S)	1.53	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			8540	9.52 (S)	1.52	1.000
2,3',4,4',6-PeCB	119	86 + 87 + 97 + 108 + 119 + 125	C86				
2,3',4,5,5'-PeCB	120			146	2.85 (S)	1.57	0.958
2,3',4,5',6-PeCB	121			23.2	3.21 (S)	1.43	1.200
2',3,3',4,5-PeCB	122			30.9	11.1 (S)	1.53	1.011
2',3,4,4',5-PeCB	123		K	145	11.1 (S)	1.56	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	30.2	9.90 (S)	1.59	1.000
3,3',4,5,5'-PeCB	127			32.7	11.0 (S)	1.42	1.041
2,2',3,3',4,4'-HxCB	128	128 + 166	C	4110	15.2 (S)	1.25	0.959
2,2',3,3',4,5-HxCB	129	129 + 138 + 160 + 163	C	38700	15.0 (S)	1.27	0.928
2,2',3,3',4,5'-HxCB	130			1510	18.6 (S)	1.25	0.913
2,2',3,3',4,6-HxCB	131			84.0	17.9 (S)	1.19	1.160
2,2',3,3',4,6'-HxCB	132			3320	18.3 (S)	1.27	1.175
2,2',3,3',5,5'-HxCB	133			762	17.7 (S)	1.28	1.192
2,2',3,3',5,6-HxCB	134	134 + 143	C	570	17.6 (S)	1.25	1.141
2,2',3,3',5,6'-HxCB	135	135 + 151 + 154	C	9370	0.583 (S)	1.26	1.105
2,2',3,3',6,6'-HxCB	136			1130	0.462 (S)	1.30	1.025
2,2',3,4,4',5-HxCB	137			978	18.0 (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	349	15.8 (S)	1.25	1.153
2,2',3,4,4',6'-HxCB	140	139 + 140	C139				
2,2',3,4,5,5'-HxCB	141			4040	15.9 (S)	1.25	0.903
2,2',3,4,5,6-HxCB	142		U		17.3 (S)		
2,2',3,4,5,6'-HxCB	143	134 + 143	C134				
2,2',3,4,5',6-HxCB	144			946	0.612 (S)	1.33	1.122
2,2',3,4,6,6'-HxCB	145		K J	0.913	0.488 (S)	2.40	1.035
2,2',3,4',5,5'-HxCB	146			8390	14.4 (S)	1.26	0.884
2,2',3,4',5,6-HxCB	147	147 + 149	C	16400	15.4 (S)	1.26	1.134
2,2',3,4',5,6'-HxCB	148			103	0.588 (S)	1.37	1.084
2,2',3,4',5',6-HxCB	149	147 + 149	C147				
2,2',3,4',6,6'-HxCB	150			51.7	0.474 (S)	1.14	1.013
2,2',3,5,5',6-HxCB	151	135 + 151 + 154	C135				
2,2',3,5,6,6'-HxCB	152		K	8.64	0.448 (S)	1.55	1.007
2,2',4,4',5,5'-HxCB	153	153 + 168	C	45000	13.3 (S)	1.25	0.899
2,2',4,4',5,6'-HxCB	154	135 + 151 + 154	C135				
2,2',4,4',6,6'-HxCB	155			21.2	0.474 (S)	1.16	1.001
2,3,3',4,4',5-HxCB	156	156 + 157	C	2440	17.1 (S)	1.23	1.000
2,3,3',4,4',5'-HxCB	157	156 + 157	C156				
2,3,3',4,4',6-HxCB	158			2240	12.0 (S)	1.26	0.937
2,3,3',4,5,5'-HxCB	159			247	13.1 (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 [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2,3,3',4,5',6-HxCB	161		U		12.0 (S)		
2,3,3',4',5,5'-HxCB	162			73.8	12.2 (S)	1.17	0.989
2,3,3',4',5,6-HxCB	163	129 + 138 + 160 + 163	C129				
2,3,3',4',5',6-HxCB	164			1360	12.5 (S)	1.24	0.921
2,3,3',5,5',6-HxCB	165			30.4	14.4 (S)	1.37	0.878
2,3,4,4',5,6-HxCB	166	128 + 166	C128				
2,3',4,4',5,5'-HxCB	167			1140	12.9 (S)	1.26	1.001
2,3',4,4',5',6-HxCB	168	153 + 168	C153				
3,3',4,4',5,5'-HxCB	169		U		46.0 (S)		
2,2',3,3',4,4',5-HpCB	170			9460	0.855 (S)	1.06	1.000
2,2',3,3',4,4',6-HpCB	171	171 + 173	C	2240	0.828 (S)	1.03	1.164
2,2',3,3',4,5,5'-HpCB	172			1780	0.862 (S)	1.05	0.896
2,2',3,3',4,5,6-HpCB	173	171 + 173	C171				
2,2',3,3',4,5,6'-HpCB	174			4850	0.754 (S)	1.05	1.134
2,2',3,3',4,5',6-HpCB	175			364	0.774 (S)	1.07	1.103
2,2',3,3',4,6,6'-HpCB	176			515	0.588 (S)	1.03	1.034
2,2',3,3',4',5,6-HpCB	177			4630	0.624 (S)	1.07	1.146
2,2',3,3',5,5',6-HpCB	178			2600	0.801 (S)	1.05	1.086
2,2',3,3',5,6,6'-HpCB	179			1980	0.577 (S)	1.06	1.011
2,2',3,4,4',5,5'-HpCB	180	180 + 193	C	29900	0.752 (S)	1.07	1.000
2,2',3,4,4',5,6-HpCB	181			65.4	0.804 (S)	1.04	1.157
2,2',3,4,4',5,6'-HpCB	182		U		0.750 (S)		
2,2',3,4,4',5',6-HpCB	183	183 + 185	C	7150	0.792 (S)	1.05	1.127
2,2',3,4,4',6,6'-HpCB	184		K	13.2	0.553 (S)	1.25	1.024
2,2',3,4,5,5',6-HpCB	185	183 + 185	C183				
2,2',3,4,5,6,6'-HpCB	186		U		0.615 (S)		
2,2',3,4',5,5',6-HpCB	187			24200	0.717 (S)	1.04	1.110
2,2',3,4',5,6,6'-HpCB	188			37.8	0.663 (S)	1.12	1.001
2,3,3',4,4',5,5'-HpCB	189			313	2.95 (S)	0.98	1.001
2,3,3',4,4',5,6-HpCB	190			2290	0.644 (S)	1.05	0.947
2,3,3',4,4',5',6-HpCB	191			393	0.644 (S)	1.11	0.917
2,3,3',4,5,5',6-HpCB	192		K	23.2	0.718 (S)	1.72	0.902
2,3,3',4',5,5',6-HpCB	193	180 + 193	C180				
2,2',3,3',4,4',5,5'-OcCB	194		G	3380	4.71 (S)	0.89	0.991
2,2',3,3',4,4',5,6-OcCB	195			1930	4.49 (S)	0.88	0.945
2,2',3,3',4,4',5,6'-OcCB	196			2470	0.701 (S)	0.91	0.915
2,2',3,3',4,4',6,6'-OcCB	197	197 + 200	C	499	0.520 (S)	0.90	1.046
2,2',3,3',4,5,5',6-OcCB	198	198 + 199	C	5670	0.720 (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			524	0.517 (S)	0.92	1.022
2,2',3,3',5,5',6,6'-OcCB	202			1280	0.720 (S)	0.91	1.000
2,2',3,4,4',5,5',6-OcCB	203			3670	0.695 (S)	0.91	0.918
2,2',3,4,4',5,6,6'-OcCB	204		K J	2.68	0.534 (S)	1.13	1.038
2,3,3',4,4',5,5',6-OcCB	205			195	3.77 (S)	0.97	1.000
2,2',3,3',4,4',5,5',6-NoCB	206			851	0.809 (S)	0.79	1.000
2,2',3,3',4,4',5,6,6'-NoCB	207			125	0.577 (S)	0.75	1.020
2,2',3,3',4,5,5',6,6'-NoCB	208			299	0.673 (S)	0.81	1.001
2,2',3,3',4,4',5,5',6,6'-DeCB	209			246	0.362 (S)	1.14	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.
(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: _____Ting Chen_____

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Report Filename: 1668_PCB1668_PCBTF_L29961-8_Form1A_PB8C_359AS6_SJ2452950.html; Workgroup: WG65252; Design ID: 3360]

SGS AXYS METHOD MLA-010 Rev 12

Form 2

PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.
PDI-TF-SMB056
Sample Collection:
22-Aug-2018 11:51

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

Project No.	PORTLAND HARBOR PDI AND BASELINE TISSUE		
Contract No.:	4972	**Lab Sample I.D.:**	L29961-8
Matrix:	TISSUE	**Sample Size:**	10.1 g (wet)
Sample Receipt Date:	28-Aug-2018	**Initial Calibration Date:**	07-Jul-2018
Extraction Date:	19-Sep-2018	**Instrument ID:**	HR GC/MS
Analysis Date:	19-Oct-2018 **Time:** 18:58:03	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	100	**Sample Data Filename:**	**PB8C_359A S: 6**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB8C_358 S: 4
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PB8C_359A S: 1
Concentration Units:	pg absolute	**% Lipid:**	4.11

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This test is not NELAP accredited. Sample results relate only to the sample tested.

LABELED COMPOUND	IUPAC NO. [1]	CO-ELUTIONS	LAB FLAG [2]	SPIKE CONC.	CONC. FOUND	R(%) [3]	ION ABUND. RATIO	RRT
13C12-2-MoCB	1L			2000	869	43.5	3.04	0.719
13C12-4-MoCB	3L			2000	969	48.5	3.21	0.859
13C12-2,2'-DiCB	4L			2000	902	45.1	1.55	0.874
13C12-4,4'-DiCB	15L			2000	1180	59.0	1.64	1.255
13C12-2,2',6-TriCB	19L			2000	1130	56.6	1.02	1.072
13C12-3,4,4'-TriCB	37L			2000	1270	63.5	1.13	1.093
13C12-2,2',6,6'-TeCB	54L			2000	1180	58.8	0.84	0.811
13C12-3,3',4,4'-TeCB	77L			2000	1620	80.9	0.75	1.398
13C12-3,4,4',5-TeCB	81L			2000	1630	81.3	0.74	1.375
13C12-2,2',4,6,6'-PeCB	104L			2000	950	47.5	1.70	0.808
13C12-2,3,3',4,4'-PeCB	105L			2000	1820	91.0	1.58	1.201
13C12-2,3,4,4',5-PeCB	114L			2000	1520	76.0	1.59	1.180
13C12-2,3',4,4',5-PeCB	118L			2000	1700	85.1	1.61	1.162
13C12-2',3,4,4',5-PeCB	123L			2000	1570	78.3	1.46	1.152
13C12-3,3',4,4',5-PeCB	126L			2000	1790	89.4	1.54	1.302
13C12-2,2',4,4',6,6'-HxCB	155L			2000	765	38.2	1.29	0.785
13C12-2,3,3',4,4',5-HxCB	156L	156L + 157L	C	4000	2320	58.1	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			2000	1200	60.2	1.34	1.078
13C12-3,3',4,4',5,5'-HxCB	169L			2000	1280	63.9	1.28	1.193
13C12-2,2',3,3',4,4',5-HpCB	170L			2000	1950	97.7	1.01	0.897
13C12-2,2',3,4,4',5,5'-HpCB	180L			2000	2170	108	1.11	0.872
13C12-2,2',3,4',5,6,6'-HpCB	188L			2000	1260	63.2	1.08	0.711
13C12-2,3,3',4,4',5,5'-HpCB	189L			2000	1900	94.9	1.04	0.959
13C12-2,2',3,3',5,5',6,6'-OcCB	202L			2000	864	43.2	0.86	0.817
13C12-2,3,3',4,4',5,5',6-OcCB	205L			2000	1620	80.9	0.96	1.009
13C12-2,2',3,3',4,4',5,5',6-NoCB	206L			2000	1860	93.1	0.79	1.043
13C12-2,2',3,3',4,5,5',6,6'-NoCB	208L			2000	1850	92.7	0.74	0.948
13C12-2,2',3,3',4,4',5,5',6,6'-DeCB	209L			2000	1230	61.5	1.26	1.074
CLEANUP STANDARD								
13C12-2,4,4'-TriCB	28L			2000	1580	79.2	1.06	0.925
13C12-2,3,3',5,5'-PeCB	111L			2000	1580	78.9	1.57	1.088
13C12-2,2',3,3',5,5',6-HpCB	178L			2000	1180	58.9	1.01	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: _____Ting Chen_____

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Report Filename: 1668_PCB1668_PCBTF_L29961-8_Form2_PB8C_359AS6_SJ2452950.html; Workgroup: WG65252; Design ID: 3360]

SGS AXYS METHOD MLA-010 Rev 12

Form 1A

PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.
PDI-TF-SMB007
Sample Collection:
22-Aug-2018 07:49

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

Project No.	PORTLAND HARBOR PDI AND BASELINE TISSUE		
Contract No.:	4972	**Lab Sample I.D.:**	L29961-9
Matrix:	TISSUE	**Sample Size:**	10.2 g (wet)
Sample Receipt Date:	28-Aug-2018	**Initial Calibration Date:**	07-Jul-2018
Extraction Date:	19-Sep-2018	**Instrument ID:**	HR GC/MS
Analysis Date:	19-Oct-2018 **Time:** 20:01:44	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	100	**Sample Data Filename:**	**PB8C_359A S: 7**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB8C_358 S: 4
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PB8C_359A S: 1
Concentration Units:	pg/g (wet weight basis)	**% Lipid:**	4.65

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 [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2-MoCB	1			32.3	0.342 (S)	3.08	1.001
3-MoCB	2		J	2.83	0.413 (S)	3.25	0.987
4-MoCB	3			17.0	0.423 (S)	3.34	1.000
2,2'-DiCB	4			421	2.17 (S)	1.49	1.000
2,3-DiCB	5		K J	1.87	1.74 (S)	2.14	1.198
2,3'-DiCB	6			93.5	1.56 (S)	1.52	1.176
2,4-DiCB	7			7.81	1.62 (S)	1.55	1.157
2,4'-DiCB	8			233	1.46 (S)	1.52	1.207
2,5-DiCB	9			16.5	1.51 (S)	1.61	1.146
2,6-DiCB	10			15.4	1.56 (S)	1.47	1.013
3,3'-DiCB	11			86.4	1.71 (S)	1.55	0.968
3,4-DiCB	12	12 + 13	C	7.32	1.74 (S)	1.71	0.983
3,4'-DiCB	13	12 + 13	C12				
3,5-DiCB	14		U		1.63 (S)		
4,4'-DiCB	15			87.7	1.76 (S)	1.51	1.001
2,2',3-TriCB	16			141	0.462 (S)	1.03	1.167
2,2',4-TriCB	17			466	0.386 (S)	1.07	1.139
2,2',5-TriCB	18	18 + 30	C	603	0.328 (S)	1.09	1.114
2,2',6-TriCB	19			390	0.425 (S)	1.09	1.002
2,3,3'-TriCB	20	20 + 28	C	1960	1.56 (S)	1.01	0.847
2,3,4-TriCB	21	21 + 33	C	296	1.63 (S)	1.01	0.856
2,3,4'-TriCB	22			384	1.79 (S)	1.01	0.872
2,3,5-TriCB	23		U		1.74 (S)		
2,3,6-TriCB	24			7.95	0.305 (S)	0.91	1.160
2,3',4-TriCB	25			131	1.42 (S)	0.96	0.825
2,3',5-TriCB	26	26 + 29	C	352	1.62 (S)	1.02	1.303
2,3',6-TriCB	27			97.9	0.273 (S)	1.13	1.152
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			946	1.48 (S)	1.00	0.836
2,4',6-TriCB	32			326	1.54 (S)	0.99	1.198
2',3,4-TriCB	33	21 + 33	C21				
2',3,5-TriCB	34			12.3	1.64 (S)	0.99	1.274
3,3',4-TriCB	35		U		1.74 (S)		
3,3',5-TriCB	36		U		1.57 (S)		
3,4,4'-TriCB	37			161	1.86 (S)	1.01	1.001
3,4,5-TriCB	38		K	6.23	1.71 (S)	0.62	0.967
3,4',5-TriCB	39			16.3	1.68 (S)	0.92	0.946

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2,2',3,3'-TeCB	40	40 + 41 + 71	C	1420	0.517 (S)	0.80	1.337
2,2',3,4-TeCB	41	40 + 41 + 71	C40				
2,2',3,4'-TeCB	42			1300	0.549 (S)	0.79	1.312
2,2',3,5-TeCB	43		K	143	0.578 (S)	0.92	1.246
2,2',3,5'-TeCB	44	44 + 47 + 65	C	6960	0.468 (S)	0.79	1.286
2,2',3,6-TeCB	45	45 + 51	C	455	0.492 (S)	0.80	1.146
2,2',3,6'-TeCB	46			90.4	0.569 (S)	0.78	1.160
2,2',4,4'-TeCB	47	44 + 47 + 65	C44				
2,2',4,5-TeCB	48			491	0.516 (S)	0.79	1.272
2,2',4,5'-TeCB	49	49 + 69	C	5380	0.431 (S)	0.79	1.258
2,2',4,6-TeCB	50	50 + 53	C	400	0.477 (S)	0.79	1.111
2,2',4,6'-TeCB	51	45 + 51	C45				
2,2',5,5'-TeCB	52			7870	0.459 (S)	0.80	1.234
2,2',5,6'-TeCB	53	50 + 53	C50				
2,2',6,6'-TeCB	54			56.9	0.340 (S)	0.76	1.001
2,3,3',4-TeCB	55		U		17.1 (S)		
2,3,3',4'-TeCB	56			1310	17.4 (S)	0.76	0.903
2,3,3',5-TeCB	57			31.0	15.9 (S)	0.81	0.843
2,3,3',5'-TeCB	58			31.7	16.0 (S)	0.79	0.850
2,3,3',6-TeCB	59	59 + 62 + 75	C	515	0.384 (S)	0.80	1.302
2,3,4,4'-TeCB	60			2430	17.6 (S)	0.76	0.911
2,3,4,5-TeCB	61	61 + 70 + 74 + 76	C	9620	15.9 (S)	0.76	0.875
2,3,4,6-TeCB	62	59 + 62 + 75	C59				
2,3,4',5-TeCB	63			512	15.7 (S)	0.76	0.864
2,3,4',6-TeCB	64			3120	0.381 (S)	0.79	1.349
2,3,5,6-TeCB	65	44 + 47 + 65	C44				
2,3',4,4'-TeCB	66			10500	15.6 (S)	0.76	0.883
2,3',4,5-TeCB	67			74.9	13.8 (S)	0.70	0.855
2,3',4,5'-TeCB	68			70.2	15.4 (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			111	15.3 (S)	0.74	0.822
2,3',5',6-TeCB	73		U		0.397 (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			254	16.6 (S)	0.79	1.000
3,3',4,5-TeCB	78		U		16.5 (S)		
3,3',4,5'-TeCB	79			122	14.1 (S)	0.80	0.968
3,3',5,5'-TeCB	80		U		15.6 (S)		
3,4,4',5-TeCB	81		U		16.6 (S)		
2,2',3,3',4-PeCB	82			719	5.47 (S)	1.61	0.934
2,2',3,3',5-PeCB	83	83 + 99	C	11600	5.54 (S)	1.58	0.885
2,2',3,3',6-PeCB	84			1090	6.15 (S)	1.61	1.164
2,2',3,4,4'-PeCB	85	85 + 116 + 117	C	3720	4.40 (S)	1.59	0.919
2,2',3,4,5-PeCB	86	86 + 87 + 97 + 108 + 119 + 125	C G	7480	4.65 (S)	1.60	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	1380	5.30 (S)	1.58	1.155
2,2',3,4,6'-PeCB	89		K	31.3	5.65 (S)	1.91	1.183
2,2',3,4',5-PeCB	90	90 + 101 + 113	C	13700	4.74 (S)	1.57	0.869
2,2',3,4',6-PeCB	91	88 + 91	C88				
2,2',3,5,5'-PeCB	92			2610	5.49 (S)	1.60	0.853
2,2',3,5,6-PeCB	93	93 + 95 + 98 + 100 + 102	C	5650	5.23 (S)	1.60	1.122
2,2',3,5,6'-PeCB	94			16.9	5.71 (S)	1.71	1.103
2,2',3,5',6-PeCB	95	93 + 95 + 98 + 100 + 102	C93				
2,2',3,6,6'-PeCB	96			34.1	0.363 (S)	1.54	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				

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	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			133	4.72 (S)	1.61	1.094
2,2',4,6,6'-PeCB	104			4.76	0.434 (S)	1.54	1.001
2,3,3',4,4'-PeCB	105			6060	19.4 (S)	1.53	1.000
2,3,3',4,5-PeCB	106		U		24.3 (S)		
2,3,3',4',5-PeCB	107	107 + 124	C	384	25.0 (S)	1.54	0.991
2,3,3',4,5'-PeCB	108	86 + 87 + 97 + 108 + 119 + 125	C86				
2,3,3',4,6-PeCB	109			1300	24.3 (S)	1.54	0.997
2,3,3',4',6-PeCB	110	110 + 115	C	10000	3.81 (S)	1.59	0.925
2,3,3',5,5'-PeCB	111			13.0	3.89 (S)	1.43	0.945
2,3,3',5,6-PeCB	112		U		3.98 (S)		
2,3,3',5',6-PeCB	113	90 + 101 + 113	C90				
2,3,4,4',5-PeCB	114			515	26.4 (S)	1.56	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			15300	23.1 (S)	1.53	1.001
2,3',4,4',6-PeCB	119	86 + 87 + 97 + 108 + 119 + 125	C86				
2,3',4,5,5'-PeCB	120			62.2	3.78 (S)	1.54	0.958
2,3',4,5',6-PeCB	121			9.36	4.26 (S)	1.38	1.201
2',3,3',4,5-PeCB	122			56.0	26.9 (S)	1.33	1.010
2',3,4,4',5-PeCB	123			364	26.4 (S)	1.54	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		31.7 (S)		
3,3',4,5,5'-PeCB	127		U		26.5 (S)		
2,2',3,3',4,4'-HxCB	128	128 + 166	C	2740	13.2 (S)	1.27	0.958
2,2',3,3',4,5-HxCB	129	129 + 138 + 160 + 163	C	19500	13.1 (S)	1.26	0.928
2,2',3,3',4,5'-HxCB	130			927	16.2 (S)	1.23	0.913
2,2',3,3',4,6-HxCB	131			68.8	15.6 (S)	1.22	1.160
2,2',3,3',4,6'-HxCB	132			2070	15.9 (S)	1.27	1.175
2,2',3,3',5,5'-HxCB	133			316	15.4 (S)	1.32	1.192
2,2',3,3',5,6-HxCB	134	134 + 143	C	334	15.3 (S)	1.34	1.141
2,2',3,3',5,6'-HxCB	135	135 + 151 + 154	C	3580	0.757 (S)	1.33	1.105
2,2',3,3',6,6'-HxCB	136			591	0.600 (S)	1.28	1.025
2,2',3,4,4',5-HxCB	137			911	15.6 (S)	1.24	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	314	13.7 (S)	1.24	1.153
2,2',3,4,4',6'-HxCB	140	139 + 140	C139				
2,2',3,4,5,5'-HxCB	141			2150	13.8 (S)	1.26	0.903
2,2',3,4,5,6-HxCB	142		U		15.0 (S)		
2,2',3,4,5,6'-HxCB	143	134 + 143	C134				
2,2',3,4,5',6-HxCB	144			423	0.795 (S)	1.36	1.123
2,2',3,4,6,6'-HxCB	145		K J	1.20	0.634 (S)	0.50	1.034
2,2',3,4',5,5'-HxCB	146			3130	12.5 (S)	1.28	0.884
2,2',3,4',5,6-HxCB	147	147 + 149	C	6840	13.4 (S)	1.27	1.134
2,2',3,4',5,6'-HxCB	148			36.0	0.763 (S)	1.11	1.084
2,2',3,4',5',6-HxCB	149	147 + 149	C147				
2,2',3,4',6,6'-HxCB	150			18.4	0.616 (S)	1.19	1.013
2,2',3,5,5',6-HxCB	151	135 + 151 + 154	C135				
2,2',3,5,6,6'-HxCB	152			7.54	0.581 (S)	1.15	1.007
2,2',4,4',5,5'-HxCB	153	153 + 168	C	17200	11.6 (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			14.2	0.608 (S)	1.17	1.001
2,3,3',4,4',5-HxCB	156	156 + 157	C	1820	14.5 (S)	1.27	1.000
2,3,3',4,4',5'-HxCB	157	156 + 157	C156				
2,3,3',4,4',6-HxCB	158			1640	10.4 (S)	1.28	0.937
2,3,3',4,5,5'-HxCB	159			70.3	11.4 (S)	1.30	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 [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2,3,3',4,5',6-HxCB	161		U		10.4 (S)		
2,3,3',4',5,5'-HxCB	162			60.5	10.6 (S)	1.32	0.989
2,3,3',4',5,6-HxCB	163	129 + 138 + 160 + 163	C129				
2,3,3',4',5',6-HxCB	164			671	10.9 (S)	1.25	0.921
2,3,3',5,5',6-HxCB	165		U		12.5 (S)		
2,3,4,4',5,6-HxCB	166	128 + 166	C128				
2,3',4,4',5,5'-HxCB	167			628	11.2 (S)	1.25	1.000
2,3',4,4',5',6-HxCB	168	153 + 168	C153				
3,3',4,4',5,5'-HxCB	169		U		22.8 (S)		
2,2',3,3',4,4',5-HpCB	170			2460	0.772 (S)	1.06	1.000
2,2',3,3',4,4',6-HpCB	171	171 + 173	C	727	0.726 (S)	1.03	1.163
2,2',3,3',4,5,5'-HpCB	172			453	0.756 (S)	1.04	0.897
2,2',3,3',4,5,6-HpCB	173	171 + 173	C171				
2,2',3,3',4,5,6'-HpCB	174			1220	0.660 (S)	1.05	1.134
2,2',3,3',4,5',6-HpCB	175			96.6	0.679 (S)	0.96	1.103
2,2',3,3',4,6,6'-HpCB	176			151	0.515 (S)	1.05	1.034
2,2',3,3',4',5,6-HpCB	177			1320	0.547 (S)	1.05	1.146
2,2',3,3',5,5',6-HpCB	178			695	0.702 (S)	1.07	1.085
2,2',3,3',5,6,6'-HpCB	179			638	0.506 (S)	1.06	1.010
2,2',3,4,4',5,5'-HpCB	180	180 + 193	C	8220	0.877 (S)	1.04	1.000
2,2',3,4,4',5,6-HpCB	181			36.2	0.705 (S)	1.19	1.157
2,2',3,4,4',5,6'-HpCB	182			20.8	0.657 (S)	1.11	1.116
2,2',3,4,4',5',6-HpCB	183	183 + 185	C	1950	0.695 (S)	1.05	1.127
2,2',3,4,4',6,6'-HpCB	184			10.5	0.485 (S)	1.16	1.024
2,2',3,4,5,5',6-HpCB	185	183 + 185	C183				
2,2',3,4,5,6,6'-HpCB	186		U		0.539 (S)		
2,2',3,4',5,5',6-HpCB	187			5350	0.629 (S)	1.05	1.110
2,2',3,4',5,6,6'-HpCB	188			12.3	0.599 (S)	0.92	1.000
2,3,3',4,4',5,5'-HpCB	189			85.1	0.853 (S)	1.05	1.000
2,3,3',4,4',5,6-HpCB	190			567	0.564 (S)	1.04	0.947
2,3,3',4,4',5',6-HpCB	191			94.3	0.564 (S)	1.13	0.917
2,3,3',4,5,5',6-HpCB	192		U		0.629 (S)		
2,3,3',4',5,5',6-HpCB	193	180 + 193	C180				
2,2',3,3',4,4',5,5'-OcCB	194		G	828	0.579 (S)	0.88	0.991
2,2',3,3',4,4',5,6-OcCB	195			447	0.551 (S)	0.89	0.945
2,2',3,3',4,4',5,6'-OcCB	196			548	0.557 (S)	0.87	0.915
2,2',3,3',4,4',6,6'-OcCB	197	197 + 200	C	129	0.413 (S)	0.92	1.046
2,2',3,3',4,5,5',6-OcCB	198	198 + 199	C	1200	0.572 (S)	0.91	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			127	0.410 (S)	0.91	1.023
2,2',3,3',5,5',6,6'-OcCB	202			405	0.555 (S)	0.90	1.000
2,2',3,4,4',5,5',6-OcCB	203			926	0.552 (S)	0.91	0.919
2,2',3,4,4',5,6,6'-OcCB	204		K J	1.40	0.424 (S)	3.62	1.039
2,3,3',4,4',5,5',6-OcCB	205			51.1	0.475 (S)	0.90	1.001
2,2',3,3',4,4',5,5',6-NoCB	206			382	0.597 (S)	0.76	1.000
2,2',3,3',4,4',5,6,6'-NoCB	207			53.2	0.445 (S)	0.82	1.020
2,2',3,3',4,5,5',6,6'-NoCB	208			156	0.542 (S)	0.78	1.001
2,2',3,3',4,4',5,5',6,6'-DeCB	209			158	0.426 (S)	1.22	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: _____Ting Chen_____

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Report Filename: 1668_PCB1668_PCBTF_L29961-9_Form1A_PB8C_359AS7_SJ2452952.html; Workgroup: WG65252; Design ID: 3360]

SGS AXYS METHOD MLA-010 Rev 12

Form 2

PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.
PDI-TF-SMB007
Sample Collection:
22-Aug-2018 07:49

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

Project No.	PORTLAND HARBOR PDI AND BASELINE TISSUE		
Contract No.:	4972	**Lab Sample I.D.:**	L29961-9
Matrix:	TISSUE	**Sample Size:**	10.2 g (wet)
Sample Receipt Date:	28-Aug-2018	**Initial Calibration Date:**	07-Jul-2018
Extraction Date:	19-Sep-2018	**Instrument ID:**	HR GC/MS
Analysis Date:	19-Oct-2018 **Time:** 20:01:44	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	100	**Sample Data Filename:**	**PB8C_359A S: 7**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB8C_358 S: 4
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PB8C_359A S: 1
Concentration Units:	pg absolute	**% Lipid:**	4.65

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. [1]	CO-ELUTIONS	LAB FLAG [2]	SPIKE CONC.	CONC. FOUND	R(%) [3]	ION ABUND. RATIO	RRT
13C12-2-MoCB	1L			2000	832	41.6	3.29	0.719
13C12-4-MoCB	3L			2000	877	43.9	3.12	0.859
13C12-2,2'-DiCB	4L			2000	922	46.1	1.50	0.873
13C12-4,4'-DiCB	15L			2000	1090	54.4	1.60	1.254
13C12-2,2',6-TriCB	19L			2000	1120	56.2	1.06	1.071
13C12-3,4,4'-TriCB	37L			2000	1140	57.1	1.03	1.092
13C12-2,2',6,6'-TeCB	54L			2000	1180	59.0	0.80	0.811
13C12-3,3',4,4'-TeCB	77L			2000	1540	77.2	0.77	1.398
13C12-3,4,4',5-TeCB	81L			2000	1510	75.5	0.78	1.374
13C12-2,2',4,6,6'-PeCB	104L			2000	897	44.8	1.55	0.808
13C12-2,3,3',4,4'-PeCB	105L			2000	1800	89.8	1.58	1.201
13C12-2,3,4,4',5-PeCB	114L			2000	1390	69.7	1.53	1.180
13C12-2,3',4,4',5-PeCB	118L			2000	1560	77.9	1.65	1.162
13C12-2',3,4,4',5-PeCB	123L			2000	1470	73.6	1.56	1.152
13C12-3,3',4,4',5-PeCB	126L			2000	1380	69.0	1.55	1.302
13C12-2,2',4,4',6,6'-HxCB	155L			2000	753	37.7	1.15	0.785
13C12-2,3,3',4,4',5-HxCB	156L	156L + 157L	C	4000	2370	59.2	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			2000	1240	62.0	1.18	1.078
13C12-3,3',4,4',5,5'-HxCB	169L			2000	1130	56.4	1.22	1.192
13C12-2,2',3,3',4,4',5-HpCB	170L			2000	1860	92.8	1.11	0.897
13C12-2,2',3,4,4',5,5'-HpCB	180L			2000	1610	80.3	1.07	0.872
13C12-2,2',3,4',5,6,6'-HpCB	188L			2000	1210	60.7	1.16	0.711
13C12-2,3,3',4,4',5,5'-HpCB	189L			2000	1840	92.1	1.02	0.959
13C12-2,2',3,3',5,5',6,6'-OcCB	202L			2000	907	45.3	0.79	0.817
13C12-2,3,3',4,4',5,5',6-OcCB	205L			2000	1670	83.5	0.84	1.009
13C12-2,2',3,3',4,4',5,5',6-NoCB	206L			2000	1710	85.7	0.74	1.043
13C12-2,2',3,3',4,5,5',6,6'-NoCB	208L			2000	1680	84.2	0.79	0.949
13C12-2,2',3,3',4,4',5,5',6,6'-DeCB	209L			2000	1150	57.4	1.14	1.074
CLEANUP STANDARD								
13C12-2,4,4'-TriCB	28L			2000	1540	76.8	1.03	0.925
13C12-2,3,3',5,5'-PeCB	111L			2000	1510	75.5	1.61	1.088
13C12-2,2',3,3',5,5',6-HpCB	178L			2000	1200	59.8	1.08	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: _____Ting Chen_____

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Report Filename: 1668_PCB1668_PCBTF_L29961-9_Form2_PB8C_359AS7_SJ2452952.html; Workgroup: WG65252; Design ID: 3360]

SGS AXYS METHOD MLA-010 Rev 12

Form 1A

PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.
PDI-TF-SMB008
Sample Collection:
22-Aug-2018 07:23

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

Project No.	PORTLAND HARBOR PDI AND BASELINE TISSUE		
Contract No.:	4972	**Lab Sample I.D.:**	L29961-10
Matrix:	TISSUE	**Sample Size:**	10.1 g (wet)
Sample Receipt Date:	28-Aug-2018	**Initial Calibration Date:**	07-Jul-2018
Extraction Date:	19-Sep-2018	**Instrument ID:**	HR GC/MS
Analysis Date:	20-Oct-2018 **Time:** 00:21:10	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	100	**Sample Data Filename:**	**PB8C_360A S: 2**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB8C_358 S: 4
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PB8C_360 S: 1
Concentration Units:	pg/g (wet weight basis)	**% Lipid:**	4.73

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 [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2-MoCB	1			3.88	0.308 (S)	2.91	1.001
3-MoCB	2		J	2.49	0.374 (S)	2.69	0.987
4-MoCB	3		K J	2.36	0.364 (S)	3.79	1.000
2,2'-DiCB	4			127	1.70 (S)	1.46	1.001
2,3-DiCB	5		U		1.38 (S)		
2,3'-DiCB	6			18.5	1.24 (S)	1.75	1.176
2,4-DiCB	7			3.70	1.29 (S)	1.46	1.157
2,4'-DiCB	8			69.1	1.17 (S)	1.61	1.207
2,5-DiCB	9			5.30	1.24 (S)	1.41	1.146
2,6-DiCB	10			6.84	1.25 (S)	1.47	1.013
3,3'-DiCB	11			104	1.30 (S)	1.46	0.968
3,4-DiCB	12	12 + 13	C J	2.36	1.30 (S)	1.44	0.983
3,4'-DiCB	13	12 + 13	C12				
3,5-DiCB	14		U		1.29 (S)		
4,4'-DiCB	15			22.1	1.31 (S)	1.47	1.000
2,2',3-TriCB	16			66.9	0.329 (S)	1.02	1.166
2,2',4-TriCB	17			174	0.269 (S)	1.09	1.138
2,2',5-TriCB	18	18 + 30	C	234	0.228 (S)	1.05	1.113
2,2',6-TriCB	19			268	0.293 (S)	1.07	1.001
2,3,3'-TriCB	20	20 + 28	C	688	1.09 (S)	1.01	0.847
2,3,4-TriCB	21	21 + 33	C	174	1.09 (S)	1.00	0.856
2,3,4'-TriCB	22			157	1.25 (S)	1.00	0.871
2,3,5-TriCB	23		U		1.17 (S)		
2,3,6-TriCB	24		J	3.06	0.202 (S)	1.05	1.159
2,3',4-TriCB	25			64.1	0.948 (S)	1.01	0.824
2,3',5-TriCB	26	26 + 29	C	214	1.11 (S)	1.00	1.301
2,3',6-TriCB	27			38.5	0.196 (S)	1.06	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			426	1.03 (S)	1.01	0.836
2,4',6-TriCB	32			95.4	1.05 (S)	1.04	1.197
2',3,4-TriCB	33	21 + 33	C21				
2',3,5-TriCB	34			5.47	1.16 (S)	0.89	1.274
3,3',4-TriCB	35		J	2.00	1.15 (S)	1.12	0.988
3,3',5-TriCB	36		U		1.07 (S)		
3,4,4'-TriCB	37			62.7	1.23 (S)	0.98	1.001
3,4,5-TriCB	38		J	1.37	1.12 (S)	1.19	0.966
3,4',5-TriCB	39			7.51	1.13 (S)	1.18	0.945

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2,2',3,3'-TeCB	40	40 + 41 + 71	C	554	0.457 (S)	0.79	1.337
2,2',3,4-TeCB	41	40 + 41 + 71	C40				
2,2',3,4'-TeCB	42			343	0.481 (S)	0.79	1.312
2,2',3,5-TeCB	43			52.4	0.505 (S)	0.87	1.246
2,2',3,5'-TeCB	44	44 + 47 + 65	C	2210	0.412 (S)	0.78	1.286
2,2',3,6-TeCB	45	45 + 51	C	217	0.432 (S)	0.80	1.147
2,2',3,6'-TeCB	46			42.5	0.497 (S)	0.83	1.160
2,2',4,4'-TeCB	47	44 + 47 + 65	C44				
2,2',4,5-TeCB	48			198	0.459 (S)	0.80	1.273
2,2',4,5'-TeCB	49	49 + 69	C	1570	0.382 (S)	0.79	1.259
2,2',4,6-TeCB	50	50 + 53	C	245	0.419 (S)	0.78	1.111
2,2',4,6'-TeCB	51	45 + 51	C45				
2,2',5,5'-TeCB	52			3110	0.415 (S)	0.80	1.234
2,2',5,6'-TeCB	53	50 + 53	C50				
2,2',6,6'-TeCB	54			43.8	0.301 (S)	0.87	1.001
2,3,3',4-TeCB	55		U		13.1 (S)		
2,3,3',4'-TeCB	56			423	12.8 (S)	0.76	0.904
2,3,3',5-TeCB	57		U		11.9 (S)		
2,3,3',5'-TeCB	58		U		12.0 (S)		
2,3,3',6-TeCB	59	59 + 62 + 75	C	137	0.341 (S)	0.79	1.302
2,3,4,4'-TeCB	60			384	13.5 (S)	0.73	0.911
2,3,4,5-TeCB	61	61 + 70 + 74 + 76	C	3270	11.8 (S)	0.77	0.874
2,3,4,6-TeCB	62	59 + 62 + 75	C59				
2,3,4',5-TeCB	63			105	11.7 (S)	0.75	0.864
2,3,4',6-TeCB	64			702	0.336 (S)	0.76	1.349
2,3,5,6-TeCB	65	44 + 47 + 65	C44				
2,3',4,4'-TeCB	66			2110	11.9 (S)	0.76	0.884
2,3',4,5-TeCB	67			31.2	10.5 (S)	0.83	0.855
2,3',4,5'-TeCB	68			37.4	11.5 (S)	0.71	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			45.0	11.3 (S)	0.81	0.822
2,3',5',6-TeCB	73		U		0.354 (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			81.3	12.5 (S)	0.81	1.000
3,3',4,5-TeCB	78		U		12.6 (S)		
3,3',4,5'-TeCB	79			59.3	10.3 (S)	0.76	0.969
3,3',5,5'-TeCB	80		U		11.4 (S)		
3,4,4',5-TeCB	81		U		12.6 (S)		
2,2',3,3',4-PeCB	82			476	4.40 (S)	1.62	0.933
2,2',3,3',5-PeCB	83	83 + 99	C	4720	3.97 (S)	1.57	0.885
2,2',3,3',6-PeCB	84			879	4.21 (S)	1.55	1.164
2,2',3,4,4'-PeCB	85	85 + 116 + 117	C	1400	3.35 (S)	1.61	0.920
2,2',3,4,5-PeCB	86	86 + 87 + 97 + 108 + 119 + 125	C G	4100	3.40 (S)	1.56	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	744	3.81 (S)	1.59	1.155
2,2',3,4,6'-PeCB	89			30.1	4.02 (S)	1.48	1.183
2,2',3,4',5-PeCB	90	90 + 101 + 113	C	7080	3.40 (S)	1.60	0.869
2,2',3,4',6-PeCB	91	88 + 91	C88				
2,2',3,5,5'-PeCB	92			1430	3.92 (S)	1.57	0.853
2,2',3,5,6-PeCB	93	93 + 95 + 98 + 100 + 102	C	3910	3.66 (S)	1.57	1.121
2,2',3,5,6'-PeCB	94			20.5	4.07 (S)	1.57	1.102
2,2',3,5',6-PeCB	95	93 + 95 + 98 + 100 + 102	C93				
2,2',3,6,6'-PeCB	96			25.7	0.307 (S)	1.43	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				

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	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			84.2	3.36 (S)	1.55	1.093
2,2',4,6,6'-PeCB	104			4.64	0.349 (S)	1.51	1.001
2,3,3',4,4'-PeCB	105			2360	9.19 (S)	1.54	1.000
2,3,3',4,5-PeCB	106		U		11.3 (S)		
2,3,3',4',5-PeCB	107	107 + 124	C	229	12.0 (S)	1.56	0.991
2,3,3',4,5'-PeCB	108	86 + 87 + 97 + 108 + 119 + 125	C86				
2,3,3',4,6-PeCB	109			533	11.2 (S)	1.55	0.997
2,3,3',4',6-PeCB	110	110 + 115	C	6380	3.00 (S)	1.58	0.925
2,3,3',5,5'-PeCB	111		K	11.5	2.95 (S)	1.30	0.945
2,3,3',5,6-PeCB	112		U		2.92 (S)		
2,3,3',5',6-PeCB	113	90 + 101 + 113	C90				
2,3,4,4',5-PeCB	114			163	12.5 (S)	1.55	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			6550	10.9 (S)	1.54	1.001
2,3',4,4',6-PeCB	119	86 + 87 + 97 + 108 + 119 + 125	C86				
2,3',4,5,5'-PeCB	120			42.6	2.89 (S)	1.37	0.958
2,3',4,5',6-PeCB	121			5.96	3.02 (S)	1.57	1.200
2',3,3',4,5-PeCB	122		K	34.9	13.5 (S)	2.03	1.010
2',3,4,4',5-PeCB	123			121	12.5 (S)	1.54	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	12.7	11.8 (S)	1.64	1.000
3,3',4,5,5'-PeCB	127		K	19.1	11.9 (S)	1.28	1.041
2,2',3,3',4,4'-HxCB	128	128 + 166	C	1870	10.3 (S)	1.25	0.959
2,2',3,3',4,5-HxCB	129	129 + 138 + 160 + 163	C	13300	10.8 (S)	1.25	0.928
2,2',3,3',4,5'-HxCB	130			650	13.7 (S)	1.26	0.913
2,2',3,3',4,6-HxCB	131			74.2	12.4 (S)	1.24	1.160
2,2',3,3',4,6'-HxCB	132			2120	13.6 (S)	1.25	1.175
2,2',3,3',5,5'-HxCB	133			219	12.7 (S)	1.25	1.192
2,2',3,3',5,6-HxCB	134	134 + 143	C	331	12.9 (S)	1.31	1.141
2,2',3,3',5,6'-HxCB	135	135 + 151 + 154	C	2820	0.563 (S)	1.28	1.104
2,2',3,3',6,6'-HxCB	136			651	0.428 (S)	1.26	1.025
2,2',3,4,4',5-HxCB	137			532	12.4 (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	196	11.8 (S)	1.33	1.153
2,2',3,4,4',6'-HxCB	140	139 + 140	C139				
2,2',3,4,5,5'-HxCB	141			1500	12.1 (S)	1.29	0.903
2,2',3,4,5,6-HxCB	142		U		13.2 (S)		
2,2',3,4,5,6'-HxCB	143	134 + 143	C134				
2,2',3,4,5',6-HxCB	144			311	0.588 (S)	1.31	1.122
2,2',3,4,6,6'-HxCB	145		J	1.68	0.455 (S)	1.28	1.034
2,2',3,4',5,5'-HxCB	146			2400	10.9 (S)	1.26	0.884
2,2',3,4',5,6-HxCB	147	147 + 149	C	6050	11.8 (S)	1.27	1.133
2,2',3,4',5,6'-HxCB	148			31.1	0.579 (S)	1.36	1.084
2,2',3,4',5',6-HxCB	149	147 + 149	C147				
2,2',3,4',6,6'-HxCB	150			17.5	0.439 (S)	1.23	1.013
2,2',3,5,5',6-HxCB	151	135 + 151 + 154	C135				
2,2',3,5,6,6'-HxCB	152			8.43	0.413 (S)	1.15	1.007
2,2',4,4',5,5'-HxCB	153	153 + 168	C	12000	9.60 (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			11.0	0.370 (S)	1.30	1.001
2,3,3',4,4',5-HxCB	156	156 + 157	C	1180	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			968	8.23 (S)	1.24	0.937
2,3,3',4,5,5'-HxCB	159			55.5	8.74 (S)	1.24	0.981
2,3,3',4,5,6-HxCB	160	129 + 138 + 160 + 163	C129				

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COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2,3,3',4,5',6-HxCB	161		U		8.83 (S)		
2,3,3',4',5,5'-HxCB	162			25.9	8.20 (S)	1.41	0.989
2,3,3',4',5,6-HxCB	163	129 + 138 + 160 + 163	C129				
2,3,3',4',5',6-HxCB	164			482	9.47 (S)	1.28	0.921
2,3,3',5,5',6-HxCB	165		U		10.2 (S)		
2,3,4,4',5,6-HxCB	166	128 + 166	C128				
2,3',4,4',5,5'-HxCB	167			433	9.60 (S)	1.25	1.000
2,3',4,4',5',6-HxCB	168	153 + 168	C153				
3,3',4,4',5,5'-HxCB	169		U		9.92 (S)		
2,2',3,3',4,4',5-HpCB	170			1690	0.736 (S)	1.06	1.000
2,2',3,3',4,4',6-HpCB	171	171 + 173	C	478	0.673 (S)	1.12	1.164
2,2',3,3',4,5,5'-HpCB	172			301	0.714 (S)	1.00	0.896
2,2',3,3',4,5,6-HpCB	173	171 + 173	C171				
2,2',3,3',4,5,6'-HpCB	174			902	0.628 (S)	1.08	1.134
2,2',3,3',4,5',6-HpCB	175			63.1	0.601 (S)	1.02	1.103
2,2',3,3',4,6,6'-HpCB	176			118	0.496 (S)	1.07	1.034
2,2',3,3',4',5,6-HpCB	177			688	0.482 (S)	1.10	1.146
2,2',3,3',5,5',6-HpCB	178			478	0.619 (S)	1.08	1.086
2,2',3,3',5,6,6'-HpCB	179			506	0.472 (S)	1.03	1.010
2,2',3,4,4',5,5'-HpCB	180	180 + 193	C	5010	0.707 (S)	1.05	1.000
2,2',3,4,4',5,6-HpCB	181			20.6	0.635 (S)	0.94	1.157
2,2',3,4,4',5,6'-HpCB	182			16.1	0.608 (S)	0.92	1.116
2,2',3,4,4',5',6-HpCB	183	183 + 185	C	1240	0.620 (S)	1.04	1.127
2,2',3,4,4',6,6'-HpCB	184			8.74	0.473 (S)	0.93	1.024
2,2',3,4,5,5',6-HpCB	185	183 + 185	C183				
2,2',3,4,5,6,6'-HpCB	186		U		0.524 (S)		
2,2',3,4',5,5',6-HpCB	187			3720	0.570 (S)	1.06	1.110
2,2',3,4',5,6,6'-HpCB	188			8.53	0.509 (S)	1.10	1.000
2,3,3',4,4',5,5'-HpCB	189			56.8	0.471 (S)	1.03	1.001
2,3,3',4,4',5,6-HpCB	190			374	0.533 (S)	1.04	0.947
2,3,3',4,4',5',6-HpCB	191			62.7	0.535 (S)	1.12	0.917
2,3,3',4,5,5',6-HpCB	192		K J	1.17	0.572 (S)	1.44	0.902
2,3,3',4',5,5',6-HpCB	193	180 + 193	C180				
2,2',3,3',4,4',5,5'-OcCB	194		G	507	0.642 (S)	0.89	0.992
2,2',3,3',4,4',5,6-OcCB	195			324	0.708 (S)	0.89	0.945
2,2',3,3',4,4',5,6'-OcCB	196			417	0.600 (S)	0.90	0.915
2,2',3,3',4,4',6,6'-OcCB	197	197 + 200	C	91.8	0.428 (S)	0.88	1.046
2,2',3,3',4,5,5',6-OcCB	198	198 + 199	C	871	0.595 (S)	0.93	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			83.7	0.427 (S)	0.98	1.023
2,2',3,3',5,5',6,6'-OcCB	202			275	0.589 (S)	0.90	1.000
2,2',3,4,4',5,5',6-OcCB	203			661	0.573 (S)	0.85	0.919
2,2',3,4,4',5,6,6'-OcCB	204		J	1.16	0.437 (S)	0.83	1.038
2,3,3',4,4',5,5',6-OcCB	205			30.1	0.539 (S)	0.95	1.001
2,2',3,3',4,4',5,5',6-NoCB	206			251	0.519 (S)	0.77	1.001
2,2',3,3',4,4',5,6,6'-NoCB	207			36.1	0.350 (S)	0.76	1.020
2,2',3,3',4,5,5',6,6'-NoCB	208			98.1	0.389 (S)	0.78	1.000
2,2',3,3',4,4',5,5',6,6'-DeCB	209			102	0.413 (S)	1.08	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: _____Ting Chen_____

For Axys Internal Use Only [XSL Template: Form16681A.xsl; Created: 02-Nov-2018 08:45:27; Application: XMLTransformer-1.16.51;
Report Filename: 1668_PCB1668_PCBTF_L29961-10_Form1A_PB8C_360AS2_SJ2453000.html; Workgroup: WG65252; Design ID: 3360]

SGS AXYS METHOD MLA-010 Rev 12

Form 2

PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.
PDI-TF-SMB008
Sample Collection:
22-Aug-2018 07:23

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

Project No.	PORTLAND HARBOR PDI AND BASELINE TISSUE		
Contract No.:	4972	**Lab Sample I.D.:**	L29961-10
Matrix:	TISSUE	**Sample Size:**	10.1 g (wet)
Sample Receipt Date:	28-Aug-2018	**Initial Calibration Date:**	07-Jul-2018
Extraction Date:	19-Sep-2018	**Instrument ID:**	HR GC/MS
Analysis Date:	20-Oct-2018 **Time:** 00:21:10	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	100	**Sample Data Filename:**	**PB8C_360A S: 2**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB8C_358 S: 4
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PB8C_360 S: 1
Concentration Units:	pg absolute	**% Lipid:**	4.73

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LABELED COMPOUND	IUPAC NO. [1]	CO-ELUTIONS	LAB FLAG [2]	SPIKE CONC.	CONC. FOUND	R(%) [3]	ION ABUND. RATIO	RRT
13C12-2-MoCB	1L			2000	830	41.5	3.03	0.719
13C12-4-MoCB	3L			2000	898	44.9	3.25	0.859
13C12-2,2'-DiCB	4L			2000	985	49.3	1.45	0.874
13C12-4,4'-DiCB	15L			2000	1200	60.0	1.57	1.255
13C12-2,2',6-TriCB	19L			2000	1270	63.6	1.07	1.072
13C12-3,4,4'-TriCB	37L			2000	1350	67.5	1.08	1.092
13C12-2,2',6,6'-TeCB	54L			2000	1280	64.2	0.80	0.811
13C12-3,3',4,4'-TeCB	77L			2000	1570	78.3	0.76	1.397
13C12-3,4,4',5-TeCB	81L			2000	1570	78.3	0.75	1.373
13C12-2,2',4,6,6'-PeCB	104L			2000	967	48.4	1.49	0.808
13C12-2,3,3',4,4'-PeCB	105L			2000	1800	89.8	1.57	1.201
13C12-2,3,4,4',5-PeCB	114L			2000	1360	67.9	1.56	1.180
13C12-2,3',4,4',5-PeCB	118L			2000	1550	77.7	1.52	1.162
13C12-2',3,4,4',5-PeCB	123L			2000	1440	72.1	1.46	1.152
13C12-3,3',4,4',5-PeCB	126L			2000	1550	77.3	1.54	1.302
13C12-2,2',4,4',6,6'-HxCB	155L			2000	897	44.9	1.28	0.785
13C12-2,3,3',4,4',5-HxCB	156L	156L + 157L	C	4000	2240	56.0	1.34	1.108
13C12-2,3,3',4,4',5'-HxCB	157L	156L + 157L	C156L					
13C12-2,3',4,4',5,5'-HxCB	167L			2000	1150	57.7	1.37	1.078
13C12-3,3',4,4',5,5'-HxCB	169L			2000	1210	60.7	1.35	1.192
13C12-2,2',3,3',4,4',5-HpCB	170L			2000	1840	91.8	1.04	0.897
13C12-2,2',3,4,4',5,5'-HpCB	180L			2000	1790	89.7	1.06	0.872
13C12-2,2',3,4',5,6,6'-HpCB	188L			2000	1340	66.8	1.07	0.711
13C12-2,3,3',4,4',5,5'-HpCB	189L			2000	1920	96.0	1.05	0.959
13C12-2,2',3,3',5,5',6,6'-OcCB	202L			2000	886	44.3	0.95	0.817
13C12-2,3,3',4,4',5,5',6-OcCB	205L			2000	1810	90.6	0.81	1.009
13C12-2,2',3,3',4,4',5,5',6-NoCB	206L			2000	1930	96.6	0.83	1.043
13C12-2,2',3,3',4,5,5',6,6'-NoCB	208L			2000	2060	103	0.76	0.948
13C12-2,2',3,3',4,4',5,5',6,6'-DeCB	209L			2000	1340	67.1	1.31	1.074
CLEANUP STANDARD								
13C12-2,4,4'-TriCB	28L			2000	1540	76.9	1.03	0.925
13C12-2,3,3',5,5'-PeCB	111L			2000	1550	77.3	1.61	1.088
13C12-2,2',3,3',5,5',6-HpCB	178L			2000	1220	61.0	0.99	1.011

(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: _____Ting Chen_____

For Axys Internal Use Only [XSL Template: Form16682.xsl; Created: 02-Nov-2018 08:45:27; Application: XMLTransformer-1.16.51;
Report Filename: 1668_PCB1668_PCBTF_L29961-10_Form2_PB8C_360AS2_SJ2453000.html; Workgroup: WG65252; Design ID: 3360]

SGS AXYS METHOD MLA-010 Rev 12

Form 1A

PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.
PDI-TF-SMB003
Sample Collection:
22-Aug-2018 09:00

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

Project No.	PORTLAND HARBOR PDI AND BASELINE TISSUE		
Contract No.:	4972	**Lab Sample I.D.:**	L29961-11
Matrix:	TISSUE	**Sample Size:**	10.1 g (wet)
Sample Receipt Date:	28-Aug-2018	**Initial Calibration Date:**	07-Jul-2018
Extraction Date:	19-Sep-2018	**Instrument ID:**	HR GC/MS
Analysis Date:	20-Oct-2018 **Time:** 01:25:00	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	100	**Sample Data Filename:**	**PB8C_360A S: 3**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB8C_358 S: 4
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PB8C_360 S: 1
Concentration Units:	pg/g (wet weight basis)	**% Lipid:**	6.98

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COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2-MoCB	1			173	0.342 (S)	3.05	1.001
3-MoCB	2			14.8	0.459 (S)	2.93	0.988
4-MoCB	3			109	0.496 (S)	3.10	1.001
2,2'-DiCB	4			3350	2.48 (S)	1.50	1.001
2,3-DiCB	5			15.3	2.24 (S)	1.70	1.197
2,3'-DiCB	6			744	2.02 (S)	1.48	1.176
2,4-DiCB	7			60.8	2.10 (S)	1.52	1.158
2,4'-DiCB	8			1520	1.91 (S)	1.50	1.207
2,5-DiCB	9			123	2.01 (S)	1.49	1.147
2,6-DiCB	10			95.7	2.03 (S)	1.55	1.013
3,3'-DiCB	11			234	2.12 (S)	1.48	0.968
3,4-DiCB	12	12 + 13	C	48.9	2.11 (S)	1.48	0.983
3,4'-DiCB	13	12 + 13	C12				
3,5-DiCB	14		U		2.10 (S)		
4,4'-DiCB	15			514	2.27 (S)	1.50	1.001
2,2',3-TriCB	16			676	0.535 (S)	1.07	1.166
2,2',4-TriCB	17			2830	0.438 (S)	1.07	1.138
2,2',5-TriCB	18	18 + 30	C	3850	0.372 (S)	1.07	1.113
2,2',6-TriCB	19			1400	0.463 (S)	1.05	1.001
2,3,3'-TriCB	20	20 + 28	C	11500	7.27 (S)	1.00	0.847
2,3,4-TriCB	21	21 + 33	C	999	7.24 (S)	1.02	0.856
2,3,4'-TriCB	22			1620	8.34 (S)	1.02	0.871
2,3,5-TriCB	23		U		7.77 (S)		
2,3,6-TriCB	24			41.7	0.328 (S)	0.95	1.159
2,3',4-TriCB	25			688	6.31 (S)	1.02	0.824
2,3',5-TriCB	26	26 + 29	C	2120	7.41 (S)	1.01	1.301
2,3',6-TriCB	27			690	0.319 (S)	1.06	1.152
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			4610	6.86 (S)	1.01	0.836
2,4',6-TriCB	32			3660	7.00 (S)	1.00	1.198
2',3,4-TriCB	33	21 + 33	C21				
2',3,5-TriCB	34			86.9	7.70 (S)	1.05	1.273
3,3',4-TriCB	35			58.8	7.63 (S)	1.03	0.988
3,3',5-TriCB	36		U		7.14 (S)		
3,4,4'-TriCB	37			605	8.35 (S)	1.00	1.001
3,4,5-TriCB	38			37.3	7.43 (S)	1.03	0.967
3,4',5-TriCB	39			95.5	7.49 (S)	1.09	0.946

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COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2,2',3,3'-TeCB	40	40 + 41 + 71	C	12700	0.448 (S)	0.79	1.336
2,2',3,4-TeCB	41	40 + 41 + 71	C40				
2,2',3,4'-TeCB	42			8110	0.472 (S)	0.79	1.313
2,2',3,5-TeCB	43			1340	0.496 (S)	0.79	1.246
2,2',3,5'-TeCB	44	44 + 47 + 65	C	41400	0.405 (S)	0.79	1.285
2,2',3,6-TeCB	45	45 + 51	C	3660	0.424 (S)	0.79	1.146
2,2',3,6'-TeCB	46			753	0.488 (S)	0.80	1.161
2,2',4,4'-TeCB	47	44 + 47 + 65	C44				
2,2',4,5-TeCB	48			2830	0.451 (S)	0.78	1.273
2,2',4,5'-TeCB	49	49 + 69	C	35600	0.375 (S)	0.79	1.259
2,2',4,6-TeCB	50	50 + 53	C	2810	0.411 (S)	0.78	1.110
2,2',4,6'-TeCB	51	45 + 51	C45				
2,2',5,5'-TeCB	52			59200	0.407 (S)	0.79	1.234
2,2',5,6'-TeCB	53	50 + 53	C50				
2,2',6,6'-TeCB	54			117	0.300 (S)	0.84	1.001
2,3,3',4-TeCB	55		U		33.5 (S)		
2,3,3',4'-TeCB	56			6620	32.9 (S)	0.77	0.903
2,3,3',5-TeCB	57			137	30.5 (S)	0.77	0.843
2,3,3',5'-TeCB	58			77.8	30.9 (S)	0.82	0.851
2,3,3',6-TeCB	59	59 + 62 + 75	C	2910	0.335 (S)	0.80	1.303
2,3,4,4'-TeCB	60			9940	34.5 (S)	0.76	0.910
2,3,4,5-TeCB	61	61 + 70 + 74 + 76	C	41700	30.3 (S)	0.76	0.875
2,3,4,6-TeCB	62	59 + 62 + 75	C59				
2,3,4',5-TeCB	63			1890	30.0 (S)	0.77	0.863
2,3,4',6-TeCB	64			23000	0.330 (S)	0.79	1.349
2,3,5,6-TeCB	65	44 + 47 + 65	C44				
2,3',4,4'-TeCB	66		G	46700	30.5 (S)	0.77	0.883
2,3',4,5-TeCB	67			330	27.0 (S)	0.78	0.855
2,3',4,5'-TeCB	68			119	29.6 (S)	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			298	29.1 (S)	0.73	0.821
2,3',5',6-TeCB	73		U		0.348 (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			853	34.4 (S)	0.78	1.000
3,3',4,5-TeCB	78		U		32.3 (S)		
3,3',4,5'-TeCB	79			247	26.4 (S)	0.79	0.968
3,3',5,5'-TeCB	80		U		29.1 (S)		
3,4,4',5-TeCB	81		K	35.5	30.0 (S)	0.73	1.000
2,2',3,3',4-PeCB	82			1570	11.3 (S)	1.62	0.934
2,2',3,3',5-PeCB	83	83 + 99	C	27300	10.2 (S)	1.57	0.885
2,2',3,3',6-PeCB	84			2640	10.8 (S)	1.59	1.164
2,2',3,4,4'-PeCB	85	85 + 116 + 117	C	10300	8.61 (S)	1.63	0.920
2,2',3,4,5-PeCB	86	86 + 87 + 97 + 108 + 119 + 125	C G	17300	8.74 (S)	1.60	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	3530	9.79 (S)	1.58	1.155
2,2',3,4,6'-PeCB	89			226	10.3 (S)	1.52	1.183
2,2',3,4',5-PeCB	90	90 + 101 + 113	C	29900	8.72 (S)	1.58	0.869
2,2',3,4',6-PeCB	91	88 + 91	C88				
2,2',3,5,5'-PeCB	92			5950	10.1 (S)	1.59	0.853
2,2',3,5,6-PeCB	93	93 + 95 + 98 + 100 + 102	C	14100	9.39 (S)	1.57	1.121
2,2',3,5,6'-PeCB	94			75.7	10.4 (S)	1.57	1.103
2,2',3,5',6-PeCB	95	93 + 95 + 98 + 100 + 102	C93				
2,2',3,6,6'-PeCB	96			207	0.372 (S)	1.57	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				

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	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			243	8.61 (S)	1.62	1.093
2,2',4,6,6'-PeCB	104			13.1	0.399 (S)	1.62	1.001
2,3,3',4,4'-PeCB	105			12500	31.6 (S)	1.53	1.000
2,3,3',4,5-PeCB	106		U		35.9 (S)		
2,3,3',4',5-PeCB	107	107 + 124	C	764	37.9 (S)	1.56	0.991
2,3,3',4,5'-PeCB	108	86 + 87 + 97 + 108 + 119 + 125	C86				
2,3,3',4,6-PeCB	109			2390	35.5 (S)	1.50	0.997
2,3,3',4',6-PeCB	110	110 + 115	C	26300	7.71 (S)	1.57	0.925
2,3,3',5,5'-PeCB	111			17.6	7.57 (S)	1.73	0.945
2,3,3',5,6-PeCB	112		U		7.50 (S)		
2,3,3',5',6-PeCB	113	90 + 101 + 113	C90				
2,3,4,4',5-PeCB	114			918	40.2 (S)	1.52	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			27100	32.3 (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			82.5	7.42 (S)	1.64	0.958
2,3',4,5',6-PeCB	121			15.0	7.75 (S)	1.41	1.200
2',3,3',4,5-PeCB	122			152	42.8 (S)	1.54	1.010
2',3,4,4',5-PeCB	123			560	39.4 (S)	1.53	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		U		44.4 (S)		
3,3',4,5,5'-PeCB	127			39.9	37.6 (S)	1.70	1.041
2,2',3,3',4,4'-HxCB	128	128 + 166	C	3650	22.6 (S)	1.26	0.958
2,2',3,3',4,5-HxCB	129	129 + 138 + 160 + 163	C	28900	23.7 (S)	1.26	0.928
2,2',3,3',4,5'-HxCB	130			1150	30.2 (S)	1.27	0.913
2,2',3,3',4,6-HxCB	131			92.6	27.2 (S)	1.26	1.161
2,2',3,3',4,6'-HxCB	132			2960	29.8 (S)	1.26	1.175
2,2',3,3',5,5'-HxCB	133			463	28.0 (S)	1.27	1.192
2,2',3,3',5,6-HxCB	134	134 + 143	C	551	28.4 (S)	1.25	1.141
2,2',3,3',5,6'-HxCB	135	135 + 151 + 154	C	5830	0.873 (S)	1.28	1.105
2,2',3,3',6,6'-HxCB	136			1080	0.664 (S)	1.27	1.025
2,2',3,4,4',5-HxCB	137			1080	27.2 (S)	1.26	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	472	25.8 (S)	1.24	1.153
2,2',3,4,4',6'-HxCB	140	139 + 140	C139				
2,2',3,4,5,5'-HxCB	141			3320	26.7 (S)	1.27	0.903
2,2',3,4,5,6-HxCB	142		U		29.1 (S)		
2,2',3,4,5,6'-HxCB	143	134 + 143	C134				
2,2',3,4,5',6-HxCB	144			619	0.911 (S)	1.29	1.122
2,2',3,4,6,6'-HxCB	145		K J	2.46	0.705 (S)	0.52	1.034
2,2',3,4',5,5'-HxCB	146			5010	24.0 (S)	1.26	0.883
2,2',3,4',5,6-HxCB	147	147 + 149	C	9750	25.9 (S)	1.25	1.134
2,2',3,4',5,6'-HxCB	148			49.1	0.898 (S)	1.30	1.084
2,2',3,4',5',6-HxCB	149	147 + 149	C147				
2,2',3,4',6,6'-HxCB	150			31.9	0.681 (S)	1.29	1.013
2,2',3,5,5',6-HxCB	151	135 + 151 + 154	C135				
2,2',3,5,6,6'-HxCB	152			29.2	0.641 (S)	1.09	1.007
2,2',4,4',5,5'-HxCB	153	153 + 168	C	28400	21.1 (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			15.3	0.598 (S)	1.18	1.001
2,3,3',4,4',5-HxCB	156	156 + 157	C	2440	26.7 (S)	1.26	1.000
2,3,3',4,4',5'-HxCB	157	156 + 157	C156				
2,3,3',4,4',6-HxCB	158			2100	18.1 (S)	1.24	0.938
2,3,3',4,5,5'-HxCB	159			83.8	19.2 (S)	1.24	0.981
2,3,3',4,5,6-HxCB	160	129 + 138 + 160 + 163	C129				

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COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2,3,3',4,5',6-HxCB	161		U		19.4 (S)		
2,3,3',4',5,5'-HxCB	162			52.6	18.0 (S)	1.10	0.988
2,3,3',4',5,6-HxCB	163	129 + 138 + 160 + 163	C129				
2,3,3',4',5',6-HxCB	164			1070	20.8 (S)	1.27	0.921
2,3,3',5,5',6-HxCB	165		U		22.5 (S)		
2,3,4,4',5,6-HxCB	166	128 + 166	C128				
2,3',4,4',5,5'-HxCB	167			827	20.2 (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		27.6 (S)		
2,2',3,3',4,4',5-HpCB	170			3690	0.930 (S)	1.06	1.000
2,2',3,3',4,4',6-HpCB	171	171 + 173	C	1060	0.922 (S)	1.04	1.164
2,2',3,3',4,5,5'-HpCB	172			725	0.978 (S)	1.02	0.896
2,2',3,3',4,5,6-HpCB	173	171 + 173	C171				
2,2',3,3',4,5,6'-HpCB	174			1530	0.861 (S)	1.04	1.134
2,2',3,3',4,5',6-HpCB	175			123	0.824 (S)	1.20	1.103
2,2',3,3',4,6,6'-HpCB	176			191	0.680 (S)	1.07	1.035
2,2',3,3',4',5,6-HpCB	177			1290	0.660 (S)	1.05	1.146
2,2',3,3',5,5',6-HpCB	178			996	0.848 (S)	1.03	1.086
2,2',3,3',5,6,6'-HpCB	179			955	0.647 (S)	1.04	1.011
2,2',3,4,4',5,5'-HpCB	180	180 + 193	C	12000	0.907 (S)	1.06	1.000
2,2',3,4,4',5,6-HpCB	181			45.5	0.870 (S)	1.08	1.157
2,2',3,4,4',5,6'-HpCB	182		U		0.834 (S)		
2,2',3,4,4',5',6-HpCB	183	183 + 185	C	2950	0.849 (S)	1.05	1.128
2,2',3,4,4',6,6'-HpCB	184			13.4	0.649 (S)	0.99	1.025
2,2',3,4,5,5',6-HpCB	185	183 + 185	C183				
2,2',3,4,5,6,6'-HpCB	186		U		0.719 (S)		
2,2',3,4',5,5',6-HpCB	187			8400	0.781 (S)	1.03	1.111
2,2',3,4',5,6,6'-HpCB	188			15.1	0.669 (S)	1.01	1.001
2,3,3',4,4',5,5'-HpCB	189			127	1.34 (S)	1.01	1.000
2,3,3',4,4',5,6-HpCB	190			975	0.730 (S)	1.05	0.947
2,3,3',4,4',5',6-HpCB	191			156	0.734 (S)	1.07	0.917
2,3,3',4,5,5',6-HpCB	192		K	6.20	0.784 (S)	2.14	0.903
2,3,3',4',5,5',6-HpCB	193	180 + 193	C180				
2,2',3,3',4,4',5,5'-OcCB	194		G	1260	1.53 (S)	0.89	0.991
2,2',3,3',4,4',5,6-OcCB	195			903	1.69 (S)	0.87	0.945
2,2',3,3',4,4',5,6'-OcCB	196			1100	0.804 (S)	0.91	0.915
2,2',3,3',4,4',6,6'-OcCB	197	197 + 200	C	190	0.575 (S)	0.95	1.046
2,2',3,3',4,5,5',6-OcCB	198	198 + 199	C	2300	0.797 (S)	0.91	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			180	0.573 (S)	0.92	1.023
2,2',3,3',5,5',6,6'-OcCB	202			566	0.740 (S)	0.87	1.000
2,2',3,4,4',5,5',6-OcCB	203			1770	0.768 (S)	0.88	0.919
2,2',3,4,4',5,6,6'-OcCB	204		K J	2.15	0.586 (S)	1.05	1.038
2,3,3',4,4',5,5',6-OcCB	205			81.1	1.31 (S)	0.98	1.000
2,2',3,3',4,4',5,5',6-NoCB	206			524	0.517 (S)	0.80	1.000
2,2',3,3',4,4',5,6,6'-NoCB	207			68.1	0.360 (S)	0.80	1.019
2,2',3,3',4,5,5',6,6'-NoCB	208			188	0.412 (S)	0.79	1.000
2,2',3,3',4,4',5,5',6,6'-DeCB	209			175	0.455 (S)	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: _____Ting Chen_____

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Report Filename: 1668_PCB1668_PCBTF_L29961-11_Form1A_PB8C_360AS3_SJ2453002.html; Workgroup: WG65252; Design ID: 3360]

SGS AXYS METHOD MLA-010 Rev 12

Form 2

PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.
PDI-TF-SMB003
Sample Collection:
22-Aug-2018 09:00

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

Project No.	PORTLAND HARBOR PDI AND BASELINE TISSUE		
Contract No.:	4972	**Lab Sample I.D.:**	L29961-11
Matrix:	TISSUE	**Sample Size:**	10.1 g (wet)
Sample Receipt Date:	28-Aug-2018	**Initial Calibration Date:**	07-Jul-2018
Extraction Date:	19-Sep-2018	**Instrument ID:**	HR GC/MS
Analysis Date:	20-Oct-2018 **Time:** 01:25:00	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	100	**Sample Data Filename:**	**PB8C_360A S: 3**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB8C_358 S: 4
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PB8C_360 S: 1
Concentration Units:	pg absolute	**% Lipid:**	6.98

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. [1]	CO-ELUTIONS	LAB FLAG [2]	SPIKE CONC.	CONC. FOUND	R(%) [3]	ION ABUND. RATIO	RRT
13C12-2-MoCB	1L			2000	691	34.6	3.23	0.719
13C12-4-MoCB	3L			2000	614	30.7	3.24	0.859
13C12-2,2'-DiCB	4L			2000	803	40.2	1.61	0.874
13C12-4,4'-DiCB	15L			2000	771	38.5	1.52	1.255
13C12-2,2',6-TriCB	19L			2000	1030	51.4	1.15	1.072
13C12-3,4,4'-TriCB	37L			2000	897	44.8	0.97	1.092
13C12-2,2',6,6'-TeCB	54L			2000	959	48.0	0.83	0.811
13C12-3,3',4,4'-TeCB	77L			2000	1070	53.4	0.74	1.397
13C12-3,4,4',5-TeCB	81L			2000	1220	60.9	0.77	1.374
13C12-2,2',4,6,6'-PeCB	104L			2000	807	40.3	1.61	0.808
13C12-2,3,3',4,4'-PeCB	105L			2000	1320	65.8	1.58	1.201
13C12-2,3,4,4',5-PeCB	114L			2000	1070	53.3	1.54	1.180
13C12-2,3',4,4',5-PeCB	118L			2000	1330	66.6	1.60	1.162
13C12-2',3,4,4',5-PeCB	123L			2000	1200	60.2	1.59	1.152
13C12-3,3',4,4',5-PeCB	126L			2000	1110	55.5	1.63	1.302
13C12-2,2',4,4',6,6'-HxCB	155L			2000	773	38.7	1.31	0.785
13C12-2,3,3',4,4',5-HxCB	156L	156L + 157L	C	4000	2030	50.9	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			2000	1020	51.2	1.17	1.078
13C12-3,3',4,4',5,5'-HxCB	169L			2000	1120	56.0	1.22	1.192
13C12-2,2',3,3',4,4',5-HpCB	170L			2000	1870	93.7	1.13	0.897
13C12-2,2',3,4,4',5,5'-HpCB	180L			2000	1750	87.7	1.11	0.872
13C12-2,2',3,4',5,6,6'-HpCB	188L			2000	1300	64.8	1.08	0.711
13C12-2,3,3',4,4',5,5'-HpCB	189L			2000	1710	85.7	1.06	0.959
13C12-2,2',3,3',5,5',6,6'-OcCB	202L			2000	906	45.3	0.95	0.817
13C12-2,3,3',4,4',5,5',6-OcCB	205L			2000	1490	74.5	0.95	1.009
13C12-2,2',3,3',4,4',5,5',6-NoCB	206L			2000	1900	95.1	0.72	1.043
13C12-2,2',3,3',4,5,5',6,6'-NoCB	208L			2000	1930	96.4	0.77	0.948
13C12-2,2',3,3',4,4',5,5',6,6'-DeCB	209L			2000	1350	67.7	1.13	1.074
CLEANUP STANDARD								
13C12-2,4,4'-TriCB	28L			2000	1270	63.6	1.07	0.925
13C12-2,3,3',5,5'-PeCB	111L			2000	1240	61.9	1.57	1.088
13C12-2,2',3,3',5,5',6-HpCB	178L			2000	1060	52.9	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.
(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: _____Ting Chen_____

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Report Filename: 1668_PCB1668_PCBTF_L29961-11_Form2_PB8C_360AS3_SJ2453002.html; Workgroup: WG65252; Design ID: 3360]

SGS AXYS METHOD MLA-010 Rev 12

Form 1A

PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.
PDI-TF-SMB098
Sample Collection:
24-Aug-2018 08:12

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

Project No.	PORTLAND HARBOR PDI AND BASELINE TISSUE		
Contract No.:	4972	**Lab Sample I.D.:**	L29961-12
Matrix:	TISSUE	**Sample Size:**	10.1 g (wet)
Sample Receipt Date:	28-Aug-2018	**Initial Calibration Date:**	07-Jul-2018
Extraction Date:	19-Sep-2018	**Instrument ID:**	HR GC/MS
Analysis Date:	20-Oct-2018 **Time:** 02:28:45	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	100	**Sample Data Filename:**	**PB8C_360A S: 4**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB8C_358 S: 4
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PB8C_360 S: 1
Concentration Units:	pg/g (wet weight basis)	**% Lipid:**	4.14

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 [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2-MoCB	1		J	1.84	0.237 (S)	3.04	1.001
3-MoCB	2		J	0.944	0.292 (S)	3.24	0.988
4-MoCB	3		K J	1.63	0.288 (S)	5.50	1.000
2,2'-DiCB	4			25.0	1.64 (S)	1.73	1.001
2,3-DiCB	5		U		1.53 (S)		
2,3'-DiCB	6			6.76	1.38 (S)	1.55	1.176
2,4-DiCB	7		U		1.44 (S)		
2,4'-DiCB	8			22.5	1.30 (S)	1.68	1.208
2,5-DiCB	9		J	1.75	1.38 (S)	1.45	1.146
2,6-DiCB	10		J	1.40	1.39 (S)	1.47	1.014
3,3'-DiCB	11			64.4	1.45 (S)	1.64	0.968
3,4-DiCB	12	12 + 13	C J	1.48	1.44 (S)	1.42	0.983
3,4'-DiCB	13	12 + 13	C12				
3,5-DiCB	14		U		1.44 (S)		
4,4'-DiCB	15			7.15	1.60 (S)	1.47	1.000
2,2',3-TriCB	16			19.4	0.520 (S)	1.18	1.166
2,2',4-TriCB	17			48.7	0.426 (S)	1.11	1.138
2,2',5-TriCB	18	18 + 30	C	62.9	0.361 (S)	1.04	1.113
2,2',6-TriCB	19			38.7	0.452 (S)	0.96	1.001
2,3,3'-TriCB	20	20 + 28	C	237	0.359 (S)	1.01	0.847
2,3,4-TriCB	21	21 + 33	C	37.3	0.357 (S)	1.05	0.856
2,3,4'-TriCB	22			40.3	0.411 (S)	0.96	0.871
2,3,5-TriCB	23		U		0.383 (S)		
2,3,6-TriCB	24		J	0.730	0.319 (S)	1.09	1.159
2,3',4-TriCB	25			17.7	0.311 (S)	1.02	0.824
2,3',5-TriCB	26	26 + 29	C	44.8	0.365 (S)	0.97	1.302
2,3',6-TriCB	27			14.7	0.310 (S)	1.14	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			117	0.338 (S)	1.01	0.836
2,4',6-TriCB	32			24.6	0.345 (S)	0.99	1.197
2',3,4-TriCB	33	21 + 33	C21				
2',3,5-TriCB	34		K J	1.58	0.380 (S)	0.81	1.274
3,3',4-TriCB	35		U		0.376 (S)		
3,3',5-TriCB	36		U		0.352 (S)		
3,4,4'-TriCB	37			25.7	0.409 (S)	1.03	1.001
3,4,5-TriCB	38		J	0.580	0.366 (S)	1.06	0.967
3,4',5-TriCB	39		J	2.07	0.369 (S)	1.01	0.945

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2,2',3,3'-TeCB	40	40 + 41 + 71	C	112	0.620 (S)	0.80	1.337
2,2',3,4-TeCB	41	40 + 41 + 71	C40				
2,2',3,4'-TeCB	42			74.0	0.653 (S)	0.79	1.312
2,2',3,5-TeCB	43			15.2	0.685 (S)	0.82	1.245
2,2',3,5'-TeCB	44	44 + 47 + 65	C	653	0.559 (S)	0.81	1.286
2,2',3,6-TeCB	45	45 + 51	C	45.3	0.586 (S)	0.77	1.147
2,2',3,6'-TeCB	46			7.39	0.674 (S)	0.85	1.161
2,2',4,4'-TeCB	47	44 + 47 + 65	C44				
2,2',4,5-TeCB	48			44.7	0.622 (S)	0.76	1.273
2,2',4,5'-TeCB	49	49 + 69	C	424	0.519 (S)	0.81	1.259
2,2',4,6-TeCB	50	50 + 53	C	47.4	0.568 (S)	0.76	1.111
2,2',4,6'-TeCB	51	45 + 51	C45				
2,2',5,5'-TeCB	52			914	0.563 (S)	0.78	1.234
2,2',5,6'-TeCB	53	50 + 53	C50				
2,2',6,6'-TeCB	54			6.00	0.425 (S)	0.81	1.001
2,3,3',4-TeCB	55		U		6.26 (S)		
2,3,3',4'-TeCB	56			63.9	6.16 (S)	0.75	0.903
2,3,3',5-TeCB	57		U		5.70 (S)		
2,3,3',5'-TeCB	58		U		5.77 (S)		
2,3,3',6-TeCB	59	59 + 62 + 75	C	39.7	0.463 (S)	0.73	1.303
2,3,4,4'-TeCB	60			120	6.45 (S)	0.83	0.911
2,3,4,5-TeCB	61	61 + 70 + 74 + 76	C	879	5.66 (S)	0.76	0.874
2,3,4,6-TeCB	62	59 + 62 + 75	C59				
2,3,4',5-TeCB	63			45.5	5.60 (S)	0.84	0.864
2,3,4',6-TeCB	64			161	0.456 (S)	0.75	1.349
2,3,5,6-TeCB	65	44 + 47 + 65	C44				
2,3',4,4'-TeCB	66			786	5.70 (S)	0.78	0.884
2,3',4,5-TeCB	67			8.97	5.04 (S)	0.66	0.855
2,3',4,5'-TeCB	68			19.6	5.53 (S)	0.77	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			17.0	5.43 (S)	0.76	0.822
2,3',5',6-TeCB	73		U		0.480 (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			41.1	5.99 (S)	0.74	1.000
3,3',4,5-TeCB	78		U		6.03 (S)		
3,3',4,5'-TeCB	79			17.7	4.93 (S)	0.71	0.968
3,3',5,5'-TeCB	80		U		5.44 (S)		
3,4,4',5-TeCB	81		U		5.85 (S)		
2,2',3,3',4-PeCB	82			86.3	1.94 (S)	1.72	0.934
2,2',3,3',5-PeCB	83	83 + 99	C	2590	1.75 (S)	1.57	0.886
2,2',3,3',6-PeCB	84			144	1.85 (S)	1.57	1.164
2,2',3,4,4'-PeCB	85	85 + 116 + 117	C	656	1.47 (S)	1.56	0.920
2,2',3,4,5-PeCB	86	86 + 87 + 97 + 108 + 119 + 125	C G	1690	1.50 (S)	1.59	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	210	1.68 (S)	1.55	1.155
2,2',3,4,6'-PeCB	89		K	3.33	1.77 (S)	2.35	1.183
2,2',3,4',5-PeCB	90	90 + 101 + 113	C	9270	1.49 (S)	1.58	0.869
2,2',3,4',6-PeCB	91	88 + 91	C88				
2,2',3,5,5'-PeCB	92			1420	1.72 (S)	1.59	0.853
2,2',3,5,6-PeCB	93	93 + 95 + 98 + 100 + 102	C	3160	1.61 (S)	1.59	1.121
2,2',3,5,6'-PeCB	94		K	4.02	1.79 (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		K	4.95	0.473 (S)	1.99	1.015
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				

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	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			48.8	1.48 (S)	1.58	1.094
2,2',4,6,6'-PeCB	104		K J	0.767	0.530 (S)	1.84	0.999
2,3,3',4,4'-PeCB	105			1500	6.03 (S)	1.56	1.000
2,3,3',4,5-PeCB	106		U		7.11 (S)		
2,3,3',4',5-PeCB	107	107 + 124	C	105	7.51 (S)	1.48	0.991
2,3,3',4,5'-PeCB	108	86 + 87 + 97 + 108 + 119 + 125	C86				
2,3,3',4,6-PeCB	109			380	7.02 (S)	1.54	0.998
2,3,3',4',6-PeCB	110	110 + 115	C	3440	1.32 (S)	1.57	0.925
2,3,3',5,5'-PeCB	111			6.45	1.30 (S)	1.45	0.945
2,3,3',5,6-PeCB	112		U		1.29 (S)		
2,3,3',5',6-PeCB	113	90 + 101 + 113	C90				
2,3,4,4',5-PeCB	114			129	7.91 (S)	1.42	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			5150	6.74 (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			35.7	1.27 (S)	1.71	0.958
2,3',4,5',6-PeCB	121			7.40	1.33 (S)	1.45	1.200
2',3,3',4,5-PeCB	122			10.9	8.48 (S)	1.37	1.010
2',3,4,4',5-PeCB	123			63.6	7.49 (S)	1.48	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	38.4	8.56 (S)	1.61	1.001
3,3',4,5,5'-PeCB	127			14.7	7.45 (S)	1.67	1.041
2,2',3,3',4,4'-HxCB	128	128 + 166	C	3920	8.26 (S)	1.27	0.960
2,2',3,3',4,5-HxCB	129	129 + 138 + 160 + 163	C	51000	8.69 (S)	1.26	0.928
2,2',3,3',4,5'-HxCB	130			803	11.1 (S)	1.23	0.913
2,2',3,3',4,6-HxCB	131			33.3	9.98 (S)	1.15	1.160
2,2',3,3',4,6'-HxCB	132			1310	10.9 (S)	1.24	1.175
2,2',3,3',5,5'-HxCB	133			584	10.2 (S)	1.26	1.192
2,2',3,3',5,6-HxCB	134	134 + 143	C	268	10.4 (S)	1.30	1.141
2,2',3,3',5,6'-HxCB	135	135 + 151 + 154	C	14100	0.535 (S)	1.28	1.104
2,2',3,3',6,6'-HxCB	136			1480	0.407 (S)	1.27	1.025
2,2',3,4,4',5-HxCB	137			319	9.95 (S)	1.25	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	141	9.46 (S)	1.22	1.153
2,2',3,4,4',6'-HxCB	140	139 + 140	C139				
2,2',3,4,5,5'-HxCB	141			9810	9.77 (S)	1.27	0.904
2,2',3,4,5,6-HxCB	142		U		10.7 (S)		
2,2',3,4,5,6'-HxCB	143	134 + 143	C134				
2,2',3,4,5',6-HxCB	144			851	0.558 (S)	1.26	1.122
2,2',3,4,6,6'-HxCB	145		K J	1.03	0.432 (S)	0.67	1.034
2,2',3,4',5,5'-HxCB	146			8450	8.79 (S)	1.26	0.884
2,2',3,4',5,6-HxCB	147	147 + 149	C	6580	9.49 (S)	1.26	1.134
2,2',3,4',5,6'-HxCB	148			27.5	0.551 (S)	1.27	1.084
2,2',3,4',5',6-HxCB	149	147 + 149	C147				
2,2',3,4',6,6'-HxCB	150			13.4	0.417 (S)	1.19	1.013
2,2',3,5,5',6-HxCB	151	135 + 151 + 154	C135				
2,2',3,5,6,6'-HxCB	152			3.18	0.393 (S)	1.07	1.007
2,2',4,4',5,5'-HxCB	153	153 + 168	C	69500	7.73 (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			11.6	0.372 (S)	1.28	1.001
2,3,3',4,4',5-HxCB	156	156 + 157	C	2450	9.54 (S)	1.26	1.000
2,3,3',4,4',5'-HxCB	157	156 + 157	C156				
2,3,3',4,4',6-HxCB	158			3100	6.62 (S)	1.25	0.938
2,3,3',4,5,5'-HxCB	159			144	7.04 (S)	1.20	0.981
2,3,3',4,5,6-HxCB	160	129 + 138 + 160 + 163	C129				

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This test is not NELAP accredited. Sample results relate only to the sample tested.

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2,3,3',4,5',6-HxCB	161		U		7.11 (S)		
2,3,3',4',5,5'-HxCB	162			29.3	6.60 (S)	1.17	0.989
2,3,3',4',5,6-HxCB	163	129 + 138 + 160 + 163	C129				
2,3,3',4',5',6-HxCB	164			1880	7.62 (S)	1.26	0.921
2,3,3',5,5',6-HxCB	165			9.45	8.25 (S)	1.34	0.878
2,3,4,4',5,6-HxCB	166	128 + 166	C128				
2,3',4,4',5,5'-HxCB	167			931	7.80 (S)	1.26	1.000
2,3',4,4',5',6-HxCB	168	153 + 168	C153				
3,3',4,4',5,5'-HxCB	169		U		65.0 (S)		
2,2',3,3',4,4',5-HpCB	170			15600	0.529 (S)	1.05	1.001
2,2',3,3',4,4',6-HpCB	171	171 + 173	C	3980	0.541 (S)	1.05	1.164
2,2',3,3',4,5,5'-HpCB	172			3100	0.574 (S)	1.05	0.896
2,2',3,3',4,5,6-HpCB	173	171 + 173	C171				
2,2',3,3',4,5,6'-HpCB	174			2930	0.505 (S)	1.06	1.134
2,2',3,3',4,5',6-HpCB	175			380	0.483 (S)	1.11	1.103
2,2',3,3',4,6,6'-HpCB	176			253	0.399 (S)	1.07	1.035
2,2',3,3',4',5,6-HpCB	177			2810	0.388 (S)	1.05	1.146
2,2',3,3',5,5',6-HpCB	178			3690	0.498 (S)	1.05	1.086
2,2',3,3',5,6,6'-HpCB	179			2460	0.380 (S)	1.05	1.011
2,2',3,4,4',5,5'-HpCB	180	180 + 193	C	40300	0.452 (S)	1.04	1.001
2,2',3,4,4',5,6-HpCB	181			45.2	0.511 (S)	0.91	1.157
2,2',3,4,4',5,6'-HpCB	182		U		0.489 (S)		
2,2',3,4,4',5',6-HpCB	183	183 + 185	C	12600	0.499 (S)	1.06	1.128
2,2',3,4,4',6,6'-HpCB	184			15.8	0.381 (S)	0.97	1.025
2,2',3,4,5,5',6-HpCB	185	183 + 185	C183				
2,2',3,4,5,6,6'-HpCB	186		U		0.422 (S)		
2,2',3,4',5,5',6-HpCB	187			39400	0.458 (S)	1.05	1.111
2,2',3,4',5,6,6'-HpCB	188			11.1	0.404 (S)	1.03	1.001
2,3,3',4,4',5,5'-HpCB	189			409	2.76 (S)	1.05	1.000
2,3,3',4,4',5,6-HpCB	190			3920	0.429 (S)	1.05	0.947
2,3,3',4,4',5',6-HpCB	191			575	0.431 (S)	1.06	0.917
2,3,3',4,5,5',6-HpCB	192		U		0.460 (S)		
2,3,3',4',5,5',6-HpCB	193	180 + 193	C180				
2,2',3,3',4,4',5,5'-OcCB	194		G	4390	3.81 (S)	0.90	0.992
2,2',3,3',4,4',5,6-OcCB	195			3460	4.20 (S)	0.90	0.945
2,2',3,3',4,4',5,6'-OcCB	196			3230	0.584 (S)	0.92	0.915
2,2',3,3',4,4',6,6'-OcCB	197	197 + 200	C	444	0.417 (S)	0.87	1.045
2,2',3,3',4,5,5',6-OcCB	198	198 + 199	C	8220	0.579 (S)	0.92	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			547	0.416 (S)	0.89	1.023
2,2',3,3',5,5',6,6'-OcCB	202			1640	0.555 (S)	0.88	1.000
2,2',3,4,4',5,5',6-OcCB	203			5820	0.558 (S)	0.92	0.919
2,2',3,4,4',5,6,6'-OcCB	204		K J	2.62	0.425 (S)	0.31	1.039
2,3,3',4,4',5,5',6-OcCB	205			329	3.23 (S)	0.87	1.001
2,2',3,3',4,4',5,5',6-NoCB	206			847	0.538 (S)	0.79	1.001
2,2',3,3',4,4',5,6,6'-NoCB	207			106	0.399 (S)	0.81	1.020
2,2',3,3',4,5,5',6,6'-NoCB	208			218	0.484 (S)	0.80	1.001
2,2',3,3',4,4',5,5',6,6'-DeCB	209			153	0.338 (S)	1.20	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.
(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: _____Ting Chen_____

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Report Filename: 1668_PCB1668_PCBTF_L29961-12_Form1A_PB8C_360AS4_SJ2453004.html; Workgroup: WG65252; Design ID: 3360]

SGS AXYS METHOD MLA-010 Rev 12

Form 2

PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.
PDI-TF-SMB098
Sample Collection:
24-Aug-2018 08:12

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

Project No.	PORTLAND HARBOR PDI AND BASELINE TISSUE		
Contract No.:	4972	**Lab Sample I.D.:**	L29961-12
Matrix:	TISSUE	**Sample Size:**	10.1 g (wet)
Sample Receipt Date:	28-Aug-2018	**Initial Calibration Date:**	07-Jul-2018
Extraction Date:	19-Sep-2018	**Instrument ID:**	HR GC/MS
Analysis Date:	20-Oct-2018 **Time:** 02:28:45	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	100	**Sample Data Filename:**	**PB8C_360A S: 4**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB8C_358 S: 4
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PB8C_360 S: 1
Concentration Units:	pg absolute	**% Lipid:**	4.14

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This test is not NELAP accredited. Sample results relate only to the sample tested.

LABELED COMPOUND	IUPAC NO. [1]	CO-ELUTIONS	LAB FLAG [2]	SPIKE CONC.	CONC. FOUND	R(%) [3]	ION ABUND. RATIO	RRT
13C12-2-MoCB	1L			2000	863	43.1	3.18	0.719
13C12-4-MoCB	3L			2000	910	45.5	3.12	0.859
13C12-2,2'-DiCB	4L			2000	978	48.9	1.55	0.874
13C12-4,4'-DiCB	15L			2000	980	49.0	1.62	1.255
13C12-2,2',6-TriCB	19L			2000	1120	55.9	1.06	1.072
13C12-3,4,4'-TriCB	37L			2000	1090	54.5	0.98	1.093
13C12-2,2',6,6'-TeCB	54L			2000	1150	57.7	0.82	0.811
13C12-3,3',4,4'-TeCB	77L			2000	1410	70.7	0.80	1.398
13C12-3,4,4',5-TeCB	81L			2000	1430	71.6	0.74	1.375
13C12-2,2',4,6,6'-PeCB	104L			2000	834	41.7	1.54	0.808
13C12-2,3,3',4,4'-PeCB	105L			2000	1470	73.5	1.54	1.201
13C12-2,3,4,4',5-PeCB	114L			2000	1200	59.9	1.62	1.180
13C12-2,3',4,4',5-PeCB	118L			2000	1370	68.4	1.66	1.162
13C12-2',3,4,4',5-PeCB	123L			2000	1340	66.9	1.59	1.152
13C12-3,3',4,4',5-PeCB	126L			2000	1220	61.2	1.45	1.302
13C12-2,2',4,4',6,6'-HxCB	155L			2000	764	38.2	1.30	0.785
13C12-2,3,3',4,4',5-HxCB	156L	156L + 157L	C	4000	2070	51.7	1.29	1.108
13C12-2,3,3',4,4',5'-HxCB	157L	156L + 157L	C156L					
13C12-2,3',4,4',5,5'-HxCB	167L			2000	1040	51.8	1.27	1.078
13C12-3,3',4,4',5,5'-HxCB	169L			2000	1140	56.9	1.39	1.192
13C12-2,2',3,3',4,4',5-HpCB	170L			2000	1940	97.2	1.14	0.896
13C12-2,2',3,4,4',5,5'-HpCB	180L			2000	2090	104	1.06	0.872
13C12-2,2',3,4',5,6,6'-HpCB	188L			2000	1320	65.9	0.91	0.711
13C12-2,3,3',4,4',5,5'-HpCB	189L			2000	1720	86.2	1.03	0.959
13C12-2,2',3,3',5,5',6,6'-OcCB	202L			2000	886	44.3	0.89	0.816
13C12-2,3,3',4,4',5,5',6-OcCB	205L			2000	1650	82.5	0.89	1.009
13C12-2,2',3,3',4,4',5,5',6-NoCB	206L			2000	1910	95.7	0.83	1.043
13C12-2,2',3,3',4,5,5',6,6'-NoCB	208L			2000	1840	92.2	0.82	0.948
13C12-2,2',3,3',4,4',5,5',6,6'-DeCB	209L			2000	1440	72.1	1.14	1.074
CLEANUP STANDARD								
13C12-2,4,4'-TriCB	28L			2000	1350	67.7	1.03	0.925
13C12-2,3,3',5,5'-PeCB	111L			2000	1370	68.5	1.54	1.088
13C12-2,2',3,3',5,5',6-HpCB	178L			2000	1050	52.7	1.19	1.011

(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: _____Ting Chen_____

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Report Filename: 1668_PCB1668_PCBTF_L29961-12_Form2_PB8C_360AS4_SJ2453004.html; Workgroup: WG65252; Design ID: 3360]

SGS AXYS METHOD MLA-010 Rev 12

Form 1A

PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.
PDI-TF-SMB076
Sample Collection:
23-Aug-2018 08:42

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

Project No.	PORTLAND HARBOR PDI AND BASELINE TISSUE		
Contract No.:	4972	**Lab Sample I.D.:**	L29961-13
Matrix:	TISSUE	**Sample Size:**	10.2 g (wet)
Sample Receipt Date:	31-Aug-2018	**Initial Calibration Date:**	07-Jul-2018
Extraction Date:	19-Sep-2018	**Instrument ID:**	HR GC/MS
Analysis Date:	20-Oct-2018 **Time:** 03:32:32	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	100	**Sample Data Filename:**	**PB8C_360A S: 5**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB8C_358 S: 4
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PB8C_360 S: 1
Concentration Units:	pg/g (wet weight basis)	**% Lipid:**	5.76

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This test is not NELAP accredited. Sample results relate only to the sample tested.

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2-MoCB	1			4.00	0.321 (S)	3.39	1.000
3-MoCB	2		J	1.22	0.394 (S)	2.87	0.988
4-MoCB	3		K J	3.01	0.388 (S)	4.58	1.000
2,2'-DiCB	4			132	2.03 (S)	1.61	1.001
2,3-DiCB	5		U		1.66 (S)		
2,3'-DiCB	6			16.2	1.49 (S)	1.56	1.175
2,4-DiCB	7		J	3.00	1.55 (S)	1.35	1.158
2,4'-DiCB	8			63.6	1.41 (S)	1.49	1.207
2,5-DiCB	9			5.48	1.49 (S)	1.58	1.145
2,6-DiCB	10			7.25	1.50 (S)	1.56	1.013
3,3'-DiCB	11			84.3	1.57 (S)	1.53	0.968
3,4-DiCB	12	12 + 13	C J	2.04	1.56 (S)	1.72	0.985
3,4'-DiCB	13	12 + 13	C12				
3,5-DiCB	14		U		1.55 (S)		
4,4'-DiCB	15			15.1	1.59 (S)	1.41	1.001
2,2',3-TriCB	16			57.5	0.385 (S)	1.04	1.165
2,2',4-TriCB	17			192	0.316 (S)	1.04	1.137
2,2',5-TriCB	18	18 + 30	C	180	0.268 (S)	1.12	1.113
2,2',6-TriCB	19			324	0.345 (S)	1.10	1.001
2,3,3'-TriCB	20	20 + 28	C	654	1.27 (S)	1.02	0.847
2,3,4-TriCB	21	21 + 33	C	109	1.26 (S)	1.01	0.856
2,3,4'-TriCB	22			147	1.46 (S)	1.00	0.871
2,3,5-TriCB	23		U		1.36 (S)		
2,3,6-TriCB	24			3.73	0.236 (S)	0.93	1.158
2,3',4-TriCB	25			55.0	1.10 (S)	0.98	0.824
2,3',5-TriCB	26	26 + 29	C	110	1.29 (S)	1.03	1.301
2,3',6-TriCB	27			41.6	0.230 (S)	1.06	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			389	1.20 (S)	1.00	0.836
2,4',6-TriCB	32			96.4	1.22 (S)	1.05	1.198
2',3,4-TriCB	33	21 + 33	C21				
2',3,5-TriCB	34			4.00	1.35 (S)	1.03	1.273
3,3',4-TriCB	35		U		1.33 (S)		
3,3',5-TriCB	36		U		1.25 (S)		
3,4,4'-TriCB	37			58.4	1.43 (S)	0.99	1.001
3,4,5-TriCB	38		K J	1.98	1.30 (S)	0.88	0.967
3,4',5-TriCB	39			5.59	1.31 (S)	1.08	0.945

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COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2,2',3,3'-TeCB	40	40 + 41 + 71	C	365	0.567 (S)	0.79	1.336
2,2',3,4-TeCB	41	40 + 41 + 71	C40				
2,2',3,4'-TeCB	42			307	0.598 (S)	0.84	1.312
2,2',3,5-TeCB	43			36.1	0.628 (S)	0.84	1.247
2,2',3,5'-TeCB	44	44 + 47 + 65	C	2680	0.512 (S)	0.79	1.286
2,2',3,6-TeCB	45	45 + 51	C	353	0.537 (S)	0.82	1.147
2,2',3,6'-TeCB	46			31.9	0.617 (S)	0.80	1.161
2,2',4,4'-TeCB	47	44 + 47 + 65	C44				
2,2',4,5-TeCB	48			141	0.570 (S)	0.81	1.273
2,2',4,5'-TeCB	49	49 + 69	C	1630	0.475 (S)	0.78	1.258
2,2',4,6-TeCB	50	50 + 53	C	222	0.520 (S)	0.83	1.110
2,2',4,6'-TeCB	51	45 + 51	C45				
2,2',5,5'-TeCB	52			2530	0.515 (S)	0.78	1.234
2,2',5,6'-TeCB	53	50 + 53	C50				
2,2',6,6'-TeCB	54			74.6	0.398 (S)	0.80	1.001
2,3,3',4-TeCB	55		U		6.07 (S)		
2,3,3',4'-TeCB	56			331	5.97 (S)	0.76	0.904
2,3,3',5-TeCB	57			6.43	5.53 (S)	0.74	0.843
2,3,3',5'-TeCB	58		U		5.60 (S)		
2,3,3',6-TeCB	59	59 + 62 + 75	C	137	0.424 (S)	0.82	1.303
2,3,4,4'-TeCB	60			281	6.26 (S)	0.77	0.911
2,3,4,5-TeCB	61	61 + 70 + 74 + 76	C	2510	5.49 (S)	0.76	0.874
2,3,4,6-TeCB	62	59 + 62 + 75	C59				
2,3,4',5-TeCB	63			81.8	5.43 (S)	0.77	0.864
2,3,4',6-TeCB	64			595	0.418 (S)	0.81	1.348
2,3,5,6-TeCB	65	44 + 47 + 65	C44				
2,3',4,4'-TeCB	66			1660	5.52 (S)	0.77	0.883
2,3',4,5-TeCB	67			36.8	4.89 (S)	0.78	0.856
2,3',4,5'-TeCB	68			47.0	5.36 (S)	0.75	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			41.3	5.27 (S)	0.79	0.822
2,3',5',6-TeCB	73		U		0.440 (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			87.7	6.04 (S)	0.85	1.000
3,3',4,5-TeCB	78		U		5.84 (S)		
3,3',4,5'-TeCB	79			57.7	4.78 (S)	0.76	0.969
3,3',5,5'-TeCB	80		U		5.28 (S)		
3,4,4',5-TeCB	81		U		5.35 (S)		
2,2',3,3',4-PeCB	82			336	5.88 (S)	1.64	0.934
2,2',3,3',5-PeCB	83	83 + 99	C	4910	5.31 (S)	1.57	0.885
2,2',3,3',6-PeCB	84			638	5.63 (S)	1.57	1.164
2,2',3,4,4'-PeCB	85	85 + 116 + 117	C	1310	4.48 (S)	1.58	0.919
2,2',3,4,5-PeCB	86	86 + 87 + 97 + 108 + 119 + 125	C G	3500	4.55 (S)	1.58	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	947	5.09 (S)	1.60	1.155
2,2',3,4,6'-PeCB	89		K	14.8	5.38 (S)	2.23	1.182
2,2',3,4',5-PeCB	90	90 + 101 + 113	C	7590	4.54 (S)	1.57	0.869
2,2',3,4',6-PeCB	91	88 + 91	C88				
2,2',3,5,5'-PeCB	92			1480	5.24 (S)	1.56	0.852
2,2',3,5,6-PeCB	93	93 + 95 + 98 + 100 + 102	C	3940	4.89 (S)	1.58	1.121
2,2',3,5,6'-PeCB	94			29.9	5.44 (S)	1.75	1.102
2,2',3,5',6-PeCB	95	93 + 95 + 98 + 100 + 102	C93				
2,2',3,6,6'-PeCB	96			27.4	0.377 (S)	1.50	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				

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	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			170	4.48 (S)	1.58	1.093
2,2',4,6,6'-PeCB	104			14.3	0.410 (S)	1.56	1.001
2,3,3',4,4'-PeCB	105			2170	10.4 (S)	1.54	1.000
2,3,3',4,5-PeCB	106		U		11.8 (S)		
2,3,3',4',5-PeCB	107	107 + 124	C	210	12.5 (S)	1.45	0.991
2,3,3',4,5'-PeCB	108	86 + 87 + 97 + 108 + 119 + 125	C86				
2,3,3',4,6-PeCB	109			556	11.7 (S)	1.55	0.997
2,3,3',4',6-PeCB	110	110 + 115	C	5910	4.01 (S)	1.58	0.925
2,3,3',5,5'-PeCB	111		K	10.9	3.94 (S)	2.49	0.945
2,3,3',5,6-PeCB	112		U		3.90 (S)		
2,3,3',5',6-PeCB	113	90 + 101 + 113	C90				
2,3,4,4',5-PeCB	114			156	12.6 (S)	1.55	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			6640	11.1 (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		K	46.5	3.86 (S)	1.87	0.958
2,3',4,5',6-PeCB	121			16.0	4.04 (S)	1.71	1.200
2',3,3',4,5-PeCB	122			43.8	14.1 (S)	1.61	1.010
2',3,4,4',5-PeCB	123			120	12.8 (S)	1.46	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		U		14.2 (S)		
3,3',4,5,5'-PeCB	127			18.3	12.4 (S)	1.68	1.041
2,2',3,3',4,4'-HxCB	128	128 + 166	C	1960	24.0 (S)	1.27	0.959
2,2',3,3',4,5-HxCB	129	129 + 138 + 160 + 163	C	18600	25.2 (S)	1.26	0.928
2,2',3,3',4,5'-HxCB	130			786	32.1 (S)	1.24	0.913
2,2',3,3',4,6-HxCB	131			75.9	29.0 (S)	1.21	1.160
2,2',3,3',4,6'-HxCB	132			2680	31.7 (S)	1.26	1.175
2,2',3,3',5,5'-HxCB	133			334	29.7 (S)	1.26	1.192
2,2',3,3',5,6-HxCB	134	134 + 143	C	425	30.2 (S)	1.25	1.141
2,2',3,3',5,6'-HxCB	135	135 + 151 + 154	C	4990	0.874 (S)	1.27	1.104
2,2',3,3',6,6'-HxCB	136			921	0.665 (S)	1.30	1.025
2,2',3,4,4',5-HxCB	137			577	28.9 (S)	1.27	0.917
2,2',3,4,4',5'-HxCB	138	129 + 138 + 160 + 163	C129				
2,2',3,4,4',6-HxCB	139	139 + 140	C	221	27.5 (S)	1.27	1.153
2,2',3,4,4',6'-HxCB	140	139 + 140	C139				
2,2',3,4,5,5'-HxCB	141			2640	28.4 (S)	1.25	0.903
2,2',3,4,5,6-HxCB	142		U		31.0 (S)		
2,2',3,4,5,6'-HxCB	143	134 + 143	C134				
2,2',3,4,5',6-HxCB	144			593	0.912 (S)	1.28	1.122
2,2',3,4,6,6'-HxCB	145		U		0.706 (S)		
2,2',3,4',5,5'-HxCB	146			3420	25.5 (S)	1.26	0.883
2,2',3,4',5,6-HxCB	147	147 + 149	C	11000	27.6 (S)	1.26	1.133
2,2',3,4',5,6'-HxCB	148			51.3	0.899 (S)	1.21	1.084
2,2',3,4',5',6-HxCB	149	147 + 149	C147				
2,2',3,4',6,6'-HxCB	150			49.3	0.681 (S)	1.40	1.012
2,2',3,5,5',6-HxCB	151	135 + 151 + 154	C135				
2,2',3,5,6,6'-HxCB	152		K	10.3	0.642 (S)	0.93	1.007
2,2',4,4',5,5'-HxCB	153	153 + 168	C	18900	22.4 (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			15.1	0.626 (S)	1.35	1.001
2,3,3',4,4',5-HxCB	156	156 + 157	C	1490	28.1 (S)	1.28	1.000
2,3,3',4,4',5'-HxCB	157	156 + 157	C156				
2,3,3',4,4',6-HxCB	158			1360	19.2 (S)	1.26	0.937
2,3,3',4,5,5'-HxCB	159			128	20.4 (S)	1.32	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 [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2,3,3',4,5',6-HxCB	161		U		20.6 (S)		
2,3,3',4',5,5'-HxCB	162			33.8	19.2 (S)	1.37	0.989
2,3,3',4',5,6-HxCB	163	129 + 138 + 160 + 163	C129				
2,3,3',4',5',6-HxCB	164			828	22.1 (S)	1.27	0.920
2,3,3',5,5',6-HxCB	165		U		23.9 (S)		
2,3,4,4',5,6-HxCB	166	128 + 166	C128				
2,3',4,4',5,5'-HxCB	167			610	21.1 (S)	1.26	1.000
2,3',4,4',5',6-HxCB	168	153 + 168	C153				
3,3',4,4',5,5'-HxCB	169		U		27.0 (S)		
2,2',3,3',4,4',5-HpCB	170			3860	1.06 (S)	1.05	1.000
2,2',3,3',4,4',6-HpCB	171	171 + 173	C	1270	1.29 (S)	1.05	1.163
2,2',3,3',4,5,5'-HpCB	172			852	1.37 (S)	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			2930	1.20 (S)	1.06	1.134
2,2',3,3',4,5',6-HpCB	175			162	1.15 (S)	1.05	1.103
2,2',3,3',4,6,6'-HpCB	176			349	0.950 (S)	1.01	1.034
2,2',3,3',4',5,6-HpCB	177			2020	0.922 (S)	1.06	1.146
2,2',3,3',5,5',6-HpCB	178			1210	1.18 (S)	1.04	1.086
2,2',3,3',5,6,6'-HpCB	179			1230	0.903 (S)	1.04	1.010
2,2',3,4,4',5,5'-HpCB	180	180 + 193	C	12100	0.916 (S)	1.05	1.000
2,2',3,4,4',5,6-HpCB	181			29.8	1.21 (S)	1.11	1.157
2,2',3,4,4',5,6'-HpCB	182		U		1.16 (S)		
2,2',3,4,4',5',6-HpCB	183	183 + 185	C	3480	1.19 (S)	1.05	1.127
2,2',3,4,4',6,6'-HpCB	184			10.7	0.906 (S)	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		1.00 (S)		
2,2',3,4',5,5',6-HpCB	187			8890	1.09 (S)	1.04	1.110
2,2',3,4',5,6,6'-HpCB	188			18.0	0.797 (S)	0.91	1.001
2,3,3',4,4',5,5'-HpCB	189			120	0.968 (S)	0.97	1.001
2,3,3',4,4',5,6-HpCB	190			1120	1.02 (S)	1.05	0.946
2,3,3',4,4',5',6-HpCB	191			224	1.02 (S)	1.11	0.917
2,3,3',4,5,5',6-HpCB	192		U		1.09 (S)		
2,3,3',4',5,5',6-HpCB	193	180 + 193	C180				
2,2',3,3',4,4',5,5'-OcCB	194		G	1050	1.45 (S)	0.86	0.992
2,2',3,3',4,4',5,6-OcCB	195			771	1.60 (S)	0.92	0.944
2,2',3,3',4,4',5,6'-OcCB	196			1200	0.899 (S)	0.90	0.914
2,2',3,3',4,4',6,6'-OcCB	197	197 + 200	C	253	0.642 (S)	0.88	1.046
2,2',3,3',4,5,5',6-OcCB	198	198 + 199	C	2580	0.891 (S)	0.87	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			236	0.641 (S)	0.92	1.023
2,2',3,3',5,5',6,6'-OcCB	202			418	0.674 (S)	0.91	1.001
2,2',3,4,4',5,5',6-OcCB	203			2010	0.859 (S)	0.88	0.918
2,2',3,4,4',5,6,6'-OcCB	204		K J	0.959	0.655 (S)	0.10	1.039
2,3,3',4,4',5,5',6-OcCB	205			75.8	1.48 (S)	0.90	1.001
2,2',3,3',4,4',5,5',6-NoCB	206			351	0.492 (S)	0.80	1.000
2,2',3,3',4,4',5,6,6'-NoCB	207			45.6	0.356 (S)	0.77	1.019
2,2',3,3',4,5,5',6,6'-NoCB	208			106	0.425 (S)	0.81	1.000
2,2',3,3',4,4',5,5',6,6'-DeCB	209			94.9	0.357 (S)	1.14	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: _____Ting Chen_____

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Report Filename: 1668_PCB1668_PCBTF_L29961-13_Form1A_PB8C_360AS5_SJ2453006.html; Workgroup: WG65252; Design ID: 3360]

SGS AXYS METHOD MLA-010 Rev 12

Form 2

PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.
PDI-TF-SMB076
Sample Collection:
23-Aug-2018 08:42

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

Project No.	PORTLAND HARBOR PDI AND BASELINE TISSUE		
Contract No.:	4972	**Lab Sample I.D.:**	L29961-13
Matrix:	TISSUE	**Sample Size:**	10.2 g (wet)
Sample Receipt Date:	31-Aug-2018	**Initial Calibration Date:**	07-Jul-2018
Extraction Date:	19-Sep-2018	**Instrument ID:**	HR GC/MS
Analysis Date:	20-Oct-2018 **Time:** 03:32:32	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	100	**Sample Data Filename:**	**PB8C_360A S: 5**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB8C_358 S: 4
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PB8C_360 S: 1
Concentration Units:	pg absolute	**% Lipid:**	5.76

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This test is not NELAP accredited. Sample results relate only to the sample tested.

LABELED COMPOUND	IUPAC NO. [1]	CO-ELUTIONS	LAB FLAG [2]	SPIKE CONC.	CONC. FOUND	R(%) [3]	ION ABUND. RATIO	RRT
13C12-2-MoCB	1L			2000	672	33.6	3.23	0.719
13C12-4-MoCB	3L			2000	696	34.8	3.22	0.858
13C12-2,2'-DiCB	4L			2000	777	38.9	1.52	0.874
13C12-4,4'-DiCB	15L			2000	952	47.6	1.54	1.254
13C12-2,2',6-TriCB	19L			2000	1060	53.2	1.12	1.072
13C12-3,4,4'-TriCB	37L			2000	1080	54.1	0.99	1.093
13C12-2,2',6,6'-TeCB	54L			2000	1120	55.9	0.81	0.811
13C12-3,3',4,4'-TeCB	77L			2000	1370	68.5	0.73	1.398
13C12-3,4,4',5-TeCB	81L			2000	1550	77.5	0.74	1.374
13C12-2,2',4,6,6'-PeCB	104L			2000	974	48.7	1.57	0.808
13C12-2,3,3',4,4'-PeCB	105L			2000	1640	82.1	1.56	1.201
13C12-2,3,4,4',5-PeCB	114L			2000	1390	69.4	1.55	1.180
13C12-2,3',4,4',5-PeCB	118L			2000	1550	77.6	1.52	1.162
13C12-2',3,4,4',5-PeCB	123L			2000	1500	74.9	1.51	1.152
13C12-3,3',4,4',5-PeCB	126L			2000	1400	70.2	1.57	1.302
13C12-2,2',4,4',6,6'-HxCB	155L			2000	848	42.4	1.18	0.785
13C12-2,3,3',4,4',5-HxCB	156L	156L + 157L	C	4000	2340	58.5	1.29	1.109
13C12-2,3,3',4,4',5'-HxCB	157L	156L + 157L	C156L					
13C12-2,3',4,4',5,5'-HxCB	167L			2000	1180	58.8	1.28	1.079
13C12-3,3',4,4',5,5'-HxCB	169L			2000	1240	61.8	1.35	1.193
13C12-2,2',3,3',4,4',5-HpCB	170L		V	2000	3050	153	1.02	0.896
13C12-2,2',3,4,4',5,5'-HpCB	180L		V	2000	3220	161	1.09	0.871
13C12-2,2',3,4',5,6,6'-HpCB	188L			2000	1960	97.9	1.09	0.710
13C12-2,3,3',4,4',5,5'-HpCB	189L			2000	2000	100	0.95	0.958
13C12-2,2',3,3',5,5',6,6'-OcCB	202L			2000	1440	72.0	0.97	0.816
13C12-2,3,3',4,4',5,5',6-OcCB	205L			2000	1750	87.5	0.90	1.009
13C12-2,2',3,3',4,4',5,5',6-NoCB	206L			2000	2380	119	0.75	1.043
13C12-2,2',3,3',4,5,5',6,6'-NoCB	208L			2000	2540	127	0.69	0.948
13C12-2,2',3,3',4,4',5,5',6,6'-DeCB	209L			2000	1930	96.6	1.17	1.073
CLEANUP STANDARD								
13C12-2,4,4'-TriCB	28L			1000	747	74.7	1.14	0.925
13C12-2,3,3',5,5'-PeCB	111L			1000	801	80.1	1.57	1.088
13C12-2,2',3,3',5,5',6-HpCB	178L			1000	640	64.0	1.03	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: _____Ting Chen_____

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Report Filename: 1668_PCB1668_PCBTF_L29961-13_Form2_PB8C_360AS5_SJ2453006.html; Workgroup: WG65252; Design ID: 3360]

SGS AXYS METHOD MLA-010 Rev 12

Form 1A

PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.
PDI-TF-SMB083
Sample Collection:
23-Aug-2018 08:10

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

Project No.	PORTLAND HARBOR PDI AND BASELINE TISSUE		
Contract No.:	4972	**Lab Sample I.D.:**	L29961-14
Matrix:	TISSUE	**Sample Size:**	10.2 g (wet)
Sample Receipt Date:	31-Aug-2018	**Initial Calibration Date:**	07-Jul-2018
Extraction Date:	19-Sep-2018	**Instrument ID:**	HR GC/MS
Analysis Date:	20-Oct-2018 **Time:** 04:36:13	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	100	**Sample Data Filename:**	**PB8C_360A S: 6**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB8C_358 S: 4
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PB8C_360 S: 1
Concentration Units:	pg/g (wet weight basis)	**% Lipid:**	5.68

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 [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2-MoCB	1			4.33	0.310 (S)	3.11	1.000
3-MoCB	2		K J	1.17	0.385 (S)	2.48	0.988
4-MoCB	3		K J	2.82	0.384 (S)	4.03	1.000
2,2'-DiCB	4			111	2.04 (S)	1.57	1.001
2,3-DiCB	5		U		1.68 (S)		
2,3'-DiCB	6			14.9	1.51 (S)	1.57	1.177
2,4-DiCB	7		J	2.59	1.57 (S)	1.51	1.158
2,4'-DiCB	8			53.2	1.42 (S)	1.48	1.208
2,5-DiCB	9			4.16	1.50 (S)	1.44	1.146
2,6-DiCB	10			6.12	1.52 (S)	1.37	1.014
3,3'-DiCB	11			95.1	1.58 (S)	1.47	0.969
3,4-DiCB	12	12 + 13	C J	2.23	1.58 (S)	1.49	0.984
3,4'-DiCB	13	12 + 13	C12				
3,5-DiCB	14		U		1.57 (S)		
4,4'-DiCB	15			20.4	1.60 (S)	1.66	1.001
2,2',3-TriCB	16			53.0	0.487 (S)	1.05	1.167
2,2',4-TriCB	17			169	0.399 (S)	1.05	1.139
2,2',5-TriCB	18	18 + 30	C	169	0.338 (S)	1.03	1.114
2,2',6-TriCB	19			314	0.443 (S)	1.05	1.002
2,3,3'-TriCB	20	20 + 28	C	610	1.10 (S)	1.01	0.847
2,3,4-TriCB	21	21 + 33	C	95.8	1.09 (S)	1.00	0.856
2,3,4'-TriCB	22			141	1.26 (S)	1.00	0.871
2,3,5-TriCB	23		U		1.17 (S)		
2,3,6-TriCB	24		J	2.54	0.298 (S)	1.00	1.160
2,3',4-TriCB	25			53.2	0.950 (S)	1.02	0.824
2,3',5-TriCB	26	26 + 29	C	109	1.12 (S)	1.00	1.302
2,3',6-TriCB	27			32.4	0.291 (S)	1.04	1.152
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			375	1.03 (S)	1.01	0.836
2,4',6-TriCB	32			77.9	1.05 (S)	0.99	1.198
2',3,4-TriCB	33	21 + 33	C21				
2',3,5-TriCB	34			4.39	1.16 (S)	0.94	1.274
3,3',4-TriCB	35		U		1.15 (S)		
3,3',5-TriCB	36		U		1.08 (S)		
3,4,4'-TriCB	37			68.4	1.22 (S)	1.01	1.001
3,4,5-TriCB	38		J	1.52	1.12 (S)	1.14	0.967
3,4',5-TriCB	39			4.53	1.13 (S)	1.08	0.945

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2,2',3,3'-TeCB	40	40 + 41 + 71	C	287	0.654 (S)	0.80	1.336
2,2',3,4-TeCB	41	40 + 41 + 71	C40				
2,2',3,4'-TeCB	42			275	0.689 (S)	0.76	1.312
2,2',3,5-TeCB	43			29.3	0.723 (S)	0.87	1.247
2,2',3,5'-TeCB	44	44 + 47 + 65	C	2090	0.590 (S)	0.79	1.285
2,2',3,6-TeCB	45	45 + 51	C	312	0.619 (S)	0.80	1.148
2,2',3,6'-TeCB	46			30.5	0.711 (S)	0.79	1.160
2,2',4,4'-TeCB	47	44 + 47 + 65	C44				
2,2',4,5-TeCB	48			122	0.657 (S)	0.79	1.272
2,2',4,5'-TeCB	49	49 + 69	C	1330	0.547 (S)	0.78	1.258
2,2',4,6-TeCB	50	50 + 53	C	178	0.600 (S)	0.78	1.110
2,2',4,6'-TeCB	51	45 + 51	C45				
2,2',5,5'-TeCB	52			1830	0.594 (S)	0.78	1.234
2,2',5,6'-TeCB	53	50 + 53	C50				
2,2',6,6'-TeCB	54			72.6	0.473 (S)	0.81	1.001
2,3,3',4-TeCB	55		U		7.47 (S)		
2,3,3',4'-TeCB	56			311	7.35 (S)	0.74	0.904
2,3,3',5-TeCB	57		U		6.80 (S)		
2,3,3',5'-TeCB	58		U		6.89 (S)		
2,3,3',6-TeCB	59	59 + 62 + 75	C	122	0.489 (S)	0.78	1.302
2,3,4,4'-TeCB	60			252	7.70 (S)	0.78	0.911
2,3,4,5-TeCB	61	61 + 70 + 74 + 76	C	2060	6.76 (S)	0.77	0.874
2,3,4,6-TeCB	62	59 + 62 + 75	C59				
2,3,4',5-TeCB	63			79.9	6.69 (S)	0.75	0.864
2,3,4',6-TeCB	64			487	0.482 (S)	0.80	1.349
2,3,5,6-TeCB	65	44 + 47 + 65	C44				
2,3',4,4'-TeCB	66			1460	6.80 (S)	0.76	0.883
2,3',4,5-TeCB	67			32.8	6.02 (S)	0.80	0.855
2,3',4,5'-TeCB	68			45.5	6.60 (S)	0.82	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			39.4	6.48 (S)	0.88	0.822
2,3',5',6-TeCB	73		U		0.507 (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			86.6	7.17 (S)	0.78	1.000
3,3',4,5-TeCB	78		U		7.19 (S)		
3,3',4,5'-TeCB	79			39.1	5.89 (S)	0.71	0.968
3,3',5,5'-TeCB	80		U		6.50 (S)		
3,4,4',5-TeCB	81		U		6.62 (S)		
2,2',3,3',4-PeCB	82			224	3.19 (S)	1.59	0.933
2,2',3,3',5-PeCB	83	83 + 99	C	3630	2.88 (S)	1.59	0.885
2,2',3,3',6-PeCB	84			492	3.05 (S)	1.58	1.165
2,2',3,4,4'-PeCB	85	85 + 116 + 117	C	909	2.43 (S)	1.61	0.919
2,2',3,4,5-PeCB	86	86 + 87 + 97 + 108 + 119 + 125	C G	2370	2.46 (S)	1.56	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	710	2.76 (S)	1.56	1.156
2,2',3,4,6'-PeCB	89			12.1	2.91 (S)	1.35	1.184
2,2',3,4',5-PeCB	90	90 + 101 + 113	C	5200	2.46 (S)	1.60	0.869
2,2',3,4',6-PeCB	91	88 + 91	C88				
2,2',3,5,5'-PeCB	92			1050	2.84 (S)	1.59	0.852
2,2',3,5,6-PeCB	93	93 + 95 + 98 + 100 + 102	C	2730	2.65 (S)	1.56	1.122
2,2',3,5,6'-PeCB	94			27.5	2.94 (S)	1.45	1.103
2,2',3,5',6-PeCB	95	93 + 95 + 98 + 100 + 102	C93				
2,2',3,6,6'-PeCB	96			22.3	0.472 (S)	1.60	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				

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	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			151	2.43 (S)	1.59	1.094
2,2',4,6,6'-PeCB	104		K	15.3	0.535 (S)	1.79	1.001
2,3,3',4,4'-PeCB	105			1410	5.53 (S)	1.49	1.000
2,3,3',4,5-PeCB	106		U		6.53 (S)		
2,3,3',4',5-PeCB	107	107 + 124	C	141	6.89 (S)	1.51	0.991
2,3,3',4,5'-PeCB	108	86 + 87 + 97 + 108 + 119 + 125	C86				
2,3,3',4,6-PeCB	109			425	6.44 (S)	1.52	0.997
2,3,3',4',6-PeCB	110	110 + 115	C	4040	2.17 (S)	1.58	0.925
2,3,3',5,5'-PeCB	111			13.4	2.13 (S)	1.48	0.945
2,3,3',5,6-PeCB	112		U		2.11 (S)		
2,3,3',5',6-PeCB	113	90 + 101 + 113	C90				
2,3,4,4',5-PeCB	114			112	7.00 (S)	1.48	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			4460	6.28 (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		K	51.9	2.09 (S)	1.93	0.958
2,3',4,5',6-PeCB	121		K	15.1	2.19 (S)	1.91	1.201
2',3,3',4,5-PeCB	122			39.9	7.78 (S)	1.52	1.010
2',3,4,4',5-PeCB	123			81.4	6.97 (S)	1.53	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	11.0	7.28 (S)	1.76	1.000
3,3',4,5,5'-PeCB	127			14.9	6.84 (S)	1.62	1.041
2,2',3,3',4,4'-HxCB	128	128 + 166	C	1670	8.20 (S)	1.25	0.959
2,2',3,3',4,5-HxCB	129	129 + 138 + 160 + 163	C	15800	8.63 (S)	1.26	0.928
2,2',3,3',4,5'-HxCB	130			660	11.0 (S)	1.31	0.913
2,2',3,3',4,6-HxCB	131			49.0	9.91 (S)	1.39	1.161
2,2',3,3',4,6'-HxCB	132			1800	10.9 (S)	1.27	1.175
2,2',3,3',5,5'-HxCB	133			326	10.2 (S)	1.25	1.192
2,2',3,3',5,6-HxCB	134	134 + 143	C	297	10.3 (S)	1.26	1.141
2,2',3,3',5,6'-HxCB	135	135 + 151 + 154	C	3690	0.603 (S)	1.26	1.105
2,2',3,3',6,6'-HxCB	136			625	0.459 (S)	1.26	1.025
2,2',3,4,4',5-HxCB	137			387	9.88 (S)	1.28	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	165	9.40 (S)	1.24	1.153
2,2',3,4,4',6'-HxCB	140	139 + 140	C139				
2,2',3,4,5,5'-HxCB	141			1870	9.70 (S)	1.25	0.903
2,2',3,4,5,6-HxCB	142		U		10.6 (S)		
2,2',3,4,5,6'-HxCB	143	134 + 143	C134				
2,2',3,4,5',6-HxCB	144			381	0.629 (S)	1.22	1.123
2,2',3,4,6,6'-HxCB	145		K J	1.41	0.487 (S)	7.88	1.035
2,2',3,4',5,5'-HxCB	146			3310	8.73 (S)	1.27	0.884
2,2',3,4',5,6-HxCB	147	147 + 149	C	8470	9.43 (S)	1.25	1.134
2,2',3,4',5,6'-HxCB	148			57.8	0.621 (S)	1.41	1.084
2,2',3,4',5',6-HxCB	149	147 + 149	C147				
2,2',3,4',6,6'-HxCB	150			34.0	0.470 (S)	1.23	1.013
2,2',3,5,5',6-HxCB	151	135 + 151 + 154	C135				
2,2',3,5,6,6'-HxCB	152			7.70	0.443 (S)	1.18	1.008
2,2',4,4',5,5'-HxCB	153	153 + 168	C	18200	7.68 (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			15.0	0.443 (S)	1.40	1.001
2,3,3',4,4',5-HxCB	156	156 + 157	C	1060	9.38 (S)	1.25	1.000
2,3,3',4,4',5'-HxCB	157	156 + 157	C156				
2,3,3',4,4',6-HxCB	158			1100	6.58 (S)	1.28	0.937
2,3,3',4,5,5'-HxCB	159			114	6.99 (S)	1.19	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 [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2,3,3',4,5',6-HxCB	161		U		7.06 (S)		
2,3,3',4',5,5'-HxCB	162			26.1	6.56 (S)	1.25	0.989
2,3,3',4',5,6-HxCB	163	129 + 138 + 160 + 163	C129				
2,3,3',4',5',6-HxCB	164			638	7.57 (S)	1.28	0.921
2,3,3',5,5',6-HxCB	165			17.6	8.19 (S)	1.13	0.878
2,3,4,4',5,6-HxCB	166	128 + 166	C128				
2,3',4,4',5,5'-HxCB	167			478	7.64 (S)	1.26	1.000
2,3',4,4',5',6-HxCB	168	153 + 168	C153				
3,3',4,4',5,5'-HxCB	169		U		20.1 (S)		
2,2',3,3',4,4',5-HpCB	170			3930	0.938 (S)	1.06	1.001
2,2',3,3',4,4',6-HpCB	171	171 + 173	C	1220	1.02 (S)	1.07	1.164
2,2',3,3',4,5,5'-HpCB	172			879	1.09 (S)	1.06	0.896
2,2',3,3',4,5,6-HpCB	173	171 + 173	C171				
2,2',3,3',4,5,6'-HpCB	174			2370	0.956 (S)	1.05	1.134
2,2',3,3',4,5',6-HpCB	175			185	0.915 (S)	1.10	1.103
2,2',3,3',4,6,6'-HpCB	176			249	0.756 (S)	1.04	1.034
2,2',3,3',4',5,6-HpCB	177			1970	0.734 (S)	1.04	1.146
2,2',3,3',5,5',6-HpCB	178			1180	0.943 (S)	1.04	1.086
2,2',3,3',5,6,6'-HpCB	179			991	0.719 (S)	1.04	1.011
2,2',3,4,4',5,5'-HpCB	180	180 + 193	C	14100	0.926 (S)	1.05	1.000
2,2',3,4,4',5,6-HpCB	181			26.4	0.967 (S)	1.12	1.157
2,2',3,4,4',5,6'-HpCB	182		U		0.927 (S)		
2,2',3,4,4',5',6-HpCB	183	183 + 185	C	3480	0.944 (S)	1.03	1.127
2,2',3,4,4',6,6'-HpCB	184			13.5	0.721 (S)	1.18	1.024
2,2',3,4,5,5',6-HpCB	185	183 + 185	C183				
2,2',3,4,5,6,6'-HpCB	186		U		0.798 (S)		
2,2',3,4',5,5',6-HpCB	187			10400	0.868 (S)	1.05	1.111
2,2',3,4',5,6,6'-HpCB	188			20.1	0.742 (S)	1.10	1.000
2,3,3',4,4',5,5'-HpCB	189			132	1.49 (S)	1.01	1.001
2,3,3',4,4',5,6-HpCB	190			849	0.811 (S)	1.02	0.947
2,3,3',4,4',5',6-HpCB	191			198	0.815 (S)	1.09	0.917
2,3,3',4,5,5',6-HpCB	192		U		0.871 (S)		
2,3,3',4',5,5',6-HpCB	193	180 + 193	C180				
2,2',3,3',4,4',5,5'-OcCB	194		G	1520	0.891 (S)	0.88	0.991
2,2',3,3',4,4',5,6-OcCB	195			961	0.983 (S)	0.89	0.945
2,2',3,3',4,4',5,6'-OcCB	196			1400	0.872 (S)	0.90	0.915
2,2',3,3',4,4',6,6'-OcCB	197	197 + 200	C	243	0.623 (S)	0.89	1.046
2,2',3,3',4,5,5',6-OcCB	198	198 + 199	C	2820	0.865 (S)	0.92	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			290	0.622 (S)	0.92	1.023
2,2',3,3',5,5',6,6'-OcCB	202			595	0.750 (S)	0.96	1.000
2,2',3,4,4',5,5',6-OcCB	203			1810	0.833 (S)	0.89	0.919
2,2',3,4,4',5,6,6'-OcCB	204		K J	1.10	0.636 (S)	1.22	1.039
2,3,3',4,4',5,5',6-OcCB	205			79.2	0.819 (S)	0.87	1.001
2,2',3,3',4,4',5,5',6-NoCB	206			448	0.700 (S)	0.78	1.000
2,2',3,3',4,4',5,6,6'-NoCB	207			64.7	0.483 (S)	0.78	1.020
2,2',3,3',4,5,5',6,6'-NoCB	208			146	0.552 (S)	0.81	1.000
2,2',3,3',4,4',5,5',6,6'-DeCB	209			150	0.510 (S)	1.14	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: _____Ting Chen_____

For Axys Internal Use Only [XSL Template: Form16681A.xsl; Created: 02-Nov-2018 08:45:27; Application: XMLTransformer-1.16.51;
Report Filename: 1668_PCB1668_PCBTF_L29961-14_Form1A_PB8C_360AS6_SJ2453008.html; Workgroup: WG65252; Design ID: 3360]

SGS AXYS METHOD MLA-010 Rev 12

Form 2

PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.
PDI-TF-SMB083
Sample Collection:
23-Aug-2018 08:10

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

Project No.	PORTLAND HARBOR PDI AND BASELINE TISSUE		
Contract No.:	4972	**Lab Sample I.D.:**	L29961-14
Matrix:	TISSUE	**Sample Size:**	10.2 g (wet)
Sample Receipt Date:	31-Aug-2018	**Initial Calibration Date:**	07-Jul-2018
Extraction Date:	19-Sep-2018	**Instrument ID:**	HR GC/MS
Analysis Date:	20-Oct-2018 **Time:** 04:36:13	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	100	**Sample Data Filename:**	**PB8C_360A S: 6**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB8C_358 S: 4
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PB8C_360 S: 1
Concentration Units:	pg absolute	**% Lipid:**	5.68

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. [1]	CO-ELUTIONS	LAB FLAG [2]	SPIKE CONC.	CONC. FOUND	R(%) [3]	ION ABUND. RATIO	RRT
13C12-2-MoCB	1L			2000	771	38.5	3.10	0.719
13C12-4-MoCB	3L			2000	781	39.0	3.25	0.858
13C12-2,2'-DiCB	4L			2000	814	40.7	1.58	0.873
13C12-4,4'-DiCB	15L			2000	928	46.4	1.64	1.254
13C12-2,2',6-TriCB	19L			2000	972	48.6	1.03	1.071
13C12-3,4,4'-TriCB	37L			2000	1000	50.2	1.04	1.092
13C12-2,2',6,6'-TeCB	54L			2000	980	49.0	0.81	0.811
13C12-3,3',4,4'-TeCB	77L			2000	1330	66.4	0.78	1.398
13C12-3,4,4',5-TeCB	81L			2000	1360	68.0	0.77	1.374
13C12-2,2',4,6,6'-PeCB	104L			2000	833	41.7	1.72	0.807
13C12-2,3,3',4,4'-PeCB	105L			2000	1500	75.0	1.66	1.200
13C12-2,3,4,4',5-PeCB	114L			2000	1200	60.1	1.57	1.179
13C12-2,3',4,4',5-PeCB	118L			2000	1360	67.9	1.58	1.162
13C12-2',3,4,4',5-PeCB	123L			2000	1350	67.7	1.62	1.152
13C12-3,3',4,4',5-PeCB	126L			2000	1370	68.5	1.46	1.302
13C12-2,2',4,4',6,6'-HxCB	155L			2000	711	35.6	1.29	0.785
13C12-2,3,3',4,4',5-HxCB	156L	156L + 157L	C	4000	2140	53.6	1.19	1.108
13C12-2,3,3',4,4',5'-HxCB	157L	156L + 157L	C156L					
13C12-2,3',4,4',5,5'-HxCB	167L			2000	1040	52.2	1.40	1.078
13C12-3,3',4,4',5,5'-HxCB	169L			2000	1090	54.4	1.24	1.192
13C12-2,2',3,3',4,4',5-HpCB	170L			2000	2040	102	0.98	0.896
13C12-2,2',3,4,4',5,5'-HpCB	180L			2000	1880	94.1	1.20	0.872
13C12-2,2',3,4',5,6,6'-HpCB	188L			2000	1230	61.3	1.06	0.711
13C12-2,3,3',4,4',5,5'-HpCB	189L			2000	1680	84.2	0.99	0.958
13C12-2,2',3,3',5,5',6,6'-OcCB	202L			2000	886	44.3	0.88	0.816
13C12-2,3,3',4,4',5,5',6-OcCB	205L			2000	1490	74.6	0.86	1.009
13C12-2,2',3,3',4,4',5,5',6-NoCB	206L			2000	1700	84.9	0.73	1.043
13C12-2,2',3,3',4,5,5',6,6'-NoCB	208L			2000	1860	93.2	0.76	0.948
13C12-2,2',3,3',4,4',5,5',6,6'-DeCB	209L			2000	1280	64.1	1.14	1.074
CLEANUP STANDARD								
13C12-2,4,4'-TriCB	28L			2000	1170	58.6	1.03	0.925
13C12-2,3,3',5,5'-PeCB	111L			2000	1290	64.4	1.60	1.088
13C12-2,2',3,3',5,5',6-HpCB	178L			2000	1080	53.9	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: _____Ting Chen_____

For Axys Internal Use Only [XSL Template: Form16682.xsl; Created: 02-Nov-2018 08:45:27; Application: XMLTransformer-1.16.51;
Report Filename: 1668_PCB1668_PCBTF_L29961-14_Form2_PB8C_360AS6_SJ2453008.html; Workgroup: WG65252; Design ID: 3360]

SGS AXYS METHOD MLA-010 Rev 12

Form 1A

PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.
PDI-TF-SMB051
Sample Collection:
22-Aug-2018 12:42

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

Project No.	PORTLAND HARBOR PDI AND BASELINE TISSUE		
Contract No.:	4972	**Lab Sample I.D.:**	L29961-15
Matrix:	TISSUE	**Sample Size:**	10.1 g (wet)
Sample Receipt Date:	31-Aug-2018	**Initial Calibration Date:**	07-Jul-2018
Extraction Date:	19-Sep-2018	**Instrument ID:**	HR GC/MS
Analysis Date:	20-Oct-2018 **Time:** 05:39:59	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	100	**Sample Data Filename:**	**PB8C_360A S: 7**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB8C_358 S: 4
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PB8C_360 S: 1
Concentration Units:	pg/g (wet weight basis)	**% Lipid:**	4.16

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 [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2-MoCB	1			8.53	0.298 (S)	2.74	1.001
3-MoCB	2		K J	0.780	0.373 (S)	3.80	0.988
4-MoCB	3		K J G	2.39	0.373 (S)	4.47	1.000
2,2'-DiCB	4			150	1.73 (S)	1.52	1.000
2,3-DiCB	5		U		1.44 (S)		
2,3'-DiCB	6			15.7	1.30 (S)	1.49	1.175
2,4-DiCB	7		J	2.24	1.35 (S)	1.75	1.158
2,4'-DiCB	8			63.7	1.23 (S)	1.50	1.206
2,5-DiCB	9			4.76	1.29 (S)	1.45	1.146
2,6-DiCB	10			9.15	1.30 (S)	1.55	1.012
3,3'-DiCB	11			15.7	1.36 (S)	1.74	0.968
3,4-DiCB	12	12 + 13	C U		1.36 (S)		
3,4'-DiCB	13	12 + 13	C12				
3,5-DiCB	14		U		1.35 (S)		
4,4'-DiCB	15			7.25	1.40 (S)	1.64	1.001
2,2',3-TriCB	16			48.1	0.501 (S)	0.96	1.166
2,2',4-TriCB	17			144	0.411 (S)	1.04	1.138
2,2',5-TriCB	18	18 + 30	C	145	0.348 (S)	1.05	1.113
2,2',6-TriCB	19			330	0.452 (S)	1.04	1.001
2,3,3'-TriCB	20	20 + 28	C	429	0.861 (S)	0.99	0.847
2,3,4-TriCB	21	21 + 33	C	91.0	0.856 (S)	0.95	0.856
2,3,4'-TriCB	22			74.5	0.987 (S)	1.03	0.871
2,3,5-TriCB	23		U		0.919 (S)		
2,3,6-TriCB	24		J	1.70	0.307 (S)	0.93	1.158
2,3',4-TriCB	25			27.1	0.746 (S)	1.11	0.825
2,3',5-TriCB	26	26 + 29	C	62.8	0.877 (S)	1.00	1.301
2,3',6-TriCB	27			36.2	0.299 (S)	1.00	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			165	0.812 (S)	0.97	0.836
2,4',6-TriCB	32			74.2	0.828 (S)	1.02	1.198
2',3,4-TriCB	33	21 + 33	C21				
2',3,5-TriCB	34		J	2.18	0.911 (S)	1.12	1.273
3,3',4-TriCB	35		U		0.902 (S)		
3,3',5-TriCB	36		U		0.845 (S)		
3,4,4'-TriCB	37			24.7	0.961 (S)	1.16	1.001
3,4,5-TriCB	38		K J	1.21	0.879 (S)	0.68	0.968
3,4',5-TriCB	39		J	3.06	0.886 (S)	0.97	0.946

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2,2',3,3'-TeCB	40	40 + 41 + 71	C	208	0.607 (S)	0.79	1.337
2,2',3,4-TeCB	41	40 + 41 + 71	C40				
2,2',3,4'-TeCB	42			146	0.640 (S)	0.76	1.313
2,2',3,5-TeCB	43			23.0	0.672 (S)	0.81	1.247
2,2',3,5'-TeCB	44	44 + 47 + 65	C	1550	0.548 (S)	0.78	1.286
2,2',3,6-TeCB	45	45 + 51	C	208	0.575 (S)	0.76	1.149
2,2',3,6'-TeCB	46			21.1	0.661 (S)	0.75	1.161
2,2',4,4'-TeCB	47	44 + 47 + 65	C44				
2,2',4,5-TeCB	48			82.0	0.610 (S)	0.78	1.273
2,2',4,5'-TeCB	49	49 + 69	C	898	0.508 (S)	0.80	1.259
2,2',4,6-TeCB	50	50 + 53	C	178	0.557 (S)	0.76	1.111
2,2',4,6'-TeCB	51	45 + 51	C45				
2,2',5,5'-TeCB	52			1270	0.552 (S)	0.80	1.235
2,2',5,6'-TeCB	53	50 + 53	C50				
2,2',6,6'-TeCB	54			75.2	0.434 (S)	0.84	1.001
2,3,3',4-TeCB	55		U		6.18 (S)		
2,3,3',4'-TeCB	56			106	6.08 (S)	0.78	0.904
2,3,3',5-TeCB	57		U		5.63 (S)		
2,3,3',5'-TeCB	58		U		5.70 (S)		
2,3,3',6-TeCB	59	59 + 62 + 75	C	85.5	0.454 (S)	0.81	1.303
2,3,4,4'-TeCB	60			247	6.37 (S)	0.76	0.910
2,3,4,5-TeCB	61	61 + 70 + 74 + 76	C	1410	5.59 (S)	0.75	0.875
2,3,4,6-TeCB	62	59 + 62 + 75	C59				
2,3,4',5-TeCB	63			92.1	5.53 (S)	0.73	0.863
2,3,4',6-TeCB	64			305	0.447 (S)	0.79	1.350
2,3,5,6-TeCB	65	44 + 47 + 65	C44				
2,3',4,4'-TeCB	66			1580	5.62 (S)	0.77	0.883
2,3',4,5-TeCB	67			16.5	4.98 (S)	0.72	0.855
2,3',4,5'-TeCB	68			31.4	5.46 (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			34.0	5.36 (S)	0.72	0.821
2,3',5',6-TeCB	73		U		0.471 (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			48.5	5.86 (S)	0.79	1.000
3,3',4,5-TeCB	78		U		5.95 (S)		
3,3',4,5'-TeCB	79			20.8	4.87 (S)	0.72	0.968
3,3',5,5'-TeCB	80		U		5.37 (S)		
3,4,4',5-TeCB	81		U		5.61 (S)		
2,2',3,3',4-PeCB	82			86.8	2.65 (S)	1.48	0.934
2,2',3,3',5-PeCB	83	83 + 99	C	4050	2.39 (S)	1.63	0.885
2,2',3,3',6-PeCB	84			182	2.54 (S)	1.55	1.165
2,2',3,4,4'-PeCB	85	85 + 116 + 117	C	971	2.02 (S)	1.59	0.919
2,2',3,4,5-PeCB	86	86 + 87 + 97 + 108 + 119 + 125	C G	1340	2.05 (S)	1.60	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	280	2.30 (S)	1.62	1.156
2,2',3,4,6'-PeCB	89			5.66	2.42 (S)	1.58	1.183
2,2',3,4',5-PeCB	90	90 + 101 + 113	C	3880	2.04 (S)	1.57	0.869
2,2',3,4',6-PeCB	91	88 + 91	C88				
2,2',3,5,5'-PeCB	92			823	2.36 (S)	1.53	0.853
2,2',3,5,6-PeCB	93	93 + 95 + 98 + 100 + 102	C	1740	2.20 (S)	1.60	1.121
2,2',3,5,6'-PeCB	94		K	11.9	2.45 (S)	2.01	1.103
2,2',3,5',6-PeCB	95	93 + 95 + 98 + 100 + 102	C93				
2,2',3,6,6'-PeCB	96			15.3	0.430 (S)	1.58	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				

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	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			76.1	2.02 (S)	1.45	1.093
2,2',4,6,6'-PeCB	104		K	5.43	0.486 (S)	1.88	1.001
2,3,3',4,4'-PeCB	105			1800	14.7 (S)	1.52	1.001
2,3,3',4,5-PeCB	106		U		16.4 (S)		
2,3,3',4',5-PeCB	107	107 + 124	C	93.7	17.3 (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			496	16.1 (S)	1.58	0.997
2,3,3',4',6-PeCB	110	110 + 115	C	2410	1.81 (S)	1.58	0.925
2,3,3',5,5'-PeCB	111			15.5	1.78 (S)	1.54	0.945
2,3,3',5,6-PeCB	112		U		1.76 (S)		
2,3,3',5',6-PeCB	113	90 + 101 + 113	C90				
2,3,4,4',5-PeCB	114			156	16.9 (S)	1.43	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			6470	15.8 (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			60.5	1.74 (S)	1.53	0.958
2,3',4,5',6-PeCB	121		K	13.4	1.82 (S)	1.81	1.200
2',3,3',4,5-PeCB	122		U		19.5 (S)		
2',3,4,4',5-PeCB	123			98.4	16.9 (S)	1.58	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		U		17.9 (S)		
3,3',4,5,5'-PeCB	127			30.7	17.1 (S)	1.55	1.041
2,2',3,3',4,4'-HxCB	128	128 + 166	C	2810	16.5 (S)	1.24	0.959
2,2',3,3',4,5-HxCB	129	129 + 138 + 160 + 163	C	29300	17.4 (S)	1.26	0.928
2,2',3,3',4,5'-HxCB	130			786	22.1 (S)	1.23	0.913
2,2',3,3',4,6-HxCB	131			27.4	20.0 (S)	1.17	1.161
2,2',3,3',4,6'-HxCB	132			969	21.9 (S)	1.29	1.176
2,2',3,3',5,5'-HxCB	133			516	20.5 (S)	1.28	1.193
2,2',3,3',5,6-HxCB	134	134 + 143	C	194	20.8 (S)	1.24	1.141
2,2',3,3',5,6'-HxCB	135	135 + 151 + 154	C	4490	0.650 (S)	1.27	1.105
2,2',3,3',6,6'-HxCB	136			463	0.494 (S)	1.29	1.025
2,2',3,4,4',5-HxCB	137			646	19.9 (S)	1.27	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	194	18.9 (S)	1.18	1.153
2,2',3,4,4',6'-HxCB	140	139 + 140	C139				
2,2',3,4,5,5'-HxCB	141			2620	19.5 (S)	1.25	0.903
2,2',3,4,5,6-HxCB	142		U		21.3 (S)		
2,2',3,4,5,6'-HxCB	143	134 + 143	C134				
2,2',3,4,5',6-HxCB	144			374	0.678 (S)	1.32	1.122
2,2',3,4,6,6'-HxCB	145		U		0.525 (S)		
2,2',3,4',5,5'-HxCB	146			6210	17.6 (S)	1.26	0.883
2,2',3,4',5,6-HxCB	147	147 + 149	C	5900	19.0 (S)	1.25	1.135
2,2',3,4',5,6'-HxCB	148			51.3	0.669 (S)	1.08	1.084
2,2',3,4',5',6-HxCB	149	147 + 149	C147				
2,2',3,4',6,6'-HxCB	150		K	17.6	0.507 (S)	1.45	1.013
2,2',3,5,5',6-HxCB	151	135 + 151 + 154	C135				
2,2',3,5,6,6'-HxCB	152			5.16	0.477 (S)	1.22	1.007
2,2',4,4',5,5'-HxCB	153	153 + 168	C	40300	15.5 (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			15.8	0.465 (S)	1.16	1.001
2,3,3',4,4',5-HxCB	156	156 + 157	C	2340	19.2 (S)	1.27	1.000
2,3,3',4,4',5'-HxCB	157	156 + 157	C156				
2,3,3',4,4',6-HxCB	158			1910	13.3 (S)	1.25	0.938
2,3,3',4,5,5'-HxCB	159			131	14.1 (S)	1.27	0.981
2,3,3',4,5,6-HxCB	160	129 + 138 + 160 + 163	C129				

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COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2,3,3',4,5',6-HxCB	161		U		14.2 (S)		
2,3,3',4',5,5'-HxCB	162			45.9	13.2 (S)	1.28	0.989
2,3,3',4',5,6-HxCB	163	129 + 138 + 160 + 163	C129				
2,3,3',4',5',6-HxCB	164			935	15.2 (S)	1.26	0.921
2,3,3',5,5',6-HxCB	165		U		16.5 (S)		
2,3,4,4',5,6-HxCB	166	128 + 166	C128				
2,3',4,4',5,5'-HxCB	167			1050	14.9 (S)	1.25	1.000
2,3',4,4',5',6-HxCB	168	153 + 168	C153				
3,3',4,4',5,5'-HxCB	169		U		46.6 (S)		
2,2',3,3',4,4',5-HpCB	170			8890	0.874 (S)	1.05	1.000
2,2',3,3',4,4',6-HpCB	171	171 + 173	C	1990	0.894 (S)	1.05	1.165
2,2',3,3',4,5,5'-HpCB	172			1620	0.948 (S)	1.06	0.896
2,2',3,3',4,5,6-HpCB	173	171 + 173	C171				
2,2',3,3',4,5,6'-HpCB	174			2610	0.835 (S)	1.05	1.135
2,2',3,3',4,5',6-HpCB	175			286	0.799 (S)	1.07	1.104
2,2',3,3',4,6,6'-HpCB	176		U		0.660 (S)		
2,2',3,3',4',5,6-HpCB	177			2680	0.640 (S)	1.06	1.147
2,2',3,3',5,5',6-HpCB	178			2030	0.823 (S)	1.04	1.086
2,2',3,3',5,6,6'-HpCB	179			982	0.627 (S)	1.04	1.011
2,2',3,4,4',5,5'-HpCB	180	180 + 193	C	31800	0.778 (S)	1.03	1.000
2,2',3,4,4',5,6-HpCB	181			60.7	0.844 (S)	0.97	1.158
2,2',3,4,4',5,6'-HpCB	182		U		0.808 (S)		
2,2',3,4,4',5',6-HpCB	183	183 + 185	C	6540	0.823 (S)	1.05	1.128
2,2',3,4,4',6,6'-HpCB	184			15.5	0.629 (S)	1.06	1.025
2,2',3,4,5,5',6-HpCB	185	183 + 185	C183				
2,2',3,4,5,6,6'-HpCB	186		U		0.697 (S)		
2,2',3,4',5,5',6-HpCB	187			19600	0.757 (S)	1.07	1.111
2,2',3,4',5,6,6'-HpCB	188			22.9	0.653 (S)	0.94	1.001
2,3,3',4,4',5,5'-HpCB	189			341	1.90 (S)	1.06	1.000
2,3,3',4,4',5,6-HpCB	190			2080	0.708 (S)	1.08	0.946
2,3,3',4,4',5',6-HpCB	191			436	0.711 (S)	1.04	0.917
2,3,3',4,5,5',6-HpCB	192		U		0.760 (S)		
2,3,3',4',5,5',6-HpCB	193	180 + 193	C180				
2,2',3,3',4,4',5,5'-OcCB	194		G	3810	2.45 (S)	0.90	0.991
2,2',3,3',4,4',5,6-OcCB	195			2230	2.70 (S)	0.89	0.945
2,2',3,3',4,4',5,6'-OcCB	196			3220	1.12 (S)	0.91	0.915
2,2',3,3',4,4',6,6'-OcCB	197	197 + 200	C	429	0.798 (S)	0.87	1.045
2,2',3,3',4,5,5',6-OcCB	198	198 + 199	C	6170	1.11 (S)	0.91	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			633	0.796 (S)	0.92	1.023
2,2',3,3',5,5',6,6'-OcCB	202			1250	0.921 (S)	0.88	1.001
2,2',3,4,4',5,5',6-OcCB	203			4150	1.07 (S)	0.91	0.919
2,2',3,4,4',5,6,6'-OcCB	204		K J	3.24	0.814 (S)	0.75	1.039
2,3,3',4,4',5,5',6-OcCB	205			185	2.32 (S)	0.92	1.000
2,2',3,3',4,4',5,5',6-NoCB	206			1330	0.713 (S)	0.80	1.000
2,2',3,3',4,4',5,6,6'-NoCB	207			201	0.497 (S)	0.76	1.020
2,2',3,3',4,5,5',6,6'-NoCB	208			381	0.572 (S)	0.80	1.001
2,2',3,3',4,4',5,5',6,6'-DeCB	209			257	0.511 (S)	1.18	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.
(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: _____Ting Chen_____

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Report Filename: 1668_PCB1668_PCBTF_L29961-15_Form1A_PB8C_360AS7_SJ2453010.html; Workgroup: WG65252; Design ID: 3360]

SGS AXYS METHOD MLA-010 Rev 12

Form 2

PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.
PDI-TF-SMB051
Sample Collection:
22-Aug-2018 12:42

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

Project No.	PORTLAND HARBOR PDI AND BASELINE TISSUE		
Contract No.:	4972	**Lab Sample I.D.:**	L29961-15
Matrix:	TISSUE	**Sample Size:**	10.1 g (wet)
Sample Receipt Date:	31-Aug-2018	**Initial Calibration Date:**	07-Jul-2018
Extraction Date:	19-Sep-2018	**Instrument ID:**	HR GC/MS
Analysis Date:	20-Oct-2018 **Time:** 05:39:59	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	100	**Sample Data Filename:**	**PB8C_360A S: 7**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB8C_358 S: 4
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PB8C_360 S: 1
Concentration Units:	pg absolute	**% Lipid:**	4.16

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. [1]	CO-ELUTIONS	LAB FLAG [2]	SPIKE CONC.	CONC. FOUND	R(%) [3]	ION ABUND. RATIO	RRT
13C12-2-MoCB	1L			2000	749	37.4	3.10	0.718
13C12-4-MoCB	3L		G	2000	799	39.9	3.00	0.858
13C12-2,2'-DiCB	4L			2000	848	42.4	1.64	0.874
13C12-4,4'-DiCB	15L			2000	978	48.9	1.56	1.254
13C12-2,2',6-TriCB	19L			2000	1060	52.9	0.99	1.071
13C12-3,4,4'-TriCB	37L			2000	1110	55.3	0.97	1.092
13C12-2,2',6,6'-TeCB	54L			2000	1080	53.8	0.78	0.811
13C12-3,3',4,4'-TeCB	77L			2000	1420	70.9	0.79	1.398
13C12-3,4,4',5-TeCB	81L			2000	1460	73.2	0.71	1.374
13C12-2,2',4,6,6'-PeCB	104L			2000	897	44.9	1.55	0.808
13C12-2,3,3',4,4'-PeCB	105L			2000	1560	77.8	1.61	1.201
13C12-2,3,4,4',5-PeCB	114L			2000	1390	69.4	1.62	1.180
13C12-2,3',4,4',5-PeCB	118L			2000	1470	73.4	1.52	1.163
13C12-2',3,4,4',5-PeCB	123L			2000	1440	72.1	1.52	1.152
13C12-3,3',4,4',5-PeCB	126L			2000	1480	74.2	1.62	1.302
13C12-2,2',4,4',6,6'-HxCB	155L			2000	794	39.7	1.22	0.785
13C12-2,3,3',4,4',5-HxCB	156L	156L + 157L	C	4000	2220	55.6	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			2000	1140	56.9	1.20	1.078
13C12-3,3',4,4',5,5'-HxCB	169L			2000	1150	57.6	1.23	1.192
13C12-2,2',3,3',4,4',5-HpCB	170L			2000	2080	104	1.16	0.896
13C12-2,2',3,4,4',5,5'-HpCB	180L			2000	2100	105	1.00	0.872
13C12-2,2',3,4',5,6,6'-HpCB	188L			2000	1360	67.9	1.20	0.710
13C12-2,3,3',4,4',5,5'-HpCB	189L			2000	1740	87.1	1.05	0.959
13C12-2,2',3,3',5,5',6,6'-OcCB	202L			2000	966	48.3	1.02	0.816
13C12-2,3,3',4,4',5,5',6-OcCB	205L			2000	1480	73.9	0.91	1.009
13C12-2,2',3,3',4,4',5,5',6-NoCB	206L			2000	1780	88.9	0.87	1.043
13C12-2,2',3,3',4,5,5',6,6'-NoCB	208L			2000	1890	94.6	0.80	0.948
13C12-2,2',3,3',4,4',5,5',6,6'-DeCB	209L			2000	1280	63.9	1.26	1.074
CLEANUP STANDARD								
13C12-2,4,4'-TriCB	28L			2000	1410	70.4	1.13	0.925
13C12-2,3,3',5,5'-PeCB	111L			2000	1500	75.1	1.58	1.088
13C12-2,2',3,3',5,5',6-HpCB	178L			2000	1280	63.8	1.01	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: _____Ting Chen_____

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Report Filename: 1668_PCB1668_PCBTF_L29961-15_Form2_PB8C_360AS7_SJ2453010.html; Workgroup: WG65252; Design ID: 3360]

SGS AXYS METHOD MLA-010 Rev 12

Form 1A

PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.
PDI-TF-SMB048
Sample Collection:
23-Aug-2018 13:11

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

Project No.	PORTLAND HARBOR PDI AND BASELINE TISSUE		
Contract No.:	4972	**Lab Sample I.D.:**	L29961-16
Matrix:	TISSUE	**Sample Size:**	10.0 g (wet)
Sample Receipt Date:	31-Aug-2018	**Initial Calibration Date:**	07-Jul-2018
Extraction Date:	19-Sep-2018	**Instrument ID:**	HR GC/MS
Analysis Date:	20-Oct-2018 **Time:** 06:43:44	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	100	**Sample Data Filename:**	**PB8C_360A S: 8**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB8C_358 S: 4
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PB8C_360 S: 1
Concentration Units:	pg/g (wet weight basis)	**% Lipid:**	3.57

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This test is not NELAP accredited. Sample results relate only to the sample tested.

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2-MoCB	1			4.98	0.471 (S)	3.13	1.001
3-MoCB	2		K J	0.912	0.585 (S)	3.99	0.988
4-MoCB	3		K J	2.66	0.579 (S)	8.04	1.000
2,2'-DiCB	4			151	1.97 (S)	1.56	1.001
2,3-DiCB	5		U		1.64 (S)		
2,3'-DiCB	6			14.2	1.47 (S)	1.44	1.176
2,4-DiCB	7		J	3.40	1.53 (S)	1.38	1.159
2,4'-DiCB	8			68.7	1.39 (S)	1.54	1.208
2,5-DiCB	9		K	4.24	1.47 (S)	1.16	1.146
2,6-DiCB	10			10.2	1.48 (S)	1.42	1.013
3,3'-DiCB	11			27.0	1.54 (S)	1.40	0.968
3,4-DiCB	12	12 + 13	C K J	2.28	1.54 (S)	0.83	0.984
3,4'-DiCB	13	12 + 13	C12				
3,5-DiCB	14		U		1.53 (S)		
4,4'-DiCB	15			11.6	1.58 (S)	1.46	1.000
2,2',3-TriCB	16			52.5	0.540 (S)	1.16	1.166
2,2',4-TriCB	17			140	0.443 (S)	1.04	1.137
2,2',5-TriCB	18	18 + 30	C	151	0.376 (S)	1.09	1.113
2,2',6-TriCB	19			388	0.524 (S)	1.06	1.001
2,3,3'-TriCB	20	20 + 28	C	426	0.962 (S)	1.01	0.847
2,3,4-TriCB	21	21 + 33	C	105	0.957 (S)	1.00	0.856
2,3,4'-TriCB	22			101	1.10 (S)	1.08	0.871
2,3,5-TriCB	23		U		1.03 (S)		
2,3,6-TriCB	24		J	2.46	0.331 (S)	0.90	1.159
2,3',4-TriCB	25			32.8	0.835 (S)	1.02	0.824
2,3',5-TriCB	26	26 + 29	C	64.8	0.980 (S)	1.02	1.302
2,3',6-TriCB	27			38.7	0.323 (S)	1.03	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			214	0.907 (S)	1.01	0.836
2,4',6-TriCB	32			72.8	0.926 (S)	1.04	1.198
2',3,4-TriCB	33	21 + 33	C21				
2',3,5-TriCB	34		J	2.51	1.02 (S)	1.07	1.274
3,3',4-TriCB	35		K J	1.63	1.01 (S)	1.26	0.987
3,3',5-TriCB	36		U		0.944 (S)		
3,4,4'-TriCB	37			37.0	1.04 (S)	1.08	1.001
3,4,5-TriCB	38		U		0.983 (S)		
3,4',5-TriCB	39		K	3.60	0.990 (S)	1.52	0.945

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COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2,2',3,3'-TeCB	40	40 + 41 + 71	C	288	0.465 (S)	0.79	1.337
2,2',3,4-TeCB	41	40 + 41 + 71	C40				
2,2',3,4'-TeCB	42			190	0.490 (S)	0.77	1.312
2,2',3,5-TeCB	43			27.5	0.514 (S)	0.72	1.246
2,2',3,5'-TeCB	44	44 + 47 + 65	C	1660	0.420 (S)	0.80	1.287
2,2',3,6-TeCB	45	45 + 51	C	197	0.440 (S)	0.81	1.148
2,2',3,6'-TeCB	46			22.8	0.506 (S)	0.73	1.161
2,2',4,4'-TeCB	47	44 + 47 + 65	C44				
2,2',4,5-TeCB	48			102	0.467 (S)	0.76	1.274
2,2',4,5'-TeCB	49	49 + 69	C	852	0.389 (S)	0.79	1.259
2,2',4,6-TeCB	50	50 + 53	C	179	0.426 (S)	0.80	1.111
2,2',4,6'-TeCB	51	45 + 51	C45				
2,2',5,5'-TeCB	52			1220	0.422 (S)	0.78	1.234
2,2',5,6'-TeCB	53	50 + 53	C50				
2,2',6,6'-TeCB	54			72.2	0.358 (S)	0.77	1.001
2,3,3',4-TeCB	55		U		2.57 (S)		
2,3,3',4'-TeCB	56			172	2.52 (S)	0.74	0.904
2,3,3',5-TeCB	57			5.26	2.34 (S)	0.82	0.843
2,3,3',5'-TeCB	58			13.8	2.37 (S)	0.71	0.852
2,3,3',6-TeCB	59	59 + 62 + 75	C	94.8	0.347 (S)	0.88	1.303
2,3,4,4'-TeCB	60			255	2.65 (S)	0.75	0.910
2,3,4,5-TeCB	61	61 + 70 + 74 + 76	C	1330	2.32 (S)	0.75	0.874
2,3,4,6-TeCB	62	59 + 62 + 75	C59				
2,3,4',5-TeCB	63			77.0	2.30 (S)	0.75	0.864
2,3,4',6-TeCB	64			360	0.342 (S)	0.78	1.349
2,3,5,6-TeCB	65	44 + 47 + 65	C44				
2,3',4,4'-TeCB	66			1390	2.34 (S)	0.76	0.884
2,3',4,5-TeCB	67			18.8	2.07 (S)	0.71	0.855
2,3',4,5'-TeCB	68			43.4	2.27 (S)	0.72	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			36.0	2.23 (S)	0.72	0.821
2,3',5',6-TeCB	73		U		0.360 (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			45.6	2.29 (S)	0.78	1.000
3,3',4,5-TeCB	78		U		2.47 (S)		
3,3',4,5'-TeCB	79			34.5	2.02 (S)	0.81	0.968
3,3',5,5'-TeCB	80		U		2.23 (S)		
3,4,4',5-TeCB	81		U		2.33 (S)		
2,2',3,3',4-PeCB	82			157	1.47 (S)	1.58	0.934
2,2',3,3',5-PeCB	83	83 + 99	C	3510	1.33 (S)	1.59	0.885
2,2',3,3',6-PeCB	84			286	1.41 (S)	1.54	1.164
2,2',3,4,4'-PeCB	85	85 + 116 + 117	C	832	1.12 (S)	1.59	0.920
2,2',3,4,5-PeCB	86	86 + 87 + 97 + 108 + 119 + 125	C G	1690	1.14 (S)	1.60	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	437	1.27 (S)	1.62	1.155
2,2',3,4,6'-PeCB	89			8.77	1.34 (S)	1.43	1.182
2,2',3,4',5-PeCB	90	90 + 101 + 113	C	3900	1.14 (S)	1.57	0.869
2,2',3,4',6-PeCB	91	88 + 91	C88				
2,2',3,5,5'-PeCB	92			803	1.31 (S)	1.53	0.853
2,2',3,5,6-PeCB	93	93 + 95 + 98 + 100 + 102	C	1940	1.22 (S)	1.60	1.122
2,2',3,5,6'-PeCB	94			15.3	1.36 (S)	1.50	1.102
2,2',3,5',6-PeCB	95	93 + 95 + 98 + 100 + 102	C93				
2,2',3,6,6'-PeCB	96			13.6	0.453 (S)	1.44	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				

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	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			103	1.12 (S)	1.65	1.094
2,2',4,6,6'-PeCB	104		K	5.18	0.528 (S)	1.94	1.001
2,3,3',4,4'-PeCB	105			1400	6.25 (S)	1.54	1.001
2,3,3',4,5-PeCB	106		U		7.16 (S)		
2,3,3',4',5-PeCB	107	107 + 124	C	91.9	7.55 (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			426	7.07 (S)	1.49	0.997
2,3,3',4',6-PeCB	110	110 + 115	C	2800	1.00 (S)	1.58	0.925
2,3,3',5,5'-PeCB	111			17.0	0.986 (S)	1.37	0.945
2,3,3',5,6-PeCB	112		U		0.977 (S)		
2,3,3',5',6-PeCB	113	90 + 101 + 113	C90				
2,3,4,4',5-PeCB	114			114	7.49 (S)	1.51	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			4470	6.75 (S)	1.55	1.000
2,3',4,4',6-PeCB	119	86 + 87 + 97 + 108 + 119 + 125	C86				
2,3',4,5,5'-PeCB	120			60.2	0.966 (S)	1.77	0.958
2,3',4,5',6-PeCB	121			15.9	1.01 (S)	1.60	1.200
2',3,3',4,5-PeCB	122			22.0	8.53 (S)	1.40	1.010
2',3,4,4',5-PeCB	123			82.7	7.53 (S)	1.62	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	8.32	7.30 (S)	1.42	1.000
3,3',4,5,5'-PeCB	127			15.7	7.50 (S)	1.33	1.041
2,2',3,3',4,4'-HxCB	128	128 + 166	C	1640	15.8 (S)	1.27	0.959
2,2',3,3',4,5-HxCB	129	129 + 138 + 160 + 163	C	14000	16.6 (S)	1.28	0.928
2,2',3,3',4,5'-HxCB	130			571	21.1 (S)	1.24	0.913
2,2',3,3',4,6-HxCB	131			29.6	19.1 (S)	1.34	1.160
2,2',3,3',4,6'-HxCB	132			1260	20.9 (S)	1.30	1.176
2,2',3,3',5,5'-HxCB	133			320	19.6 (S)	1.26	1.193
2,2',3,3',5,6-HxCB	134	134 + 143	C	216	19.9 (S)	1.11	1.141
2,2',3,3',5,6'-HxCB	135	135 + 151 + 154	C	3060	0.526 (S)	1.27	1.105
2,2',3,3',6,6'-HxCB	136			467	0.400 (S)	1.28	1.025
2,2',3,4,4',5-HxCB	137			455	19.0 (S)	1.27	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	156	18.1 (S)	1.27	1.153
2,2',3,4,4',6'-HxCB	140	139 + 140	C139				
2,2',3,4,5,5'-HxCB	141			1530	18.7 (S)	1.26	0.903
2,2',3,4,5,6-HxCB	142		U		20.4 (S)		
2,2',3,4,5,6'-HxCB	143	134 + 143	C134				
2,2',3,4,5',6-HxCB	144			302	0.549 (S)	1.28	1.122
2,2',3,4,6,6'-HxCB	145		J	0.667	0.425 (S)	1.24	1.033
2,2',3,4',5,5'-HxCB	146			3520	16.8 (S)	1.25	0.883
2,2',3,4',5,6-HxCB	147	147 + 149	C	6200	18.1 (S)	1.25	1.134
2,2',3,4',5,6'-HxCB	148			56.1	0.541 (S)	1.40	1.084
2,2',3,4',5',6-HxCB	149	147 + 149	C147				
2,2',3,4',6,6'-HxCB	150			26.0	0.410 (S)	1.25	1.013
2,2',3,5,5',6-HxCB	151	135 + 151 + 154	C135				
2,2',3,5,6,6'-HxCB	152			7.81	0.386 (S)	1.37	1.007
2,2',4,4',5,5'-HxCB	153	153 + 168	C	17700	14.8 (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			16.2	0.385 (S)	1.25	1.001
2,3,3',4,4',5-HxCB	156	156 + 157	C	1080	18.1 (S)	1.26	1.000
2,3,3',4,4',5'-HxCB	157	156 + 157	C156				
2,3,3',4,4',6-HxCB	158			977	12.7 (S)	1.26	0.938
2,3,3',4,5,5'-HxCB	159			114	13.4 (S)	1.27	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 [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2,3,3',4,5',6-HxCB	161		U		13.6 (S)		
2,3,3',4',5,5'-HxCB	162			25.0	12.6 (S)	1.29	0.988
2,3,3',4',5,6-HxCB	163	129 + 138 + 160 + 163	C129				
2,3,3',4',5',6-HxCB	164			521	14.6 (S)	1.27	0.921
2,3,3',5,5',6-HxCB	165			16.0	15.8 (S)	1.40	0.878
2,3,4,4',5,6-HxCB	166	128 + 166	C128				
2,3',4,4',5,5'-HxCB	167			524	14.6 (S)	1.24	1.000
2,3',4,4',5',6-HxCB	168	153 + 168	C153				
3,3',4,4',5,5'-HxCB	169		U		22.1 (S)		
2,2',3,3',4,4',5-HpCB	170			3810	0.773 (S)	1.07	1.000
2,2',3,3',4,4',6-HpCB	171	171 + 173	C	1100	0.736 (S)	1.05	1.164
2,2',3,3',4,5,5'-HpCB	172			741	0.781 (S)	1.05	0.896
2,2',3,3',4,5,6-HpCB	173	171 + 173	C171				
2,2',3,3',4,5,6'-HpCB	174			2030	0.688 (S)	1.01	1.134
2,2',3,3',4,5',6-HpCB	175			162	0.658 (S)	1.10	1.103
2,2',3,3',4,6,6'-HpCB	176			226	0.543 (S)	1.03	1.035
2,2',3,3',4',5,6-HpCB	177			1650	0.528 (S)	1.07	1.146
2,2',3,3',5,5',6-HpCB	178			970	0.678 (S)	1.08	1.086
2,2',3,3',5,6,6'-HpCB	179			791	0.517 (S)	1.05	1.010
2,2',3,4,4',5,5'-HpCB	180	180 + 193	C	13300	0.680 (S)	1.06	1.000
2,2',3,4,4',5,6-HpCB	181			31.3	0.695 (S)	1.08	1.157
2,2',3,4,4',5,6'-HpCB	182		U		0.666 (S)		
2,2',3,4,4',5',6-HpCB	183	183 + 185	C	3000	0.678 (S)	1.09	1.127
2,2',3,4,4',6,6'-HpCB	184			11.7	0.518 (S)	1.16	1.025
2,2',3,4,5,5',6-HpCB	185	183 + 185	C183				
2,2',3,4,5,6,6'-HpCB	186		U		0.574 (S)		
2,2',3,4',5,5',6-HpCB	187			8810	0.624 (S)	1.03	1.110
2,2',3,4',5,6,6'-HpCB	188			22.1	0.610 (S)	0.95	1.001
2,3,3',4,4',5,5'-HpCB	189			130	1.30 (S)	1.07	1.001
2,3,3',4,4',5,6-HpCB	190			775	0.583 (S)	1.05	0.947
2,3,3',4,4',5',6-HpCB	191			176	0.586 (S)	1.07	0.917
2,3,3',4,5,5',6-HpCB	192		U		0.626 (S)		
2,3,3',4',5,5',6-HpCB	193	180 + 193	C180				
2,2',3,3',4,4',5,5'-OcCB	194			1610	0.954 (S)	0.90	0.991
2,2',3,3',4,4',5,6-OcCB	195			847	1.05 (S)	0.88	0.945
2,2',3,3',4,4',5,6'-OcCB	196			1170	0.683 (S)	0.90	0.915
2,2',3,3',4,4',6,6'-OcCB	197	197 + 200	C	198	0.488 (S)	0.94	1.046
2,2',3,3',4,5,5',6-OcCB	198	198 + 199	C	2220	0.677 (S)	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			248	0.487 (S)	0.91	1.023
2,2',3,3',5,5',6,6'-OcCB	202			521	0.656 (S)	0.88	1.001
2,2',3,4,4',5,5',6-OcCB	203			1480	0.653 (S)	0.88	0.919
2,2',3,4,4',5,6,6'-OcCB	204		J	1.26	0.498 (S)	0.77	1.039
2,3,3',4,4',5,5',6-OcCB	205			82.1	0.811 (S)	0.92	1.000
2,2',3,3',4,4',5,5',6-NoCB	206			444	0.628 (S)	0.79	1.000
2,2',3,3',4,4',5,6,6'-NoCB	207			71.2	0.464 (S)	0.76	1.020
2,2',3,3',4,5,5',6,6'-NoCB	208			164	0.559 (S)	0.77	1.001
2,2',3,3',4,4',5,5',6,6'-DeCB	209			190	0.445 (S)	1.08	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: _____Ting Chen_____

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Report Filename: 1668_PCB1668_PCBTF_L29961-16_Form1A_PB8C_360AS8_SJ2453012.html; Workgroup: WG65252; Design ID: 3360]

SGS AXYS METHOD MLA-010 Rev 12

Form 2

PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.
PDI-TF-SMB048
Sample Collection:
23-Aug-2018 13:11

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

Project No.	PORTLAND HARBOR PDI AND BASELINE TISSUE		
Contract No.:	4972	**Lab Sample I.D.:**	L29961-16
Matrix:	TISSUE	**Sample Size:**	10.0 g (wet)
Sample Receipt Date:	31-Aug-2018	**Initial Calibration Date:**	07-Jul-2018
Extraction Date:	19-Sep-2018	**Instrument ID:**	HR GC/MS
Analysis Date:	20-Oct-2018 **Time:** 06:43:44	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	100	**Sample Data Filename:**	**PB8C_360A S: 8**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB8C_358 S: 4
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PB8C_360 S: 1
Concentration Units:	pg absolute	**% Lipid:**	3.57

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This test is not NELAP accredited. Sample results relate only to the sample tested.

LABELED COMPOUND	IUPAC NO. [1]	CO-ELUTIONS	LAB FLAG [2]	SPIKE CONC.	CONC. FOUND	R(%) [3]	ION ABUND. RATIO	RRT
13C12-2-MoCB	1L			2000	581	29.0	3.19	0.719
13C12-4-MoCB	3L			2000	637	31.8	3.00	0.859
13C12-2,2'-DiCB	4L			2000	739	36.9	1.71	0.874
13C12-4,4'-DiCB	15L			2000	857	42.9	1.58	1.255
13C12-2,2',6-TriCB	19L			2000	930	46.5	1.02	1.072
13C12-3,4,4'-TriCB	37L			2000	1130	56.6	1.03	1.093
13C12-2,2',6,6'-TeCB	54L			2000	1030	51.3	0.79	0.811
13C12-3,3',4,4'-TeCB	77L			2000	1560	78.2	0.77	1.397
13C12-3,4,4',5-TeCB	81L			2000	1490	74.7	0.77	1.374
13C12-2,2',4,6,6'-PeCB	104L			2000	955	47.8	1.77	0.808
13C12-2,3,3',4,4'-PeCB	105L			2000	1710	85.7	1.58	1.201
13C12-2,3,4,4',5-PeCB	114L			2000	1470	73.3	1.58	1.180
13C12-2,3',4,4',5-PeCB	118L			2000	1590	79.4	1.61	1.162
13C12-2',3,4,4',5-PeCB	123L			2000	1530	76.3	1.54	1.152
13C12-3,3',4,4',5-PeCB	126L			2000	1680	84.2	1.56	1.302
13C12-2,2',4,4',6,6'-HxCB	155L			2000	875	43.8	1.23	0.785
13C12-2,3,3',4,4',5-HxCB	156L	156L + 157L	C	4000	2500	62.6	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			2000	1220	61.1	1.21	1.078
13C12-3,3',4,4',5,5'-HxCB	169L			2000	1310	65.4	1.11	1.192
13C12-2,2',3,3',4,4',5-HpCB	170L			2000	1630	81.7	1.05	0.897
13C12-2,2',3,4,4',5,5'-HpCB	180L			2000	1640	81.8	0.97	0.872
13C12-2,2',3,4',5,6,6'-HpCB	188L			2000	1020	51.1	1.11	0.711
13C12-2,3,3',4,4',5,5'-HpCB	189L			2000	1650	82.6	1.00	0.959
13C12-2,2',3,3',5,5',6,6'-OcCB	202L			2000	815	40.8	0.89	0.817
13C12-2,3,3',4,4',5,5',6-OcCB	205L			2000	1600	79.8	0.90	1.009
13C12-2,2',3,3',4,4',5,5',6-NoCB	206L			2000	1700	85.1	0.74	1.043
13C12-2,2',3,3',4,5,5',6,6'-NoCB	208L			2000	1620	81.2	0.77	0.948
13C12-2,2',3,3',4,4',5,5',6,6'-DeCB	209L			2000	1140	57.1	1.04	1.074
CLEANUP STANDARD								
13C12-2,4,4'-TriCB	28L			2000	1280	64.2	1.04	0.925
13C12-2,3,3',5,5'-PeCB	111L			2000	1480	73.9	1.71	1.088
13C12-2,2',3,3',5,5',6-HpCB	178L			2000	1290	64.6	1.13	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: _____Ting Chen_____

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Report Filename: 1668_PCB1668_PCBTF_L29961-16_Form2_PB8C_360AS8_SJ2453012.html; Workgroup: WG65252; Design ID: 3360]

SGS AXYS METHOD MLA-010 Rev 12

Form 1A

PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.
PDI-TF-SMB129
Sample Collection:
24-Aug-2018 10:27

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

Project No.	PORTLAND HARBOR PDI AND BASELINE TISSUE		
Contract No.:	4972	**Lab Sample I.D.:**	L29961-17
Matrix:	TISSUE	**Sample Size:**	10.1 g (wet)
Sample Receipt Date:	31-Aug-2018	**Initial Calibration Date:**	07-Jul-2018
Extraction Date:	19-Sep-2018	**Instrument ID:**	HR GC/MS
Analysis Date:	20-Oct-2018 **Time:** 07:47:31	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	100	**Sample Data Filename:**	**PB8C_360A S: 9**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB8C_358 S: 4
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PB8C_360 S: 1
Concentration Units:	pg/g (wet weight basis)	**% Lipid:**	5.13

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 [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2-MoCB	1			3.24	0.381 (S)	2.66	1.001
3-MoCB	2		J	1.23	0.503 (S)	2.91	0.987
4-MoCB	3		K J	2.00	0.532 (S)	5.97	0.999
2,2'-DiCB	4			17.4	1.90 (S)	1.69	1.001
2,3-DiCB	5		U		1.59 (S)		
2,3'-DiCB	6		K	5.28	1.43 (S)	1.85	1.176
2,4-DiCB	7		K J	1.52	1.49 (S)	1.06	1.158
2,4'-DiCB	8			17.4	1.35 (S)	1.64	1.207
2,5-DiCB	9		U		1.42 (S)		
2,6-DiCB	10		U		1.44 (S)		
3,3'-DiCB	11			119	1.50 (S)	1.59	0.968
3,4-DiCB	12	12 + 13	C U		1.49 (S)		
3,4'-DiCB	13	12 + 13	C12				
3,5-DiCB	14		U		1.49 (S)		
4,4'-DiCB	15			5.62	1.53 (S)	1.45	1.000
2,2',3-TriCB	16		K	13.1	0.403 (S)	1.36	1.166
2,2',4-TriCB	17			23.1	0.330 (S)	1.19	1.137
2,2',5-TriCB	18	18 + 30	C	40.0	0.280 (S)	1.06	1.113
2,2',6-TriCB	19			8.32	0.360 (S)	1.14	1.001
2,3,3'-TriCB	20	20 + 28	C	161	0.439 (S)	1.00	0.847
2,3,4-TriCB	21	21 + 33	C	27.1	0.437 (S)	1.00	0.857
2,3,4'-TriCB	22			30.4	0.503 (S)	1.03	0.871
2,3,5-TriCB	23		U		0.469 (S)		
2,3,6-TriCB	24		K J	0.701	0.247 (S)	1.24	1.159
2,3',4-TriCB	25			9.99	0.381 (S)	1.07	0.824
2,3',5-TriCB	26	26 + 29	C	23.2	0.447 (S)	1.05	1.301
2,3',6-TriCB	27			4.84	0.240 (S)	0.90	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			76.7	0.414 (S)	1.03	0.836
2,4',6-TriCB	32			13.8	0.422 (S)	1.06	1.198
2',3,4-TriCB	33	21 + 33	C21				
2',3,5-TriCB	34		K J	0.674	0.465 (S)	0.64	1.275
3,3',4-TriCB	35		K J	0.597	0.460 (S)	1.83	0.988
3,3',5-TriCB	36		U		0.431 (S)		
3,4,4'-TriCB	37			15.2	0.494 (S)	0.90	1.001
3,4,5-TriCB	38		K J	0.487	0.448 (S)	0.77	0.967
3,4',5-TriCB	39		J	1.59	0.452 (S)	0.94	0.945

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2,2',3,3'-TeCB	40	40 + 41 + 71	C	76.3	0.371 (S)	0.76	1.336
2,2',3,4-TeCB	41	40 + 41 + 71	C40				
2,2',3,4'-TeCB	42			61.0	0.390 (S)	0.73	1.312
2,2',3,5-TeCB	43			9.60	0.410 (S)	0.87	1.246
2,2',3,5'-TeCB	44	44 + 47 + 65	C	362	0.334 (S)	0.80	1.286
2,2',3,6-TeCB	45	45 + 51	C	24.2	0.351 (S)	0.78	1.146
2,2',3,6'-TeCB	46		K	5.08	0.403 (S)	0.92	1.161
2,2',4,4'-TeCB	47	44 + 47 + 65	C44				
2,2',4,5-TeCB	48			35.8	0.372 (S)	0.72	1.274
2,2',4,5'-TeCB	49	49 + 69	C	261	0.310 (S)	0.78	1.259
2,2',4,6-TeCB	50	50 + 53	C K	25.3	0.340 (S)	0.91	1.110
2,2',4,6'-TeCB	51	45 + 51	C45				
2,2',5,5'-TeCB	52			449	0.337 (S)	0.79	1.234
2,2',5,6'-TeCB	53	50 + 53	C50				
2,2',6,6'-TeCB	54		J	1.44	0.268 (S)	0.73	1.001
2,3,3',4-TeCB	55		U		2.00 (S)		
2,3,3',4'-TeCB	56			55.3	1.96 (S)	0.74	0.904
2,3,3',5-TeCB	57		J	2.20	1.82 (S)	0.81	0.843
2,3,3',5'-TeCB	58		U		1.84 (S)		
2,3,3',6-TeCB	59	59 + 62 + 75	C	25.2	0.277 (S)	0.77	1.303
2,3,4,4'-TeCB	60			83.3	2.06 (S)	0.76	0.911
2,3,4,5-TeCB	61	61 + 70 + 74 + 76	C	642	1.81 (S)	0.78	0.875
2,3,4,6-TeCB	62	59 + 62 + 75	C59				
2,3,4',5-TeCB	63			33.0	1.79 (S)	0.81	0.864
2,3,4',6-TeCB	64			119	0.273 (S)	0.79	1.349
2,3,5,6-TeCB	65	44 + 47 + 65	C44				
2,3',4,4'-TeCB	66			542	1.82 (S)	0.77	0.884
2,3',4,5-TeCB	67			6.40	1.61 (S)	0.78	0.856
2,3',4,5'-TeCB	68			14.1	1.76 (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			11.5	1.73 (S)	0.72	0.822
2,3',5',6-TeCB	73		U		0.287 (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			29.0	1.90 (S)	0.76	1.000
3,3',4,5-TeCB	78		U		1.92 (S)		
3,3',4,5'-TeCB	79			11.3	1.57 (S)	0.77	0.969
3,3',5,5'-TeCB	80		U		1.74 (S)		
3,4,4',5-TeCB	81		K J	2.08	1.79 (S)	1.02	1.000
2,2',3,3',4-PeCB	82			59.2	1.69 (S)	1.56	0.934
2,2',3,3',5-PeCB	83	83 + 99	C	1340	1.53 (S)	1.59	0.885
2,2',3,3',6-PeCB	84			106	1.62 (S)	1.56	1.164
2,2',3,4,4'-PeCB	85	85 + 116 + 117	C	387	1.29 (S)	1.51	0.919
2,2',3,4,5-PeCB	86	86 + 87 + 97 + 108 + 119 + 125	C G	646	1.31 (S)	1.57	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	110	1.47 (S)	1.52	1.155
2,2',3,4,6'-PeCB	89		K	3.01	1.55 (S)	2.96	1.182
2,2',3,4',5-PeCB	90	90 + 101 + 113	C	1280	1.31 (S)	1.59	0.869
2,2',3,4',6-PeCB	91	88 + 91	C88				
2,2',3,5,5'-PeCB	92			265	1.51 (S)	1.62	0.852
2,2',3,5,6-PeCB	93	93 + 95 + 98 + 100 + 102	C	595	1.41 (S)	1.59	1.121
2,2',3,5,6'-PeCB	94		K J	1.96	1.56 (S)	2.78	1.102
2,2',3,5',6-PeCB	95	93 + 95 + 98 + 100 + 102	C93				
2,2',3,6,6'-PeCB	96		J	2.70	0.339 (S)	1.44	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				

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	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			11.6	1.29 (S)	1.43	1.093
2,2',4,6,6'-PeCB	104		U		0.369 (S)		
2,3,3',4,4'-PeCB	105			667	5.04 (S)	1.52	1.000
2,3,3',4,5-PeCB	106		U		5.81 (S)		
2,3,3',4',5-PeCB	107	107 + 124	C	55.4	6.13 (S)	1.51	0.991
2,3,3',4,5'-PeCB	108	86 + 87 + 97 + 108 + 119 + 125	C86				
2,3,3',4,6-PeCB	109			245	5.74 (S)	1.51	0.997
2,3,3',4',6-PeCB	110	110 + 115	C	1040	1.15 (S)	1.57	0.925
2,3,3',5,5'-PeCB	111			3.89	1.13 (S)	1.55	0.945
2,3,3',5,6-PeCB	112		U		1.12 (S)		
2,3,3',5',6-PeCB	113	90 + 101 + 113	C90				
2,3,4,4',5-PeCB	114			78.2	6.07 (S)	1.59	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			2430	5.64 (S)	1.52	1.000
2,3',4,4',6-PeCB	119	86 + 87 + 97 + 108 + 119 + 125	C86				
2,3',4,5,5'-PeCB	120			18.0	1.11 (S)	1.65	0.958
2,3',4,5',6-PeCB	121		K J	2.73	1.16 (S)	2.41	1.200
2',3,3',4,5-PeCB	122		K	8.58	6.92 (S)	3.03	1.010
2',3,4,4',5-PeCB	123			57.8	6.31 (S)	1.53	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	6.42	6.32 (S)	1.46	1.000
3,3',4,5,5'-PeCB	127			9.12	6.09 (S)	1.66	1.041
2,2',3,3',4,4'-HxCB	128	128 + 166	C	568	4.82 (S)	1.26	0.959
2,2',3,3',4,5-HxCB	129	129 + 138 + 160 + 163	C	4540	5.07 (S)	1.26	0.928
2,2',3,3',4,5'-HxCB	130			186	6.45 (S)	1.16	0.913
2,2',3,3',4,6-HxCB	131			8.78	5.82 (S)	1.36	1.160
2,2',3,3',4,6'-HxCB	132			289	6.38 (S)	1.20	1.175
2,2',3,3',5,5'-HxCB	133			97.0	5.97 (S)	1.25	1.192
2,2',3,3',5,6-HxCB	134	134 + 143	C	64.0	6.07 (S)	1.32	1.141
2,2',3,3',5,6'-HxCB	135	135 + 151 + 154	C	616	0.555 (S)	1.26	1.104
2,2',3,3',6,6'-HxCB	136			104	0.422 (S)	1.35	1.025
2,2',3,4,4',5-HxCB	137			279	5.81 (S)	1.28	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	53.9	5.52 (S)	1.19	1.153
2,2',3,4,4',6'-HxCB	140	139 + 140	C139				
2,2',3,4,5,5'-HxCB	141			320	5.70 (S)	1.20	0.903
2,2',3,4,5,6-HxCB	142		U		6.22 (S)		
2,2',3,4,5,6'-HxCB	143	134 + 143	C134				
2,2',3,4,5',6-HxCB	144			62.5	0.579 (S)	1.35	1.122
2,2',3,4,6,6'-HxCB	145		U		0.448 (S)		
2,2',3,4',5,5'-HxCB	146			1070	5.13 (S)	1.27	0.883
2,2',3,4',5,6-HxCB	147	147 + 149	C	1220	5.54 (S)	1.29	1.133
2,2',3,4',5,6'-HxCB	148			5.87	0.571 (S)	1.15	1.084
2,2',3,4',5',6-HxCB	149	147 + 149	C147				
2,2',3,4',6,6'-HxCB	150		J	2.72	0.433 (S)	1.21	1.013
2,2',3,5,5',6-HxCB	151	135 + 151 + 154	C135				
2,2',3,5,6,6'-HxCB	152		J	1.21	0.408 (S)	1.08	1.006
2,2',4,4',5,5'-HxCB	153	153 + 168	C	5000	4.51 (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			9.58	0.393 (S)	1.19	1.001
2,3,3',4,4',5-HxCB	156	156 + 157	C	634	5.84 (S)	1.21	1.000
2,3,3',4,4',5'-HxCB	157	156 + 157	C156				
2,3,3',4,4',6-HxCB	158			319	3.86 (S)	1.27	0.938
2,3,3',4,5,5'-HxCB	159			14.8	4.11 (S)	1.22	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 [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2,3,3',4,5',6-HxCB	161		U		4.15 (S)		
2,3,3',4',5,5'-HxCB	162			19.6	3.85 (S)	1.18	0.989
2,3,3',4',5,6-HxCB	163	129 + 138 + 160 + 163	C129				
2,3,3',4',5',6-HxCB	164			139	4.45 (S)	1.29	0.921
2,3,3',5,5',6-HxCB	165		U		4.81 (S)		
2,3,4,4',5,6-HxCB	166	128 + 166	C128				
2,3',4,4',5,5'-HxCB	167			267	4.41 (S)	1.25	1.000
2,3',4,4',5',6-HxCB	168	153 + 168	C153				
3,3',4,4',5,5'-HxCB	169		U		5.00 (S)		
2,2',3,3',4,4',5-HpCB	170			688	0.816 (S)	1.04	1.000
2,2',3,3',4,4',6-HpCB	171	171 + 173	C	182	0.888 (S)	1.00	1.164
2,2',3,3',4,5,5'-HpCB	172			161	0.942 (S)	1.09	0.896
2,2',3,3',4,5,6-HpCB	173	171 + 173	C171				
2,2',3,3',4,5,6'-HpCB	174			271	0.829 (S)	0.98	1.134
2,2',3,3',4,5',6-HpCB	175			28.6	0.793 (S)	0.97	1.103
2,2',3,3',4,6,6'-HpCB	176		K	32.3	0.655 (S)	1.34	1.034
2,2',3,3',4',5,6-HpCB	177			261	0.636 (S)	1.09	1.146
2,2',3,3',5,5',6-HpCB	178			261	0.817 (S)	1.06	1.086
2,2',3,3',5,6,6'-HpCB	179			155	0.623 (S)	1.04	1.011
2,2',3,4,4',5,5'-HpCB	180	180 + 193	C	2930	0.777 (S)	1.06	1.000
2,2',3,4,4',5,6-HpCB	181			13.9	0.838 (S)	0.97	1.157
2,2',3,4,4',5,6'-HpCB	182		U		0.803 (S)		
2,2',3,4,4',5',6-HpCB	183	183 + 185	C	547	0.818 (S)	1.04	1.128
2,2',3,4,4',6,6'-HpCB	184			11.4	0.625 (S)	0.96	1.025
2,2',3,4,5,5',6-HpCB	185	183 + 185	C183				
2,2',3,4,5,6,6'-HpCB	186		U		0.692 (S)		
2,2',3,4',5,5',6-HpCB	187			2640	0.752 (S)	1.04	1.111
2,2',3,4',5,6,6'-HpCB	188		K	5.01	0.597 (S)	1.23	1.001
2,3,3',4,4',5,5'-HpCB	189			36.0	0.742 (S)	1.17	1.000
2,3,3',4,4',5,6-HpCB	190			217	0.704 (S)	1.07	0.947
2,3,3',4,4',5',6-HpCB	191			39.9	0.707 (S)	1.08	0.917
2,3,3',4,5,5',6-HpCB	192		U		0.755 (S)		
2,3,3',4',5,5',6-HpCB	193	180 + 193	C180				
2,2',3,3',4,4',5,5'-OcCB	194		G	247	0.515 (S)	0.88	0.991
2,2',3,3',4,4',5,6-OcCB	195			163	0.568 (S)	0.89	0.945
2,2',3,3',4,4',5,6'-OcCB	196			240	0.760 (S)	0.97	0.915
2,2',3,3',4,4',6,6'-OcCB	197	197 + 200	C	45.0	0.543 (S)	0.78	1.046
2,2',3,3',4,5,5',6-OcCB	198	198 + 199	C	604	0.754 (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			59.9	0.542 (S)	0.96	1.023
2,2',3,3',5,5',6,6'-OcCB	202			149	0.673 (S)	0.88	1.001
2,2',3,4,4',5,5',6-OcCB	203			377	0.727 (S)	0.85	0.919
2,2',3,4,4',5,6,6'-OcCB	204		J	0.733	0.554 (S)	0.98	1.038
2,3,3',4,4',5,5',6-OcCB	205			15.1	0.456 (S)	0.93	1.001
2,2',3,3',4,4',5,5',6-NoCB	206			132	0.603 (S)	0.78	1.001
2,2',3,3',4,4',5,6,6'-NoCB	207			20.3	0.431 (S)	0.68	1.019
2,2',3,3',4,5,5',6,6'-NoCB	208			62.3	0.505 (S)	0.76	1.000
2,2',3,3',4,4',5,5',6,6'-DeCB	209			100	0.356 (S)	1.06	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: _____Ting Chen_____

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Report Filename: 1668_PCB1668_PCBTF_L29961-17_Form1A_PB8C_360AS9_SJ2453014.html; Workgroup: WG65252; Design ID: 3360]

SGS AXYS METHOD MLA-010 Rev 12

Form 2

PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.
PDI-TF-SMB129
Sample Collection:
24-Aug-2018 10:27

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

Project No.	PORTLAND HARBOR PDI AND BASELINE TISSUE		
Contract No.:	4972	**Lab Sample I.D.:**	L29961-17
Matrix:	TISSUE	**Sample Size:**	10.1 g (wet)
Sample Receipt Date:	31-Aug-2018	**Initial Calibration Date:**	07-Jul-2018
Extraction Date:	19-Sep-2018	**Instrument ID:**	HR GC/MS
Analysis Date:	20-Oct-2018 **Time:** 07:47:31	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	100	**Sample Data Filename:**	**PB8C_360A S: 9**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB8C_358 S: 4
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PB8C_360 S: 1
Concentration Units:	pg absolute	**% Lipid:**	5.13

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. [1]	CO-ELUTIONS	LAB FLAG [2]	SPIKE CONC.	CONC. FOUND	R(%) [3]	ION ABUND. RATIO	RRT
13C12-2-MoCB	1L			2000	605	30.3	2.95	0.719
13C12-4-MoCB	3L			2000	570	28.5	3.12	0.859
13C12-2,2'-DiCB	4L			2000	680	34.0	1.66	0.874
13C12-4,4'-DiCB	15L			2000	780	39.0	1.55	1.255
13C12-2,2',6-TriCB	19L			2000	909	45.5	1.04	1.072
13C12-3,4,4'-TriCB	37L			2000	977	48.8	1.03	1.092
13C12-2,2',6,6'-TeCB	54L			2000	1000	50.1	0.81	0.811
13C12-3,3',4,4'-TeCB	77L			2000	1330	66.7	0.75	1.397
13C12-3,4,4',5-TeCB	81L			2000	1380	69.2	0.80	1.373
13C12-2,2',4,6,6'-PeCB	104L			2000	819	41.0	1.49	0.808
13C12-2,3,3',4,4'-PeCB	105L			2000	1400	70.1	1.58	1.201
13C12-2,3,4,4',5-PeCB	114L			2000	1260	63.1	1.60	1.180
13C12-2,3',4,4',5-PeCB	118L			2000	1310	65.7	1.63	1.162
13C12-2',3,4,4',5-PeCB	123L			2000	1230	61.3	1.44	1.152
13C12-3,3',4,4',5-PeCB	126L			2000	1300	65.2	1.54	1.302
13C12-2,2',4,4',6,6'-HxCB	155L			2000	761	38.0	1.25	0.785
13C12-2,3,3',4,4',5-HxCB	156L	156L + 157L	C	4000	2120	52.9	1.24	1.109
13C12-2,3,3',4,4',5'-HxCB	157L	156L + 157L	C156L					
13C12-2,3',4,4',5,5'-HxCB	167L			2000	1070	53.5	1.24	1.079
13C12-3,3',4,4',5,5'-HxCB	169L			2000	1200	60.0	1.31	1.193
13C12-2,2',3,3',4,4',5-HpCB	170L			2000	2050	102	1.05	0.897
13C12-2,2',3,4,4',5,5'-HpCB	180L			2000	1890	94.4	1.03	0.872
13C12-2,2',3,4',5,6,6'-HpCB	188L			2000	1310	65.3	1.13	0.711
13C12-2,3,3',4,4',5,5'-HpCB	189L			2000	1610	80.5	1.07	0.959
13C12-2,2',3,3',5,5',6,6'-OcCB	202L			2000	928	46.4	0.93	0.816
13C12-2,3,3',4,4',5,5',6-OcCB	205L			2000	1500	75.0	0.91	1.009
13C12-2,2',3,3',4,4',5,5',6-NoCB	206L			2000	1930	96.4	0.76	1.043
13C12-2,2',3,3',4,5,5',6,6'-NoCB	208L			2000	1950	97.3	0.78	0.948
13C12-2,2',3,3',4,4',5,5',6,6'-DeCB	209L			2000	1410	70.7	1.13	1.074
CLEANUP STANDARD								
13C12-2,4,4'-TriCB	28L			2000	987	49.3	0.94	0.924
13C12-2,3,3',5,5'-PeCB	111L			2000	1030	51.3	1.62	1.088
13C12-2,2',3,3',5,5',6-HpCB	178L			2000	964	48.2	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: _____Ting Chen_____

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Report Filename: 1668_PCB1668_PCBTF_L29961-17_Form2_PB8C_360AS9_SJ2453014.html; Workgroup: WG65252; Design ID: 3360]

SGS AXYS METHOD MLA-010 Rev 12

Form 1A

PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.
PDI-TF-SMB050
Sample Collection:
23-Aug-2018 12:41

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

Project No.	PORTLAND HARBOR PDI AND BASELINE TISSUE		
Contract No.:	4972	**Lab Sample I.D.:**	L29961-18 (A)
Matrix:	TISSUE	**Sample Size:**	10.1 g (wet)
Sample Receipt Date:	31-Aug-2018	**Initial Calibration Date:**	07-Jul-2018
Extraction Date:	19-Sep-2018	**Instrument ID:**	HR GC/MS
Analysis Date:	22-Oct-2018 **Time:** 14:43:44	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	100	**Sample Data Filename:**	**PB8C_361A S: 6**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB8C_358 S: 4
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PB8C_361A S: 1
Concentration Units:	pg/g (wet weight basis)	**% Lipid:**	3.68

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This test is not NELAP accredited. Sample results relate only to the sample tested.

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2-MoCB	1			30.6	0.318 (S)	2.91	1.001
3-MoCB	2		J	1.18	0.448 (S)	2.76	0.988
4-MoCB	3			6.53	0.479 (S)	2.99	1.001
2,2'-DiCB	4			338	2.31 (S)	1.51	1.001
2,3-DiCB	5			3.57	2.48 (S)	1.38	1.197
2,3'-DiCB	6			212	2.21 (S)	1.55	1.175
2,4-DiCB	7			13.2	2.26 (S)	1.35	1.158
2,4'-DiCB	8			363	1.99 (S)	1.49	1.206
2,5-DiCB	9			21.5	2.14 (S)	1.35	1.146
2,6-DiCB	10			19.8	2.20 (S)	1.64	1.013
3,3'-DiCB	11			7.85	2.44 (S)	1.50	0.968
3,4-DiCB	12	12 + 13	C	11.3	2.41 (S)	1.43	0.983
3,4'-DiCB	13	12 + 13	C12				
3,5-DiCB	14		U		2.30 (S)		
4,4'-DiCB	15			22.0	2.64 (S)	1.49	1.000
2,2',3-TriCB	16			379	0.647 (S)	1.10	1.165
2,2',4-TriCB	17			993	0.529 (S)	1.07	1.137
2,2',5-TriCB	18	18 + 30	C	1500	0.448 (S)	1.06	1.113
2,2',6-TriCB	19			502	0.559 (S)	1.04	1.001
2,3,3'-TriCB	20	20 + 28	C	5890	3.04 (S)	0.99	0.848
2,3,4-TriCB	21	21 + 33	C	513	3.04 (S)	0.98	0.856
2,3,4'-TriCB	22			701	3.49 (S)	0.98	0.871
2,3,5-TriCB	23		U		3.25 (S)		
2,3,6-TriCB	24			20.6	0.386 (S)	1.04	1.159
2,3',4-TriCB	25			566	2.69 (S)	0.99	0.824
2,3',5-TriCB	26	26 + 29	C	790	3.13 (S)	1.00	1.301
2,3',6-TriCB	27			267	0.373 (S)	1.06	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			1770	2.89 (S)	0.99	0.837
2,4',6-TriCB	32			1520	2.97 (S)	0.98	1.196
2',3,4-TriCB	33	21 + 33	C21				
2',3,5-TriCB	34			41.6	3.25 (S)	1.02	1.273
3,3',4-TriCB	35			71.6	3.20 (S)	0.98	0.988
3,3',5-TriCB	36		U		3.01 (S)		
3,4,4'-TriCB	37			329	3.26 (S)	1.00	1.001
3,4,5-TriCB	38			41.8	3.16 (S)	0.92	0.967
3,4',5-TriCB	39			201	3.16 (S)	1.04	0.946

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2,2',3,3'-TeCB	40	40 + 41 + 71	C	18600	0.472 (S)	0.78	1.337
2,2',3,4-TeCB	41	40 + 41 + 71	C40				
2,2',3,4'-TeCB	42			12500	0.492 (S)	0.78	1.312
2,2',3,5-TeCB	43			1480	0.515 (S)	0.80	1.245
2,2',3,5'-TeCB	44	44 + 47 + 65	C	56200	0.419 (S)	0.78	1.285
2,2',3,6-TeCB	45	45 + 51	C	3610	0.460 (S)	0.78	1.146
2,2',3,6'-TeCB	46			744	0.533 (S)	0.77	1.161
2,2',4,4'-TeCB	47	44 + 47 + 65	C44				
2,2',4,5-TeCB	48			5750	0.472 (S)	0.77	1.273
2,2',4,5'-TeCB	49	49 + 69	C	40400	0.399 (S)	0.78	1.259
2,2',4,6-TeCB	50	50 + 53	C	2820	0.444 (S)	0.78	1.111
2,2',4,6'-TeCB	51	45 + 51	C45				
2,2',5,5'-TeCB	52			60000	0.437 (S)	0.79	1.234
2,2',5,6'-TeCB	53	50 + 53	C50				
2,2',6,6'-TeCB	54			73.3	0.341 (S)	0.86	1.001
2,3,3',4-TeCB	55		U		44.3 (S)		
2,3,3',4'-TeCB	56			3770	44.5 (S)	0.74	0.904
2,3,3',5-TeCB	57			197	40.5 (S)	0.78	0.843
2,3,3',5'-TeCB	58			84.2	42.8 (S)	0.85	0.851
2,3,3',6-TeCB	59	59 + 62 + 75	C	3310	0.343 (S)	0.79	1.302
2,3,4,4'-TeCB	60			28000	44.1 (S)	0.76	0.911
2,3,4,5-TeCB	61	61 + 70 + 74 + 76	C	64200	40.1 (S)	0.74	0.875
2,3,4,6-TeCB	62	59 + 62 + 75	C59				
2,3,4',5-TeCB	63			5800	39.9 (S)	0.76	0.864
2,3,4',6-TeCB	64			28600	0.346 (S)	0.78	1.348
2,3,5,6-TeCB	65	44 + 47 + 65	C44				
2,3',4,4'-TeCB	66			111000	40.4 (S)	0.74	0.884
2,3',4,5-TeCB	67			382	34.2 (S)	0.76	0.856
2,3',4,5'-TeCB	68			154	39.7 (S)	0.71	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			312	38.5 (S)	0.74	0.822
2,3',5',6-TeCB	73		U		0.378 (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			2740	41.9 (S)	0.73	1.000
3,3',4,5-TeCB	78		U		43.7 (S)		
3,3',4,5'-TeCB	79			560	35.5 (S)	0.77	0.969
3,3',5,5'-TeCB	80		U		39.8 (S)		
3,4,4',5-TeCB	81			190	39.8 (S)	0.79	1.000
2,2',3,3',4-PeCB	82			3830	9.62 (S)	1.58	0.933
2,2',3,3',5-PeCB	83	83 + 99	C	54500	8.80 (S)	1.57	0.885
2,2',3,3',6-PeCB	84			4970	9.57 (S)	1.57	1.164
2,2',3,4,4'-PeCB	85	85 + 116 + 117	C	17500	7.31 (S)	1.58	0.920
2,2',3,4,5-PeCB	86	86 + 87 + 97 + 108 + 119 + 125	C G	28900	7.34 (S)	1.57	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	6070	8.62 (S)	1.58	1.155
2,2',3,4,6'-PeCB	89			497	9.09 (S)	1.58	1.183
2,2',3,4',5-PeCB	90	90 + 101 + 113	C	43800	7.33 (S)	1.58	0.869
2,2',3,4',6-PeCB	91	88 + 91	C88				
2,2',3,5,5'-PeCB	92			7150	8.75 (S)	1.59	0.852
2,2',3,5,6-PeCB	93	93 + 95 + 98 + 100 + 102	C	18400	8.21 (S)	1.60	1.121
2,2',3,5,6'-PeCB	94			131	9.23 (S)	1.62	1.103
2,2',3,5',6-PeCB	95	93 + 95 + 98 + 100 + 102	C93				
2,2',3,6,6'-PeCB	96			242	0.444 (S)	1.54	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				

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	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			298	7.49 (S)	1.48	1.094
2,2',4,6,6'-PeCB	104			10.8	0.557 (S)	1.74	1.001
2,3,3',4,4'-PeCB	105			29200	66.7 (S)	1.48	1.000
2,3,3',4,5-PeCB	106		U		74.9 (S)		
2,3,3',4',5-PeCB	107	107 + 124	C	877	78.9 (S)	1.48	0.991
2,3,3',4,5'-PeCB	108	86 + 87 + 97 + 108 + 119 + 125	C86				
2,3,3',4,6-PeCB	109			5930	79.6 (S)	1.46	0.997
2,3,3',4',6-PeCB	110	110 + 115	C	38800	6.60 (S)	1.56	0.925
2,3,3',5,5'-PeCB	111			29.0	6.34 (S)	1.56	0.945
2,3,3',5,6-PeCB	112		U		6.36 (S)		
2,3,3',5',6-PeCB	113	90 + 101 + 113	C90				
2,3,4,4',5-PeCB	114			2980	78.4 (S)	1.50	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			55100	64.6 (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			139	6.26 (S)	1.63	0.958
2,3',4,5',6-PeCB	121			12.9	6.62 (S)	1.70	1.200
2',3,3',4,5-PeCB	122			412	90.3 (S)	1.44	1.010
2',3,4,4',5-PeCB	123			1670	70.3 (S)	1.47	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	147	76.3 (S)	1.52	1.000
3,3',4,5,5'-PeCB	127		U		79.2 (S)		
2,2',3,3',4,4'-HxCB	128	128 + 166	C	5570	38.5 (S)	1.25	0.959
2,2',3,3',4,5-HxCB	129	129 + 138 + 160 + 163	C	59200	39.4 (S)	1.26	0.928
2,2',3,3',4,5'-HxCB	130			1820	50.5 (S)	1.24	0.913
2,2',3,3',4,6-HxCB	131			163	46.3 (S)	1.28	1.160
2,2',3,3',4,6'-HxCB	132			4220	50.1 (S)	1.28	1.176
2,2',3,3',5,5'-HxCB	133			789	45.9 (S)	1.25	1.192
2,2',3,3',5,6-HxCB	134	134 + 143	C	743	46.4 (S)	1.28	1.141
2,2',3,3',5,6'-HxCB	135	135 + 151 + 154	C	11200	0.993 (S)	1.26	1.104
2,2',3,3',6,6'-HxCB	136			1490	0.750 (S)	1.28	1.025
2,2',3,4,4',5-HxCB	137			1990	49.7 (S)	1.26	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	572	41.9 (S)	1.34	1.154
2,2',3,4,4',6'-HxCB	140	139 + 140	C139				
2,2',3,4,5,5'-HxCB	141		G	7510	44.0 (S)	1.26	0.903
2,2',3,4,5,6-HxCB	142		U		46.1 (S)		
2,2',3,4,5,6'-HxCB	143	134 + 143	C134				
2,2',3,4,5',6-HxCB	144			1140	1.02 (S)	1.23	1.122
2,2',3,4,6,6'-HxCB	145			6.23	0.815 (S)	1.10	1.035
2,2',3,4',5,5'-HxCB	146			10100	39.6 (S)	1.27	0.884
2,2',3,4',5,6-HxCB	147	147 + 149	C	15400	41.1 (S)	1.26	1.134
2,2',3,4',5,6'-HxCB	148			59.3	1.05 (S)	1.23	1.084
2,2',3,4',5',6-HxCB	149	147 + 149	C147				
2,2',3,4',6,6'-HxCB	150			27.9	0.771 (S)	1.42	1.013
2,2',3,5,5',6-HxCB	151	135 + 151 + 154	C135				
2,2',3,5,6,6'-HxCB	152			17.8	0.710 (S)	1.10	1.008
2,2',4,4',5,5'-HxCB	153	153 + 168	C	70200	34.9 (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			16.3	0.749 (S)	1.08	1.001
2,3,3',4,4',5-HxCB	156	156 + 157	C	4400	40.4 (S)	1.25	1.000
2,3,3',4,4',5'-HxCB	157	156 + 157	C156				
2,3,3',4,4',6-HxCB	158			3640	29.0 (S)	1.27	0.938
2,3,3',4,5,5'-HxCB	159		U		33.3 (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 [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2,3,3',4,5',6-HxCB	161		U		32.6 (S)		
2,3,3',4',5,5'-HxCB	162			97.5	30.2 (S)	1.29	0.988
2,3,3',4',5,6-HxCB	163	129 + 138 + 160 + 163	C129				
2,3,3',4',5',6-HxCB	164			1760	32.3 (S)	1.25	0.921
2,3,3',5,5',6-HxCB	165		U		38.0 (S)		
2,3,4,4',5,6-HxCB	166	128 + 166	C128				
2,3',4,4',5,5'-HxCB	167			1770	35.2 (S)	1.27	1.000
2,3',4,4',5',6-HxCB	168	153 + 168	C153				
3,3',4,4',5,5'-HxCB	169		U		47.5 (S)		
2,2',3,3',4,4',5-HpCB	170			12500	0.790 (S)	1.07	1.000
2,2',3,3',4,4',6-HpCB	171	171 + 173	C	4870	1.15 (S)	1.05	1.163
2,2',3,3',4,5,5'-HpCB	172			3280	1.21 (S)	1.08	0.896
2,2',3,3',4,5,6-HpCB	173	171 + 173	C171				
2,2',3,3',4,5,6'-HpCB	174			5960	1.11 (S)	1.06	1.134
2,2',3,3',4,5',6-HpCB	175			577	1.10 (S)	1.05	1.103
2,2',3,3',4,6,6'-HpCB	176			555	0.842 (S)	1.03	1.035
2,2',3,3',4',5,6-HpCB	177			4670	0.858 (S)	1.05	1.146
2,2',3,3',5,5',6-HpCB	178			3890	1.07 (S)	1.04	1.085
2,2',3,3',5,6,6'-HpCB	179			2260	0.822 (S)	1.07	1.011
2,2',3,4,4',5,5'-HpCB	180	180 + 193	C	44000	0.733 (S)	1.06	1.000
2,2',3,4,4',5,6-HpCB	181			1160	1.10 (S)	1.11	1.157
2,2',3,4,4',5,6'-HpCB	182		U		1.10 (S)		
2,2',3,4,4',5',6-HpCB	183	183 + 185	C	14200	1.07 (S)	1.05	1.128
2,2',3,4,4',6,6'-HpCB	184			29.3	0.794 (S)	0.98	1.025
2,2',3,4,5,5',6-HpCB	185	183 + 185	C183				
2,2',3,4,5,6,6'-HpCB	186		U G		0.882 (S)		
2,2',3,4',5,5',6-HpCB	187			34400	1.03 (S)	1.07	1.110
2,2',3,4',5,6,6'-HpCB	188			21.7	0.660 (S)	1.05	1.001
2,3,3',4,4',5,5'-HpCB	189			388	3.78 (S)	0.96	1.000
2,3,3',4,4',5,6-HpCB	190			4810	0.899 (S)	1.06	0.947
2,3,3',4,4',5',6-HpCB	191			907	0.934 (S)	1.05	0.917
2,3,3',4,5,5',6-HpCB	192		U		1.01 (S)		
2,3,3',4',5,5',6-HpCB	193	180 + 193	C180				
2,2',3,3',4,4',5,5'-OcCB	194		G	4230	2.32 (S)	0.88	0.991
2,2',3,3',4,4',5,6-OcCB	195			2990	2.44 (S)	0.89	0.945
2,2',3,3',4,4',5,6'-OcCB	196			3530	1.15 (S)	0.90	0.915
2,2',3,3',4,4',6,6'-OcCB	197	197 + 200	C	643	0.829 (S)	0.88	1.045
2,2',3,3',4,5,5',6-OcCB	198	198 + 199	C	7970	1.18 (S)	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			691	0.838 (S)	0.93	1.023
2,2',3,3',5,5',6,6'-OcCB	202			1430	0.910 (S)	0.88	1.001
2,2',3,4,4',5,5',6-OcCB	203			5870	1.14 (S)	0.91	0.919
2,2',3,4,4',5,6,6'-OcCB	204			38.6	0.831 (S)	0.86	1.039
2,3,3',4,4',5,5',6-OcCB	205			303	2.11 (S)	0.89	1.001
2,2',3,3',4,4',5,5',6-NoCB	206			1630	0.742 (S)	0.80	1.000
2,2',3,3',4,4',5,6,6'-NoCB	207			311	0.555 (S)	0.83	1.019
2,2',3,3',4,5,5',6,6'-NoCB	208			493	0.697 (S)	0.78	1.000
2,2',3,3',4,4',5,5',6,6'-DeCB	209			938	0.591 (S)	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; 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: _____Ting Chen_____

For Axys Internal Use Only [XSL Template: Form16681A.xsl; Created: 02-Nov-2018 08:45:27; Application: XMLTransformer-1.16.51;
Report Filename: 1668_PCB1668_PCBTF_L29961-18_Form1A_PB8C_361AS6_SJ2453039.html; Workgroup: WG65252; Design ID: 3360]

SGS AXYS METHOD MLA-010 Rev 12

Form 2

PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.
PDI-TF-SMB050
Sample Collection:
23-Aug-2018 12:41

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

Project No.	PORTLAND HARBOR PDI AND BASELINE TISSUE		
Contract No.:	4972	**Lab Sample I.D.:**	L29961-18 (A)
Matrix:	TISSUE	**Sample Size:**	10.1 g (wet)
Sample Receipt Date:	31-Aug-2018	**Initial Calibration Date:**	07-Jul-2018
Extraction Date:	19-Sep-2018	**Instrument ID:**	HR GC/MS
Analysis Date:	22-Oct-2018 **Time:** 14:43:44	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	100	**Sample Data Filename:**	**PB8C_361A S: 6**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB8C_358 S: 4
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PB8C_361A S: 1
Concentration Units:	pg absolute	**% Lipid:**	3.68

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This test is not NELAP accredited. Sample results relate only to the sample tested.

LABELED COMPOUND	IUPAC NO. [1]	CO-ELUTIONS	LAB FLAG [2]	SPIKE CONC.	CONC. FOUND	R(%) [3]	ION ABUND. RATIO	RRT
13C12-2-MoCB	1L			2000	857	42.9	3.32	0.718
13C12-4-MoCB	3L			2000	706	35.3	3.19	0.858
13C12-2,2'-DiCB	4L			2000	813	40.6	1.49	0.874
13C12-4,4'-DiCB	15L			2000	676	33.8	1.61	1.254
13C12-2,2',6-TriCB	19L			2000	1020	51.1	1.15	1.072
13C12-3,4,4'-TriCB	37L			2000	804	40.2	1.04	1.092
13C12-2,2',6,6'-TeCB	54L			2000	850	42.5	0.78	0.811
13C12-3,3',4,4'-TeCB	77L			2000	1020	51.0	0.71	1.397
13C12-3,4,4',5-TeCB	81L			2000	1080	54.1	0.71	1.374
13C12-2,2',4,6,6'-PeCB	104L			2000	743	37.1	1.55	0.808
13C12-2,3,3',4,4'-PeCB	105L			2000	1150	57.6	1.50	1.201
13C12-2,3,4,4',5-PeCB	114L			2000	986	49.3	1.54	1.179
13C12-2,3',4,4',5-PeCB	118L			2000	1230	61.6	1.50	1.162
13C12-2',3,4,4',5-PeCB	123L			2000	1200	59.9	1.46	1.151
13C12-3,3',4,4',5-PeCB	126L			2000	1150	57.6	1.47	1.302
13C12-2,2',4,4',6,6'-HxCB	155L			2000	678	33.9	1.32	0.785
13C12-2,3,3',4,4',5-HxCB	156L	156L + 157L	C	4000	2100	52.4	1.30	1.108
13C12-2,3,3',4,4',5'-HxCB	157L	156L + 157L	C156L					
13C12-2,3',4,4',5,5'-HxCB	167L			2000	1020	51.0	1.22	1.078
13C12-3,3',4,4',5,5'-HxCB	169L			2000	1050	52.4	1.27	1.192
13C12-2,2',3,3',4,4',5-HpCB	170L			2000	2770	138	1.04	0.897
13C12-2,2',3,4,4',5,5'-HpCB	180L			2000	2670	133	0.97	0.872
13C12-2,2',3,4',5,6,6'-HpCB	188L			2000	1730	86.5	1.14	0.711
13C12-2,3,3',4,4',5,5'-HpCB	189L			2000	1110	55.7	0.98	0.959
13C12-2,2',3,3',5,5',6,6'-OcCB	202L			2000	1280	64.1	0.88	0.817
13C12-2,3,3',4,4',5,5',6-OcCB	205L			2000	1560	78.1	1.01	1.009
13C12-2,2',3,3',4,4',5,5',6-NoCB	206L			2000	2050	102	0.79	1.043
13C12-2,2',3,3',4,5,5',6,6'-NoCB	208L			2000	1940	97.1	0.82	0.948
13C12-2,2',3,3',4,4',5,5',6,6'-DeCB	209L			2000	1620	81.0	1.17	1.074
CLEANUP STANDARD								
13C12-2,4,4'-TriCB	28L			2000	1050	52.5	1.01	0.925
13C12-2,3,3',5,5'-PeCB	111L			2000	1170	58.5	1.64	1.088
13C12-2,2',3,3',5,5',6-HpCB	178L			2000	1030	51.6	1.00	1.011

(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: _____Ting Chen_____

For Axys Internal Use Only [XSL Template: Form16682.xsl; Created: 02-Nov-2018 08:45:27; Application: XMLTransformer-1.16.51;
Report Filename: 1668_PCB1668_PCBTF_L29961-18_Form2_PB8C_361AS6_SJ2453039.html; Workgroup: WG65252; Design ID: 3360]

SGS AXYS METHOD MLA-010 Rev 12

Form 1A

PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.
PDI-TF-SMB050 (Duplicate)
Sample Collection:
23-Aug-2018 12:41

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

Project No.	PORTLAND HARBOR PDI AND BASELINE TISSUE		
Contract No.:	4972	**Lab Sample I.D.:**	WG65252-103 (DUP L29961-18)
Matrix:	TISSUE	**Sample Size:**	10.1 g (wet)
Sample Receipt Date:	31-Aug-2018	**Initial Calibration Date:**	07-Jul-2018
Extraction Date:	19-Sep-2018	**Instrument ID:**	HR GC/MS
Analysis Date:	22-Oct-2018 **Time:** 15:47:24	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	100	**Sample Data Filename:**	**PB8C_361A S: 7**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB8C_358 S: 4
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PB8C_361A S: 1
Concentration Units:	pg/g (wet weight basis)	**% Lipid:**	3.51

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 [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2-MoCB	1			31.3	0.413 (S)	3.13	1.001
3-MoCB	2		J	1.00	0.525 (S)	2.99	0.988
4-MoCB	3			7.34	0.500 (S)	3.21	1.001
2,2'-DiCB	4			336	2.14 (S)	1.48	1.001
2,3-DiCB	5			3.08	1.85 (S)	1.65	1.197
2,3'-DiCB	6			165	1.65 (S)	1.45	1.175
2,4-DiCB	7			9.77	1.69 (S)	1.51	1.158
2,4'-DiCB	8			293	1.48 (S)	1.48	1.206
2,5-DiCB	9			16.7	1.60 (S)	1.60	1.146
2,6-DiCB	10			17.1	1.64 (S)	1.33	1.013
3,3'-DiCB	11			6.14	1.82 (S)	1.45	0.968
3,4-DiCB	12	12 + 13	C	10.3	1.80 (S)	1.35	0.983
3,4'-DiCB	13	12 + 13	C12				
3,5-DiCB	14		U		1.72 (S)		
4,4'-DiCB	15			24.5	1.71 (S)	1.58	1.001
2,2',3-TriCB	16			354	0.582 (S)	1.05	1.165
2,2',4-TriCB	17			932	0.476 (S)	1.04	1.137
2,2',5-TriCB	18	18 + 30	C	1400	0.403 (S)	1.06	1.113
2,2',6-TriCB	19			510	0.528 (S)	1.04	1.001
2,3,3'-TriCB	20	20 + 28	C	5150	3.32 (S)	0.96	0.847
2,3,4-TriCB	21	21 + 33	C	452	3.33 (S)	0.97	0.856
2,3,4'-TriCB	22			626	3.82 (S)	0.95	0.871
2,3,5-TriCB	23		U		3.56 (S)		
2,3,6-TriCB	24		K	20.5	0.348 (S)	0.86	1.159
2,3',4-TriCB	25			508	2.95 (S)	0.97	0.824
2,3',5-TriCB	26	26 + 29	C	715	3.43 (S)	0.95	1.302
2,3',6-TriCB	27			249	0.336 (S)	1.09	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			1590	3.16 (S)	0.97	0.836
2,4',6-TriCB	32			1390	3.25 (S)	0.98	1.197
2',3,4-TriCB	33	21 + 33	C21				
2',3,5-TriCB	34			33.8	3.55 (S)	0.94	1.273
3,3',4-TriCB	35			59.6	3.50 (S)	1.09	0.988
3,3',5-TriCB	36			1230	3.29 (S)	0.96	0.934
3,4,4'-TriCB	37			295	3.46 (S)	1.01	1.001
3,4,5-TriCB	38			39.9	3.46 (S)	0.95	0.966
3,4',5-TriCB	39			172	3.45 (S)	0.93	0.945

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2,2',3,3'-TeCB	40	40 + 41 + 71	C	18100	2.79 (S)	0.78	1.337
2,2',3,4-TeCB	41	40 + 41 + 71	C40				
2,2',3,4'-TeCB	42			12600	2.90 (S)	0.78	1.312
2,2',3,5-TeCB	43			1410	3.04 (S)	0.76	1.245
2,2',3,5'-TeCB	44	44 + 47 + 65	C	54400	2.47 (S)	0.78	1.286
2,2',3,6-TeCB	45	45 + 51	C	3560	2.72 (S)	0.78	1.146
2,2',3,6'-TeCB	46			730	3.15 (S)	0.78	1.161
2,2',4,4'-TeCB	47	44 + 47 + 65	C44				
2,2',4,5-TeCB	48			5600	2.79 (S)	0.79	1.273
2,2',4,5'-TeCB	49	49 + 69	C	39300	2.35 (S)	0.79	1.259
2,2',4,6-TeCB	50	50 + 53	C	2770	2.62 (S)	0.78	1.111
2,2',4,6'-TeCB	51	45 + 51	C45				
2,2',5,5'-TeCB	52			57600	2.58 (S)	0.78	1.235
2,2',5,6'-TeCB	53	50 + 53	C50				
2,2',6,6'-TeCB	54			70.8	2.05 (S)	0.81	1.001
2,3,3',4-TeCB	55		U		42.7 (S)		
2,3,3',4'-TeCB	56			3590	42.9 (S)	0.75	0.904
2,3,3',5-TeCB	57			192	39.1 (S)	0.73	0.843
2,3,3',5'-TeCB	58			75.0	41.2 (S)	0.80	0.851
2,3,3',6-TeCB	59	59 + 62 + 75	C	3220	2.02 (S)	0.79	1.302
2,3,4,4'-TeCB	60			26600	42.5 (S)	0.76	0.911
2,3,4,5-TeCB	61	61 + 70 + 74 + 76	C	58300	38.7 (S)	0.73	0.876
2,3,4,6-TeCB	62	59 + 62 + 75	C59				
2,3,4',5-TeCB	63			5330	38.5 (S)	0.75	0.864
2,3,4',6-TeCB	64			27600	2.04 (S)	0.79	1.348
2,3,5,6-TeCB	65	44 + 47 + 65	C44				
2,3',4,4'-TeCB	66			101000	38.9 (S)	0.75	0.884
2,3',4,5-TeCB	67			345	32.9 (S)	0.81	0.856
2,3',4,5'-TeCB	68			150	38.3 (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			287	37.2 (S)	0.75	0.822
2,3',5',6-TeCB	73		U		2.23 (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			2650	38.6 (S)	0.75	1.000
3,3',4,5-TeCB	78		U		42.1 (S)		
3,3',4,5'-TeCB	79			537	34.2 (S)	0.75	0.969
3,3',5,5'-TeCB	80		U		38.4 (S)		
3,4,4',5-TeCB	81			187	39.5 (S)	0.81	1.000
2,2',3,3',4-PeCB	82			3860	11.6 (S)	1.61	0.934
2,2',3,3',5-PeCB	83	83 + 99	C	53700	10.6 (S)	1.54	0.885
2,2',3,3',6-PeCB	84			5060	11.6 (S)	1.61	1.164
2,2',3,4,4'-PeCB	85	85 + 116 + 117	C	18000	8.84 (S)	1.59	0.920
2,2',3,4,5-PeCB	86	86 + 87 + 97 + 108 + 119 + 125	C G	28400	8.88 (S)	1.58	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	6000	10.4 (S)	1.56	1.156
2,2',3,4,6'-PeCB	89			497	11.0 (S)	1.58	1.183
2,2',3,4',5-PeCB	90	90 + 101 + 113	C	43400	8.86 (S)	1.57	0.869
2,2',3,4',6-PeCB	91	88 + 91	C88				
2,2',3,5,5'-PeCB	92			7140	10.6 (S)	1.56	0.853
2,2',3,5,6-PeCB	93	93 + 95 + 98 + 100 + 102	C	18600	9.93 (S)	1.58	1.121
2,2',3,5,6'-PeCB	94			121	11.2 (S)	1.65	1.103
2,2',3,5',6-PeCB	95	93 + 95 + 98 + 100 + 102	C93				
2,2',3,6,6'-PeCB	96			258	0.644 (S)	1.62	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				

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COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	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			298	9.06 (S)	1.54	1.094
2,2',4,6,6'-PeCB	104		K	11.1	0.681 (S)	1.84	1.001
2,3,3',4,4'-PeCB	105			28000	59.2 (S)	1.50	1.000
2,3,3',4,5-PeCB	106		U		65.2 (S)		
2,3,3',4',5-PeCB	107	107 + 124	C	831	68.6 (S)	1.43	0.991
2,3,3',4,5'-PeCB	108	86 + 87 + 97 + 108 + 119 + 125	C86				
2,3,3',4,6-PeCB	109			5370	69.3 (S)	1.48	0.997
2,3,3',4',6-PeCB	110	110 + 115	C	38800	7.98 (S)	1.59	0.925
2,3,3',5,5'-PeCB	111			25.7	7.67 (S)	1.58	0.945
2,3,3',5,6-PeCB	112		U		7.70 (S)		
2,3,3',5',6-PeCB	113	90 + 101 + 113	C90				
2,3,4,4',5-PeCB	114			2780	71.3 (S)	1.49	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			53300	56.1 (S)	1.47	1.001
2,3',4,4',6-PeCB	119	86 + 87 + 97 + 108 + 119 + 125	C86				
2,3',4,5,5'-PeCB	120			128	7.57 (S)	1.49	0.958
2,3',4,5',6-PeCB	121			14.2	8.01 (S)	1.78	1.200
2',3,3',4,5-PeCB	122			396	78.6 (S)	1.34	1.010
2',3,4,4',5-PeCB	123			1670	66.1 (S)	1.47	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	113	73.0 (S)	1.39	1.000
3,3',4,5,5'-PeCB	127		U		68.9 (S)		
2,2',3,3',4,4'-HxCB	128	128 + 166	C	5630	31.4 (S)	1.24	0.959
2,2',3,3',4,5-HxCB	129	129 + 138 + 160 + 163	C	62100	32.2 (S)	1.25	0.928
2,2',3,3',4,5'-HxCB	130			1860	41.3 (S)	1.25	0.913
2,2',3,3',4,6-HxCB	131			148	37.8 (S)	1.13	1.160
2,2',3,3',4,6'-HxCB	132			4300	40.9 (S)	1.27	1.176
2,2',3,3',5,5'-HxCB	133			802	37.4 (S)	1.29	1.192
2,2',3,3',5,6-HxCB	134	134 + 143	C	737	37.9 (S)	1.20	1.142
2,2',3,3',5,6'-HxCB	135	135 + 151 + 154	C	12100	1.11 (S)	1.26	1.105
2,2',3,3',6,6'-HxCB	136			1620	0.837 (S)	1.24	1.025
2,2',3,4,4',5-HxCB	137			1970	40.6 (S)	1.28	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	564	34.2 (S)	1.24	1.154
2,2',3,4,4',6'-HxCB	140	139 + 140	C139				
2,2',3,4,5,5'-HxCB	141		G	7810	35.9 (S)	1.25	0.903
2,2',3,4,5,6-HxCB	142		U		37.7 (S)		
2,2',3,4,5,6'-HxCB	143	134 + 143	C134				
2,2',3,4,5',6-HxCB	144			1210	1.14 (S)	1.26	1.122
2,2',3,4,6,6'-HxCB	145		K	5.86	0.909 (S)	1.45	1.035
2,2',3,4',5,5'-HxCB	146			10300	32.3 (S)	1.24	0.884
2,2',3,4',5,6-HxCB	147	147 + 149	C	15500	33.6 (S)	1.25	1.134
2,2',3,4',5,6'-HxCB	148			62.8	1.17 (S)	1.08	1.085
2,2',3,4',5',6-HxCB	149	147 + 149	C147				
2,2',3,4',6,6'-HxCB	150			30.7	0.860 (S)	1.17	1.013
2,2',3,5,5',6-HxCB	151	135 + 151 + 154	C135				
2,2',3,5,6,6'-HxCB	152			19.0	0.791 (S)	1.35	1.008
2,2',4,4',5,5'-HxCB	153	153 + 168	C	73000	28.5 (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		K	14.6	0.765 (S)	1.43	1.001
2,3,3',4,4',5-HxCB	156	156 + 157	C	4480	35.2 (S)	1.25	1.000
2,3,3',4,4',5'-HxCB	157	156 + 157	C156				
2,3,3',4,4',6-HxCB	158			3710	23.6 (S)	1.24	0.938
2,3,3',4,5,5'-HxCB	159		U		27.2 (S)		
2,3,3',4,5,6-HxCB	160	129 + 138 + 160 + 163	C129				

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COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2,3,3',4,5',6-HxCB	161		U		26.6 (S)		
2,3,3',4',5,5'-HxCB	162			130	24.7 (S)	1.19	0.989
2,3,3',4',5,6-HxCB	163	129 + 138 + 160 + 163	C129				
2,3,3',4',5',6-HxCB	164			1730	26.3 (S)	1.31	0.921
2,3,3',5,5',6-HxCB	165		U		31.0 (S)		
2,3,4,4',5,6-HxCB	166	128 + 166	C128				
2,3',4,4',5,5'-HxCB	167			1740	27.0 (S)	1.27	1.000
2,3',4,4',5',6-HxCB	168	153 + 168	C153				
3,3',4,4',5,5'-HxCB	169		U		48.4 (S)		
2,2',3,3',4,4',5-HpCB	170			13100	1.86 (S)	1.05	1.000
2,2',3,3',4,4',6-HpCB	171	171 + 173	C	4760	2.61 (S)	1.08	1.163
2,2',3,3',4,5,5'-HpCB	172			3230	2.74 (S)	1.07	0.897
2,2',3,3',4,5,6-HpCB	173	171 + 173	C171				
2,2',3,3',4,5,6'-HpCB	174			5730	2.51 (S)	1.05	1.133
2,2',3,3',4,5',6-HpCB	175			573	2.49 (S)	1.07	1.103
2,2',3,3',4,6,6'-HpCB	176			580	1.91 (S)	1.10	1.034
2,2',3,3',4',5,6-HpCB	177			4640	1.95 (S)	1.05	1.146
2,2',3,3',5,5',6-HpCB	178			3890	2.43 (S)	1.07	1.085
2,2',3,3',5,6,6'-HpCB	179			2420	1.86 (S)	1.03	1.010
2,2',3,4,4',5,5'-HpCB	180	180 + 193	C	44300	1.58 (S)	1.05	1.001
2,2',3,4,4',5,6-HpCB	181			1200	2.49 (S)	1.06	1.156
2,2',3,4,4',5,6'-HpCB	182		U		2.50 (S)		
2,2',3,4,4',5',6-HpCB	183	183 + 185	C	14100	2.43 (S)	1.06	1.127
2,2',3,4,4',6,6'-HpCB	184		K	34.8	1.80 (S)	1.22	1.024
2,2',3,4,5,5',6-HpCB	185	183 + 185	C183				
2,2',3,4,5,6,6'-HpCB	186		U G		2.00 (S)		
2,2',3,4',5,5',6-HpCB	187			34600	2.34 (S)	1.07	1.110
2,2',3,4',5,6,6'-HpCB	188			23.9	1.52 (S)	1.19	1.000
2,3,3',4,4',5,5'-HpCB	189			426	3.29 (S)	1.02	1.001
2,3,3',4,4',5,6-HpCB	190			4960	2.04 (S)	1.06	0.947
2,3,3',4,4',5',6-HpCB	191			881	2.12 (S)	1.04	0.917
2,3,3',4,5,5',6-HpCB	192		U		2.28 (S)		
2,3,3',4',5,5',6-HpCB	193	180 + 193	C180				
2,2',3,3',4,4',5,5'-OcCB	194		G	4250	2.03 (S)	0.90	0.992
2,2',3,3',4,4',5,6-OcCB	195			3010	2.13 (S)	0.86	0.945
2,2',3,3',4,4',5,6'-OcCB	196			3600	1.13 (S)	0.94	0.915
2,2',3,3',4,4',6,6'-OcCB	197	197 + 200	C	636	0.813 (S)	0.91	1.045
2,2',3,3',4,5,5',6-OcCB	198	198 + 199	C	7870	1.15 (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			669	0.821 (S)	0.87	1.023
2,2',3,3',5,5',6,6'-OcCB	202			1450	0.896 (S)	0.91	1.000
2,2',3,4,4',5,5',6-OcCB	203			6000	1.11 (S)	0.92	0.919
2,2',3,4,4',5,6,6'-OcCB	204			39.5	0.815 (S)	0.87	1.039
2,3,3',4,4',5,5',6-OcCB	205			317	1.84 (S)	0.84	1.001
2,2',3,3',4,4',5,5',6-NoCB	206			1590	0.930 (S)	0.78	1.000
2,2',3,3',4,4',5,6,6'-NoCB	207			294	0.663 (S)	0.78	1.020
2,2',3,3',4,5,5',6,6'-NoCB	208			488	0.792 (S)	0.78	1.000
2,2',3,3',4,4',5,5',6,6'-DeCB	209			988	0.617 (S)	1.19	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: _____Ting Chen_____

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Report Filename: 1668_PCB1668_PCBTF_WG65252-103_Form1A_PB8C_361AS7_SJ2453041.html; Workgroup: WG65252; Design ID: 3360]

SGS AXYS METHOD MLA-010 Rev 12

Form 2

PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.
PDI-TF-SMB050 (Duplicate)
Sample Collection:
23-Aug-2018 12:41

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

Project No.	PORTLAND HARBOR PDI AND BASELINE TISSUE		
Contract No.:	4972	**Lab Sample I.D.:**	WG65252-103 (DUP L29961-18)
Matrix:	TISSUE	**Sample Size:**	10.1 g (wet)
Sample Receipt Date:	31-Aug-2018	**Initial Calibration Date:**	07-Jul-2018
Extraction Date:	19-Sep-2018	**Instrument ID:**	HR GC/MS
Analysis Date:	22-Oct-2018 **Time:** 15:47:24	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	100	**Sample Data Filename:**	**PB8C_361A S: 7**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB8C_358 S: 4
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PB8C_361A S: 1
Concentration Units:	pg absolute	**% Lipid:**	3.51

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. [1]	CO-ELUTIONS	LAB FLAG [2]	SPIKE CONC.	CONC. FOUND	R(%) [3]	ION ABUND. RATIO	RRT
13C12-2-MoCB	1L			2000	926	46.3	3.09	0.718
13C12-4-MoCB	3L			2000	938	46.9	3.46	0.858
13C12-2,2'-DiCB	4L			2000	913	45.7	1.72	0.874
13C12-4,4'-DiCB	15L			2000	1050	52.5	1.59	1.254
13C12-2,2',6-TriCB	19L			2000	1160	58.1	1.02	1.072
13C12-3,4,4'-TriCB	37L			2000	933	46.7	1.04	1.093
13C12-2,2',6,6'-TeCB	54L			2000	887	44.4	0.85	0.811
13C12-3,3',4,4'-TeCB	77L			2000	1110	55.4	0.77	1.397
13C12-3,4,4',5-TeCB	81L			2000	1120	55.9	0.74	1.374
13C12-2,2',4,6,6'-PeCB	104L			2000	799	39.9	1.46	0.808
13C12-2,3,3',4,4'-PeCB	105L			2000	1190	59.6	1.60	1.201
13C12-2,3,4,4',5-PeCB	114L			2000	994	49.7	1.59	1.179
13C12-2,3',4,4',5-PeCB	118L			2000	1270	63.4	1.56	1.162
13C12-2',3,4,4',5-PeCB	123L			2000	1110	55.4	1.57	1.151
13C12-3,3',4,4',5-PeCB	126L			2000	1130	56.5	1.67	1.302
13C12-2,2',4,4',6,6'-HxCB	155L			2000	748	37.4	1.22	0.785
13C12-2,3,3',4,4',5-HxCB	156L	156L + 157L	C	4000	2040	50.9	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			2000	1050	52.4	1.31	1.078
13C12-3,3',4,4',5,5'-HxCB	169L			2000	1000	50.2	1.17	1.192
13C12-2,2',3,3',4,4',5-HpCB	170L			2000	2920	146	1.11	0.896
13C12-2,2',3,4,4',5,5'-HpCB	180L			2000	2910	146	0.92	0.871
13C12-2,2',3,4',5,6,6'-HpCB	188L			2000	1910	95.4	0.95	0.711
13C12-2,3,3',4,4',5,5'-HpCB	189L			2000	1200	60.1	1.11	0.958
13C12-2,2',3,3',5,5',6,6'-OcCB	202L			2000	1370	68.4	0.97	0.817
13C12-2,3,3',4,4',5,5',6-OcCB	205L			2000	1730	86.3	0.89	1.009
13C12-2,2',3,3',4,4',5,5',6-NoCB	206L			2000	2270	114	0.78	1.043
13C12-2,2',3,3',4,5,5',6,6'-NoCB	208L			2000	2160	108	0.79	0.948
13C12-2,2',3,3',4,4',5,5',6,6'-DeCB	209L			2000	1700	85.2	1.12	1.074
CLEANUP STANDARD								
13C12-2,4,4'-TriCB	28L			2000	996	49.8	1.05	0.925
13C12-2,3,3',5,5'-PeCB	111L			2000	1090	54.7	1.57	1.088
13C12-2,2',3,3',5,5',6-HpCB	178L			2000	909	45.4	0.92	1.011

(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: _____Ting Chen_____

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Report Filename: 1668_PCB1668_PCBTF_WG65252-103_Form2_PB8C_361AS7_SJ2453041.html; Workgroup: WG65252; Design ID: 3360]

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

Project No. PORTLAND HARBOR PDI AND BASELINE TISSUE

Contract No.: 4972
Client ID: PDI-TF-SMB050

Concentration Units: pg/g (wet weight basis)

COMPOUND	IUPAC NO.	L29961-18 (A) LAB FLAG [1]	L29961-18 (A) CONC. FOUND	WG65252-103 LAB FLAG [1]	WG65252-103 CONC. FOUND	MEAN	RELATIVE PERCENT DIFFERENCE
2-MoCB	1		30.6		31.3	31.0	2.39
3-MoCB	2	J	1.18	J	1.00	1.09	15.9
4-MoCB	3		6.53		7.34	6.94	11.6
2,2'-DiCB	4		338		336	337	0.782
2,3-DiCB	5		3.57		3.08	3.32	14.6
2,3'-DiCB	6		212		165	189	24.8
2,4-DiCB	7		13.2		9.77	11.5	30.0
2,4'-DiCB	8		363		293	328	21.2
2,5-DiCB	9		21.5		16.7	19.1	25.1
2,6-DiCB	10		19.8		17.1	18.4	14.6
3,3'-DiCB	11		7.85		6.14	6.99	24.5
3,4-DiCB	12	C	11.3	C	10.3	10.8	9.14
3,4'-DiCB	13	C12		C12			
3,5-DiCB	14	U		U			
4,4'-DiCB	15		22.0		24.5	23.3	10.8
2,2',3-TriCB	16		379		354	366	7.06
2,2',4-TriCB	17		993		932	963	6.39
2,2',5-TriCB	18	C	1500	C	1400	1450	6.83
2,2',6-TriCB	19		502		510	506	1.62
2,3,3'-TriCB	20	C	5890	C	5150	5520	13.4
2,3,4-TriCB	21	C	513	C	452	483	12.7
2,3,4'-TriCB	22		701		626	664	11.2
2,3,5-TriCB	23	U		U			
2,3,6-TriCB	24		20.6	K	20.5		
2,3',4-TriCB	25		566		508	537	10.8
2,3',5-TriCB	26	C	790	C	715	753	9.98
2,3',6-TriCB	27		267		249	258	7.07
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		1770		1590	1680	10.7
2,4',6-TriCB	32		1520		1390	1460	9.41
2',3,4-TriCB	33	C21		C21			
2',3,5-TriCB	34		41.6		33.8	37.7	20.8
3,3',4-TriCB	35		71.6		59.6	65.6	18.3
3,3',5-TriCB	36	U			1230		
3,4,4'-TriCB	37		329		295	312	11.1
3,4,5-TriCB	38		41.8		39.9	40.9	4.64
3,4',5-TriCB	39		201		172	186	15.3
2,2',3,3'-TeCB	40	C	18600	C	18100	18300	2.65
2,2',3,4-TeCB	41	C40		C40			
2,2',3,4'-TeCB	42		12500		12600	12500	0.712
2,2',3,5-TeCB	43		1480		1410	1440	4.72
2,2',3,5'-TeCB	44	C	56200	C	54400	55300	3.29
2,2',3,6-TeCB	45	C	3610	C	3560	3580	1.49
2,2',3,6'-TeCB	46		744		730	737	1.88
2,2',4,4'-TeCB	47	C44		C44			
2,2',4,5-TeCB	48		5750		5600	5670	2.68
2,2',4,5'-TeCB	49	C	40400	C	39300	39800	2.65
2,2',4,6-TeCB	50	C	2820	C	2770	2790	1.85
2,2',4,6'-TeCB	51	C45		C45			
2,2',5,5'-TeCB	52		60000		57600	58800	4.16
2,2',5,6'-TeCB	53	C50		C50			
2,2',6,6'-TeCB	54		73.3		70.8	72.0	3.55
2,3,3',4-TeCB	55	U		U			

COMPOUND	IUPAC NO.	L29961-18 (A) LAB FLAG [1]	L29961-18 (A) CONC. FOUND	WG65252-103 LAB FLAG [1]	WG65252-103 CONC. FOUND	MEAN	RELATIVE PERCENT DIFFERENCE
2,3,3',4'-TeCB	56		3770		3590	3680	5.02
2,3,3',5-TeCB	57		197		192	194	2.38
2,3,3',5'-TeCB	58		84.2		75.0	79.6	11.6
2,3,3',6-TeCB	59	C	3310	C	3220	3260	2.94
2,3,4,4'-TeCB	60		28000		26600	27300	5.10
2,3,4,5-TeCB	61	C	64200	C	58300	61200	9.67
2,3,4,6-TeCB	62	C59		C59			
2,3,4',5-TeCB	63		5800		5330	5570	8.34
2,3,4',6-TeCB	64		28600		27600	28100	3.55
2,3,5,6-TeCB	65	C44		C44			
2,3',4,4'-TeCB	66		111000		101000	106000	10.0
2,3',4,5-TeCB	67		382		345	363	10.1
2,3',4,5'-TeCB	68		154		150	152	2.33
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		312		287	299	8.28
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		2740		2650	2690	3.30
3,3',4,5-TeCB	78	U		U			
3,3',4,5'-TeCB	79		560		537	548	4.26
3,3',5,5'-TeCB	80	U		U			
3,4,4',5-TeCB	81		190		187	188	1.65
2,2',3,3',4-PeCB	82		3830		3860	3840	0.678
2,2',3,3',5-PeCB	83	C	54500	C	53700	54100	1.36
2,2',3,3',6-PeCB	84		4970		5060	5010	1.88
2,2',3,4,4'-PeCB	85	C	17500	C	18000	17800	2.71
2,2',3,4,5-PeCB	86	C G	28900	C G	28400	28700	1.71
2,2',3,4,5'-PeCB	87	C86		C86			
2,2',3,4,6-PeCB	88	C	6070	C	6000	6030	1.14
2,2',3,4,6'-PeCB	89		497		497	497	0.091
2,2',3,4',5-PeCB	90	C	43800	C	43400	43600	0.993
2,2',3,4',6-PeCB	91	C88		C88			
2,2',3,5,5'-PeCB	92		7150		7140	7150	0.146
2,2',3,5,6-PeCB	93	C	18400	C	18600	18500	1.45
2,2',3,5,6'-PeCB	94		131		121	126	7.97
2,2',3,5',6-PeCB	95	C93		C93			
2,2',3,6,6'-PeCB	96		242		258	250	6.14
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		298		298	298	0.024
2,2',4,6,6'-PeCB	104		10.8	K	11.1		
2,3,3',4,4'-PeCB	105		29200		28000	28600	4.15
2,3,3',4,5-PeCB	106	U		U			
2,3,3',4',5-PeCB	107	C	877	C	831	854	5.37
2,3,3',4,5'-PeCB	108	C86		C86			
2,3,3',4,6-PeCB	109		5930		5370	5650	9.95
2,3,3',4',6-PeCB	110	C	38800	C	38800	38800	0.071
2,3,3',5,5'-PeCB	111		29.0		25.7	27.3	11.8
2,3,3',5,6-PeCB	112	U		U			
2,3,3',5',6-PeCB	113	C90		C90			
2,3,4,4',5-PeCB	114		2980		2780	2880	6.98
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		55100		53300	54200	3.27
2,3',4,4',6-PeCB	119	C86		C86			

COMPOUND	IUPAC NO.	L29961-18 (A) LAB FLAG [1]	L29961-18 (A) CONC. FOUND	WG65252-103 LAB FLAG [1]	WG65252-103 CONC. FOUND	MEAN	RELATIVE PERCENT DIFFERENCE
2,3',4,5,5'-PeCB	120		139		128	133	8.82
2,3',4,5',6-PeCB	121		12.9		14.2	13.6	9.19
2',3,3',4,5-PeCB	122		412		396	404	4.00
2',3,4,4',5-PeCB	123		1670		1670	1670	0.227
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	147	K	113		
3,3',4,5,5'-PeCB	127	U		U			
2,2',3,3',4,4'-HxCB	128	C	5570	C	5630	5600	1.04
2,2',3,3',4,5-HxCB	129	C	59200	C	62100	60700	4.72
2,2',3,3',4,5'-HxCB	130		1820		1860	1840	1.87
2,2',3,3',4,6-HxCB	131		163		148	156	9.28
2,2',3,3',4,6'-HxCB	132		4220		4300	4260	1.77
2,2',3,3',5,5'-HxCB	133		789		802	796	1.66
2,2',3,3',5,6-HxCB	134	C	743	C	737	740	0.834
2,2',3,3',5,6'-HxCB	135	C	11200	C	12100	11700	8.24
2,2',3,3',6,6'-HxCB	136		1490		1620	1550	8.34
2,2',3,4,4',5-HxCB	137		1990		1970	1980	1.20
2,2',3,4,4',5'-HxCB	138	C129		C129			
2,2',3,4,4',6-HxCB	139	C	572	C	564	568	1.34
2,2',3,4,4',6'-HxCB	140	C139		C139			
2,2',3,4,5,5'-HxCB	141	G	7510	G	7810	7660	3.90
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		1140		1210	1170	5.54
2,2',3,4,6,6'-HxCB	145		6.23	K	5.86		
2,2',3,4',5,5'-HxCB	146		10100		10300	10200	2.22
2,2',3,4',5,6-HxCB	147	C	15400	C	15500	15500	0.549
2,2',3,4',5,6'-HxCB	148		59.3		62.8	61.0	5.82
2,2',3,4',5',6-HxCB	149	C147		C147			
2,2',3,4',6,6'-HxCB	150		27.9		30.7	29.3	9.38
2,2',3,5,5',6-HxCB	151	C135		C135			
2,2',3,5,6,6'-HxCB	152		17.8		19.0	18.4	6.36
2,2',4,4',5,5'-HxCB	153	C	70200	C	73000	71600	3.97
2,2',4,4',5,6'-HxCB	154	C135		C135			
2,2',4,4',6,6'-HxCB	155		16.3	K	14.6		
2,3,3',4,4',5-HxCB	156	C	4400	C	4480	4440	1.71
2,3,3',4,4',5'-HxCB	157	C156		C156			
2,3,3',4,4',6-HxCB	158		3640		3710	3670	1.94
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		97.5		130	114	28.8
2,3,3',4',5,6-HxCB	163	C129		C129			
2,3,3',4',5',6-HxCB	164		1760		1730	1740	1.31
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		1770		1740	1750	1.70
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		12500		13100	12800	4.37
2,2',3,3',4,4',6-HpCB	171	C	4870	C	4760	4820	2.24
2,2',3,3',4,5,5'-HpCB	172		3280		3230	3260	1.43
2,2',3,3',4,5,6-HpCB	173	C171		C171			
2,2',3,3',4,5,6'-HpCB	174		5960		5730	5840	4.05
2,2',3,3',4,5',6-HpCB	175		577		573	575	0.792
2,2',3,3',4,6,6'-HpCB	176		555		580	568	4.52
2,2',3,3',4',5,6-HpCB	177		4670		4640	4650	0.605
2,2',3,3',5,5',6-HpCB	178		3890		3890	3890	0.013
2,2',3,3',5,6,6'-HpCB	179		2260		2420	2340	6.71
2,2',3,4,4',5,5'-HpCB	180	C	44000	C	44300	44200	0.708
2,2',3,4,4',5,6-HpCB	181		1160		1200	1180	2.65
2,2',3,4,4',5,6'-HpCB	182	U		U			
2,2',3,4,4',5',6-HpCB	183	C	14200	C	14100	14100	0.011

COMPOUND	IUPAC NO.	L29961-18 (A) LAB FLAG [1]	L29961-18 (A) CONC. FOUND	WG65252-103 LAB FLAG [1]	WG65252-103 CONC. FOUND	MEAN	RELATIVE PERCENT DIFFERENCE
2,2',3,4,4',6,6'-HpCB	184		29.3	K	34.8		
2,2',3,4,5,5',6-HpCB	185	C183		C183			
2,2',3,4,5,6,6'-HpCB	186	U G		U G			
2,2',3,4',5,5',6-HpCB	187		34400		34600	34500	0.503
2,2',3,4',5,6,6'-HpCB	188		21.7		23.9	22.8	9.23
2,3,3',4,4',5,5'-HpCB	189		388		426	407	9.25
2,3,3',4,4',5,6-HpCB	190		4810		4960	4890	3.04
2,3,3',4,4',5',6-HpCB	191		907		881	894	2.96
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	G	4230	G	4250	4240	0.569
2,2',3,3',4,4',5,6-OcCB	195		2990		3010	3000	0.683
2,2',3,3',4,4',5,6'-OcCB	196		3530		3600	3560	2.10
2,2',3,3',4,4',6,6'-OcCB	197	C	643	C	636	640	1.07
2,2',3,3',4,5,5',6-OcCB	198	C	7970	C	7870	7920	1.24
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		691		669	680	3.27
2,2',3,3',5,5',6,6'-OcCB	202		1430		1450	1440	1.49
2,2',3,4,4',5,5',6-OcCB	203		5870		6000	5930	2.29
2,2',3,4,4',5,6,6'-OcCB	204		38.6		39.5	39.1	2.30
2,3,3',4,4',5,5',6-OcCB	205		303		317	310	4.50
2,2',3,3',4,4',5,5',6-NoCB	206		1630		1590	1610	2.11
2,2',3,3',4,4',5,6,6'-NoCB	207		311		294	303	5.64
2,2',3,3',4,5,5',6,6'-NoCB	208		493		488	491	1.05
2,2',3,3',4,4',5,5',6,6'-DeCB	209		938		988	963	5.16

(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.

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

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: 02-Nov-2018 08:48:48; Application: XMLTransformer-1.16.51;
Report Filename: RPD_PCB1668_RPD_WG65252-103_L29961-18_.html; Workgroup: WG65252; Design ID: 3360]

SGS AXYS METHOD MLA-010 Rev 12

Form 1A

PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.
PDI-TF-SMB095
Sample Collection:
23-Aug-2018 07:33

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

Project No.	PORTLAND HARBOR PDI AND BASELINE TISSUE		
Contract No.:	4972	**Lab Sample I.D.:**	L29961-19
Matrix:	TISSUE	**Sample Size:**	10.0 g (wet)
Sample Receipt Date:	31-Aug-2018	**Initial Calibration Date:**	07-Jul-2018
Extraction Date:	19-Sep-2018	**Instrument ID:**	HR GC/MS
Analysis Date:	22-Oct-2018 **Time:** 16:51:07	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	100	**Sample Data Filename:**	**PB8C_361A S: 8**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB8C_358 S: 4
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PB8C_361A S: 1
Concentration Units:	pg/g (wet weight basis)	**% Lipid:**	5.19

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 [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2-MoCB	1		J	2.04	0.355 (S)	3.41	1.001
3-MoCB	2		J	0.998	0.480 (S)	2.87	0.988
4-MoCB	3		K J	1.36	0.488 (S)	7.05	1.000
2,2'-DiCB	4			30.5	2.16 (S)	1.49	1.000
2,3-DiCB	5		U		2.05 (S)		
2,3'-DiCB	6			13.4	1.82 (S)	1.63	1.175
2,4-DiCB	7		U		1.86 (S)		
2,4'-DiCB	8			40.6	1.64 (S)	1.43	1.208
2,5-DiCB	9		K	3.68	1.77 (S)	1.25	1.146
2,6-DiCB	10		J	2.02	1.81 (S)	1.35	1.012
3,3'-DiCB	11			83.6	2.01 (S)	1.45	0.968
3,4-DiCB	12	12 + 13	C U		1.99 (S)		
3,4'-DiCB	13	12 + 13	C12				
3,5-DiCB	14		U		1.90 (S)		
4,4'-DiCB	15			9.30	2.00 (S)	1.44	1.001
2,2',3-TriCB	16			38.7	0.424 (S)	1.11	1.165
2,2',4-TriCB	17			116	0.347 (S)	1.11	1.138
2,2',5-TriCB	18	18 + 30	C	137	0.294 (S)	1.08	1.113
2,2',6-TriCB	19			66.5	0.311 (S)	1.10	1.001
2,3,3'-TriCB	20	20 + 28	C	445	1.26 (S)	1.00	0.846
2,3,4-TriCB	21	21 + 33	C	77.9	1.27 (S)	0.97	0.856
2,3,4'-TriCB	22			88.5	1.45 (S)	1.01	0.871
2,3,5-TriCB	23		U		1.35 (S)		
2,3,6-TriCB	24		J	1.68	0.253 (S)	0.97	1.159
2,3',4-TriCB	25			37.2	1.12 (S)	0.92	0.824
2,3',5-TriCB	26	26 + 29	C	86.3	1.30 (S)	0.98	1.301
2,3',6-TriCB	27			28.7	0.245 (S)	1.05	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			264	1.20 (S)	0.99	0.835
2,4',6-TriCB	32			50.8	1.23 (S)	1.03	1.197
2',3,4-TriCB	33	21 + 33	C21				
2',3,5-TriCB	34			3.15	1.35 (S)	1.09	1.272
3,3',4-TriCB	35		U		1.33 (S)		
3,3',5-TriCB	36			31.3	1.25 (S)	0.98	0.934
3,4,4'-TriCB	37			43.0	1.53 (S)	1.05	1.001
3,4,5-TriCB	38		U		1.32 (S)		
3,4',5-TriCB	39			3.27	1.31 (S)	0.99	0.945

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2,2',3,3'-TeCB	40	40 + 41 + 71	C	204	1.25 (S)	0.77	1.336
2,2',3,4-TeCB	41	40 + 41 + 71	C40				
2,2',3,4'-TeCB	42			180	1.30 (S)	0.80	1.311
2,2',3,5-TeCB	43			23.9	1.36 (S)	0.88	1.245
2,2',3,5'-TeCB	44	44 + 47 + 65	C	1220	1.10 (S)	0.79	1.286
2,2',3,6-TeCB	45	45 + 51	C	145	1.21 (S)	0.78	1.147
2,2',3,6'-TeCB	46			19.3	1.41 (S)	0.73	1.161
2,2',4,4'-TeCB	47	44 + 47 + 65	C44				
2,2',4,5-TeCB	48			92.1	1.25 (S)	0.80	1.273
2,2',4,5'-TeCB	49	49 + 69	C	844	1.05 (S)	0.80	1.259
2,2',4,6-TeCB	50	50 + 53	C	96.9	1.17 (S)	0.79	1.110
2,2',4,6'-TeCB	51	45 + 51	C45				
2,2',5,5'-TeCB	52			1310	1.15 (S)	0.79	1.234
2,2',5,6'-TeCB	53	50 + 53	C50				
2,2',6,6'-TeCB	54			17.4	0.842 (S)	0.69	1.001
2,3,3',4-TeCB	55		U		8.16 (S)		
2,3,3',4'-TeCB	56			176	8.20 (S)	0.78	0.904
2,3,3',5-TeCB	57		U		7.46 (S)		
2,3,3',5'-TeCB	58		U		7.88 (S)		
2,3,3',6-TeCB	59	59 + 62 + 75	C	75.4	0.905 (S)	0.71	1.302
2,3,4,4'-TeCB	60			186	8.11 (S)	0.78	0.910
2,3,4,5-TeCB	61	61 + 70 + 74 + 76	C	1450	7.39 (S)	0.73	0.874
2,3,4,6-TeCB	62	59 + 62 + 75	C59				
2,3,4',5-TeCB	63			59.6	7.35 (S)	0.72	0.864
2,3,4',6-TeCB	64			347	0.914 (S)	0.77	1.349
2,3,5,6-TeCB	65	44 + 47 + 65	C44				
2,3',4,4'-TeCB	66			1120	7.44 (S)	0.75	0.884
2,3',4,5-TeCB	67			18.3	6.29 (S)	0.69	0.856
2,3',4,5'-TeCB	68			27.0	7.31 (S)	0.86	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			25.5	7.10 (S)	0.87	0.822
2,3',5',6-TeCB	73		U		0.997 (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			65.3	8.16 (S)	0.80	1.001
3,3',4,5-TeCB	78		U		8.04 (S)		
3,3',4,5'-TeCB	79			25.4	6.54 (S)	0.84	0.968
3,3',5,5'-TeCB	80		U		7.33 (S)		
3,4,4',5-TeCB	81		U		7.42 (S)		
2,2',3,3',4-PeCB	82			160	3.26 (S)	1.55	0.933
2,2',3,3',5-PeCB	83	83 + 99	C	2900	2.98 (S)	1.61	0.885
2,2',3,3',6-PeCB	84			309	3.24 (S)	1.65	1.164
2,2',3,4,4'-PeCB	85	85 + 116 + 117	C	771	2.47 (S)	1.58	0.919
2,2',3,4,5-PeCB	86	86 + 87 + 97 + 108 + 119 + 125	C G	1740	2.49 (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	412	2.92 (S)	1.62	1.155
2,2',3,4,6'-PeCB	89			8.48	3.08 (S)	1.55	1.183
2,2',3,4',5-PeCB	90	90 + 101 + 113	C	3670	2.48 (S)	1.56	0.869
2,2',3,4',6-PeCB	91	88 + 91	C88				
2,2',3,5,5'-PeCB	92			760	2.96 (S)	1.58	0.853
2,2',3,5,6-PeCB	93	93 + 95 + 98 + 100 + 102	C	1830	2.78 (S)	1.59	1.121
2,2',3,5,6'-PeCB	94			13.3	3.12 (S)	1.59	1.103
2,2',3,5',6-PeCB	95	93 + 95 + 98 + 100 + 102	C93				
2,2',3,6,6'-PeCB	96			9.66	0.777 (S)	1.72	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				

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	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			78.7	2.54 (S)	1.64	1.093
2,2',4,6,6'-PeCB	104			4.63	0.775 (S)	1.46	1.001
2,3,3',4,4'-PeCB	105			1050	6.03 (S)	1.46	1.000
2,3,3',4,5-PeCB	106		U		6.60 (S)		
2,3,3',4',5-PeCB	107	107 + 124	C	109	6.94 (S)	1.60	0.991
2,3,3',4,5'-PeCB	108	86 + 87 + 97 + 108 + 119 + 125	C86				
2,3,3',4,6-PeCB	109			341	7.01 (S)	1.52	0.997
2,3,3',4',6-PeCB	110	110 + 115	C	3010	2.23 (S)	1.59	0.924
2,3,3',5,5'-PeCB	111			6.59	2.15 (S)	1.43	0.945
2,3,3',5,6-PeCB	112		U		2.15 (S)		
2,3,3',5',6-PeCB	113	90 + 101 + 113	C90				
2,3,4,4',5-PeCB	114			86.0	6.82 (S)	1.53	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			3470	6.12 (S)	1.53	1.001
2,3',4,4',6-PeCB	119	86 + 87 + 97 + 108 + 119 + 125	C86				
2,3',4,5,5'-PeCB	120			35.8	2.12 (S)	1.52	0.958
2,3',4,5',6-PeCB	121			8.62	2.24 (S)	1.34	1.199
2',3,3',4,5-PeCB	122			21.9	7.95 (S)	1.74	1.010
2',3,4,4',5-PeCB	123			67.6	6.73 (S)	1.56	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	9.12	7.77 (S)	1.48	1.000
3,3',4,5,5'-PeCB	127			10.2	6.97 (S)	1.34	1.041
2,2',3,3',4,4'-HxCB	128	128 + 166	C	1230	6.06 (S)	1.23	0.959
2,2',3,3',4,5-HxCB	129	129 + 138 + 160 + 163	C	10400	6.20 (S)	1.27	0.928
2,2',3,3',4,5'-HxCB	130			437	7.95 (S)	1.21	0.913
2,2',3,3',4,6-HxCB	131			28.7	7.28 (S)	1.36	1.160
2,2',3,3',4,6'-HxCB	132			1030	7.88 (S)	1.26	1.176
2,2',3,3',5,5'-HxCB	133			192	7.21 (S)	1.30	1.192
2,2',3,3',5,6-HxCB	134	134 + 143	C	170	7.30 (S)	1.07	1.141
2,2',3,3',5,6'-HxCB	135	135 + 151 + 154	C	2550	0.767 (S)	1.27	1.105
2,2',3,3',6,6'-HxCB	136			341	0.579 (S)	1.25	1.025
2,2',3,4,4',5-HxCB	137			317	7.81 (S)	1.24	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	118	6.59 (S)	1.21	1.153
2,2',3,4,4',6'-HxCB	140	139 + 140	C139				
2,2',3,4,5,5'-HxCB	141			1090	6.91 (S)	1.28	0.903
2,2',3,4,5,6-HxCB	142		U		7.26 (S)		
2,2',3,4,5,6'-HxCB	143	134 + 143	C134				
2,2',3,4,5',6-HxCB	144			246	0.791 (S)	1.20	1.122
2,2',3,4,6,6'-HxCB	145		K J	1.36	0.629 (S)	1.66	1.034
2,2',3,4',5,5'-HxCB	146			2070	6.23 (S)	1.26	0.884
2,2',3,4',5,6-HxCB	147	147 + 149	C	4750	6.47 (S)	1.26	1.134
2,2',3,4',5,6'-HxCB	148			34.0	0.811 (S)	1.27	1.084
2,2',3,4',5',6-HxCB	149	147 + 149	C147				
2,2',3,4',6,6'-HxCB	150			15.2	0.595 (S)	1.39	1.013
2,2',3,5,5',6-HxCB	151	135 + 151 + 154	C135				
2,2',3,5,6,6'-HxCB	152			3.53	0.548 (S)	1.21	1.008
2,2',4,4',5,5'-HxCB	153	153 + 168	C	11000	5.48 (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			13.3	0.505 (S)	1.16	1.001
2,3,3',4,4',5-HxCB	156	156 + 157	C	750	6.52 (S)	1.26	1.000
2,3,3',4,4',5'-HxCB	157	156 + 157	C156				
2,3,3',4,4',6-HxCB	158			694	4.56 (S)	1.27	0.938
2,3,3',4,5,5'-HxCB	159		U		5.24 (S)		
2,3,3',4,5,6-HxCB	160	129 + 138 + 160 + 163	C129				

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COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2,3,3',4,5',6-HxCB	161		U		5.12 (S)		
2,3,3',4',5,5'-HxCB	162			24.4	4.75 (S)	1.20	0.989
2,3,3',4',5,6-HxCB	163	129 + 138 + 160 + 163	C129				
2,3,3',4',5',6-HxCB	164			404	5.07 (S)	1.21	0.921
2,3,3',5,5',6-HxCB	165			9.12	5.98 (S)	1.18	0.878
2,3,4,4',5,6-HxCB	166	128 + 166	C128				
2,3',4,4',5,5'-HxCB	167			346	5.54 (S)	1.26	1.000
2,3',4,4',5',6-HxCB	168	153 + 168	C153				
3,3',4,4',5,5'-HxCB	169		U		9.26 (S)		
2,2',3,3',4,4',5-HpCB	170			2230	0.744 (S)	1.06	1.000
2,2',3,3',4,4',6-HpCB	171	171 + 173	C	903	1.04 (S)	1.09	1.163
2,2',3,3',4,5,5'-HpCB	172			639	1.10 (S)	1.00	0.896
2,2',3,3',4,5,6-HpCB	173	171 + 173	C171				
2,2',3,3',4,5,6'-HpCB	174			1790	1.00 (S)	1.05	1.134
2,2',3,3',4,5',6-HpCB	175			126	0.997 (S)	1.11	1.103
2,2',3,3',4,6,6'-HpCB	176			186	0.763 (S)	1.15	1.034
2,2',3,3',4',5,6-HpCB	177			1480	0.778 (S)	1.05	1.146
2,2',3,3',5,5',6-HpCB	178			988	0.973 (S)	1.05	1.085
2,2',3,3',5,6,6'-HpCB	179			727	0.745 (S)	1.02	1.010
2,2',3,4,4',5,5'-HpCB	180	180 + 193	C	7470	0.662 (S)	1.06	1.000
2,2',3,4,4',5,6-HpCB	181			25.1	0.995 (S)	1.16	1.157
2,2',3,4,4',5,6'-HpCB	182		U		0.999 (S)		
2,2',3,4,4',5',6-HpCB	183	183 + 185	C	2590	0.970 (S)	1.06	1.128
2,2',3,4,4',6,6'-HpCB	184			20.7	0.720 (S)	1.01	1.024
2,2',3,4,5,5',6-HpCB	185	183 + 185	C183				
2,2',3,4,5,6,6'-HpCB	186		U		0.800 (S)		
2,2',3,4',5,5',6-HpCB	187			9770	0.934 (S)	1.05	1.110
2,2',3,4',5,6,6'-HpCB	188			11.5	0.611 (S)	1.14	1.000
2,3,3',4,4',5,5'-HpCB	189			60.4	1.52 (S)	0.90	1.001
2,3,3',4,4',5,6-HpCB	190			724	0.815 (S)	1.04	0.947
2,3,3',4,4',5',6-HpCB	191			154	0.847 (S)	1.02	0.917
2,3,3',4,5,5',6-HpCB	192		U		0.913 (S)		
2,3,3',4',5,5',6-HpCB	193	180 + 193	C180				
2,2',3,3',4,4',5,5'-OcCB	194		G	608	0.700 (S)	0.88	0.991
2,2',3,3',4,4',5,6-OcCB	195			427	0.738 (S)	0.89	0.945
2,2',3,3',4,4',5,6'-OcCB	196		G	633	0.712 (S)	0.89	0.914
2,2',3,3',4,4',6,6'-OcCB	197	197 + 200	C	162	0.514 (S)	0.94	1.046
2,2',3,3',4,5,5',6-OcCB	198	198 + 199	C	2010	0.728 (S)	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			201	0.519 (S)	0.99	1.023
2,2',3,3',5,5',6,6'-OcCB	202			408	0.527 (S)	0.95	1.000
2,2',3,4,4',5,5',6-OcCB	203			1280	0.705 (S)	0.90	0.918
2,2',3,4,4',5,6,6'-OcCB	204		K J	2.03	0.515 (S)	1.20	1.038
2,3,3',4,4',5,5',6-OcCB	205			46.7	0.684 (S)	0.89	1.000
2,2',3,3',4,4',5,5',6-NoCB	206			332	0.753 (S)	0.82	1.001
2,2',3,3',4,4',5,6,6'-NoCB	207			48.3	0.542 (S)	0.81	1.020
2,2',3,3',4,5,5',6,6'-NoCB	208			135	0.656 (S)	0.81	1.000
2,2',3,3',4,4',5,5',6,6'-DeCB	209			142	0.504 (S)	1.14	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: _____Ting Chen_____

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Report Filename: 1668_PCB1668_PCBTF_L29961-19_Form1A_PB8C_361AS8_SJ2453043.html; Workgroup: WG65252; Design ID: 3360]

SGS AXYS METHOD MLA-010 Rev 12

Form 2

PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.
PDI-TF-SMB095
Sample Collection:
23-Aug-2018 07:33

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

Project No.	PORTLAND HARBOR PDI AND BASELINE TISSUE		
Contract No.:	4972	**Lab Sample I.D.:**	L29961-19
Matrix:	TISSUE	**Sample Size:**	10.0 g (wet)
Sample Receipt Date:	31-Aug-2018	**Initial Calibration Date:**	07-Jul-2018
Extraction Date:	19-Sep-2018	**Instrument ID:**	HR GC/MS
Analysis Date:	22-Oct-2018 **Time:** 16:51:07	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	100	**Sample Data Filename:**	**PB8C_361A S: 8**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB8C_358 S: 4
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PB8C_361A S: 1
Concentration Units:	pg absolute	**% Lipid:**	5.19

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. [1]	CO-ELUTIONS	LAB FLAG [2]	SPIKE CONC.	CONC. FOUND	R(%) [3]	ION ABUND. RATIO	RRT
13C12-2-MoCB	1L			2000	839	41.9	3.07	0.718
13C12-4-MoCB	3L			2000	776	38.8	3.32	0.858
13C12-2,2'-DiCB	4L			2000	889	44.4	1.54	0.874
13C12-4,4'-DiCB	15L			2000	872	43.6	1.49	1.254
13C12-2,2',6-TriCB	19L			2000	1210	60.4	1.11	1.072
13C12-3,4,4'-TriCB	37L			2000	937	46.9	1.09	1.093
13C12-2,2',6,6'-TeCB	54L			2000	1190	59.4	0.78	0.811
13C12-3,3',4,4'-TeCB	77L			2000	1250	62.6	0.73	1.397
13C12-3,4,4',5-TeCB	81L			2000	1350	67.4	0.76	1.374
13C12-2,2',4,6,6'-PeCB	104L			2000	981	49.1	1.67	0.808
13C12-2,3,3',4,4'-PeCB	105L			2000	1300	65.2	1.51	1.201
13C12-2,3,4,4',5-PeCB	114L			2000	1180	59.0	1.56	1.179
13C12-2,3',4,4',5-PeCB	118L			2000	1280	63.9	1.55	1.162
13C12-2',3,4,4',5-PeCB	123L			2000	1320	66.0	1.62	1.151
13C12-3,3',4,4',5-PeCB	126L			2000	1180	59.0	1.58	1.302
13C12-2,2',4,4',6,6'-HxCB	155L			2000	886	44.3	1.20	0.785
13C12-2,3,3',4,4',5-HxCB	156L	156L + 157L	C	4000	2330	58.2	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			2000	1120	56.0	1.28	1.078
13C12-3,3',4,4',5,5'-HxCB	169L			2000	1150	57.4	1.37	1.192
13C12-2,2',3,3',4,4',5-HpCB	170L		V	2000	3440	172	1.13	0.896
13C12-2,2',3,4,4',5,5'-HpCB	180L		V	2000	3650	183	1.13	0.872
13C12-2,2',3,4',5,6,6'-HpCB	188L			2000	2290	114	1.02	0.711
13C12-2,3,3',4,4',5,5'-HpCB	189L			2000	1430	71.7	1.05	0.958
13C12-2,2',3,3',5,5',6,6'-OcCB	202L			2000	1770	88.5	1.00	0.816
13C12-2,3,3',4,4',5,5',6-OcCB	205L			2000	1940	97.1	0.92	1.009
13C12-2,2',3,3',4,4',5,5',6-NoCB	206L			2000	2660	133	0.80	1.043
13C12-2,2',3,3',4,5,5',6,6'-NoCB	208L			2000	2570	129	0.75	0.948
13C12-2,2',3,3',4,4',5,5',6,6'-DeCB	209L			2000	2180	109	1.18	1.074
CLEANUP STANDARD								
13C12-2,4,4'-TriCB	28L			2000	1380	69.1	1.04	0.924
13C12-2,3,3',5,5'-PeCB	111L			2000	1440	72.1	1.55	1.087
13C12-2,2',3,3',5,5',6-HpCB	178L			2000	1190	59.5	1.05	1.011

(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: _____Ting Chen_____

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Report Filename: 1668_PCB1668_PCBTF_L29961-19_Form2_PB8C_361AS8_SJ2453043.html; Workgroup: WG65252; Design ID: 3360]

SGS AXYS METHOD MLA-010 Rev 12

Form 1A

PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.
PDI-TF-SMB054
Sample Collection:
23-Aug-2018 12:31

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

Project No.	PORTLAND HARBOR PDI AND BASELINE TISSUE		
Contract No.:	4972	**Lab Sample I.D.:**	L29961-20
Matrix:	TISSUE	**Sample Size:**	10.1 g (wet)
Sample Receipt Date:	31-Aug-2018	**Initial Calibration Date:**	07-Jul-2018
Extraction Date:	19-Sep-2018	**Instrument ID:**	HR GC/MS
Analysis Date:	22-Oct-2018 **Time:** 17:54:55	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	100	**Sample Data Filename:**	**PB8C_361A S: 9**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB8C_358 S: 4
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PB8C_361A S: 1
Concentration Units:	pg/g (wet weight basis)	**% Lipid:**	5.28

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 [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2-MoCB	1			4.85	0.395 (S)	2.72	1.001
3-MoCB	2		K J	0.951	0.489 (S)	2.20	0.987
4-MoCB	3		K J	1.69	0.451 (S)	2.47	1.000
2,2'-DiCB	4			125	2.01 (S)	1.42	1.001
2,3-DiCB	5		U		1.66 (S)		
2,3'-DiCB	6			20.7	1.48 (S)	1.40	1.177
2,4-DiCB	7			3.32	1.51 (S)	1.45	1.158
2,4'-DiCB	8			80.9	1.33 (S)	1.47	1.208
2,5-DiCB	9			5.79	1.43 (S)	1.46	1.147
2,6-DiCB	10			5.71	1.47 (S)	1.41	1.014
3,3'-DiCB	11			41.5	1.63 (S)	1.39	0.968
3,4-DiCB	12	12 + 13	C K	3.11	1.61 (S)	1.12	0.983
3,4'-DiCB	13	12 + 13	C12				
3,5-DiCB	14		U		1.54 (S)		
4,4'-DiCB	15			18.0	1.49 (S)	1.42	1.001
2,2',3-TriCB	16			99.3	0.384 (S)	1.06	1.166
2,2',4-TriCB	17			213	0.314 (S)	1.02	1.138
2,2',5-TriCB	18	18 + 30	C	305	0.266 (S)	1.05	1.114
2,2',6-TriCB	19			268	0.332 (S)	1.03	1.001
2,3,3'-TriCB	20	20 + 28	C	797	1.06 (S)	0.98	0.847
2,3,4-TriCB	21	21 + 33	C	178	1.06 (S)	0.97	0.856
2,3,4'-TriCB	22			164	1.22 (S)	0.97	0.871
2,3,5-TriCB	23		U		1.14 (S)		
2,3,6-TriCB	24			5.58	0.229 (S)	0.91	1.159
2,3',4-TriCB	25			47.2	0.943 (S)	1.05	0.824
2,3',5-TriCB	26	26 + 29	C	119	1.10 (S)	0.96	1.302
2,3',6-TriCB	27			47.8	0.222 (S)	1.06	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			391	1.01 (S)	0.97	0.836
2,4',6-TriCB	32			137	1.04 (S)	0.98	1.197
2',3,4-TriCB	33	21 + 33	C21				
2',3,5-TriCB	34			5.80	1.14 (S)	1.08	1.273
3,3',4-TriCB	35		U		1.12 (S)		
3,3',5-TriCB	36			63.0	1.05 (S)	1.00	0.934
3,4,4'-TriCB	37			69.2	1.15 (S)	0.97	1.001
3,4,5-TriCB	38		J	2.54	1.11 (S)	1.01	0.968
3,4',5-TriCB	39		K	9.46	1.10 (S)	0.88	0.945

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2,2',3,3'-TeCB	40	40 + 41 + 71	C	687	0.998 (S)	0.77	1.337
2,2',3,4-TeCB	41	40 + 41 + 71	C40				
2,2',3,4'-TeCB	42			403	1.04 (S)	0.79	1.312
2,2',3,5-TeCB	43			64.7	1.09 (S)	0.84	1.246
2,2',3,5'-TeCB	44	44 + 47 + 65	C	2610	0.885 (S)	0.78	1.287
2,2',3,6-TeCB	45	45 + 51	C	299	0.973 (S)	0.78	1.147
2,2',3,6'-TeCB	46			47.3	1.13 (S)	0.74	1.162
2,2',4,4'-TeCB	47	44 + 47 + 65	C44				
2,2',4,5-TeCB	48			249	0.998 (S)	0.78	1.273
2,2',4,5'-TeCB	49	49 + 69	C	1860	0.842 (S)	0.78	1.259
2,2',4,6-TeCB	50	50 + 53	C	238	0.939 (S)	0.77	1.111
2,2',4,6'-TeCB	51	45 + 51	C45				
2,2',5,5'-TeCB	52			3210	0.923 (S)	0.78	1.235
2,2',5,6'-TeCB	53	50 + 53	C50				
2,2',6,6'-TeCB	54			47.6	0.703 (S)	0.81	1.001
2,3,3',4-TeCB	55		U		5.83 (S)		
2,3,3',4'-TeCB	56			357	5.86 (S)	0.77	0.904
2,3,3',5-TeCB	57			13.4	5.33 (S)	0.78	0.843
2,3,3',5'-TeCB	58		U		5.63 (S)		
2,3,3',6-TeCB	59	59 + 62 + 75	C	165	0.725 (S)	0.78	1.303
2,3,4,4'-TeCB	60			594	5.80 (S)	0.75	0.910
2,3,4,5-TeCB	61	61 + 70 + 74 + 76	C	3160	5.28 (S)	0.75	0.875
2,3,4,6-TeCB	62	59 + 62 + 75	C59				
2,3,4',5-TeCB	63			175	5.25 (S)	0.75	0.863
2,3,4',6-TeCB	64			934	0.732 (S)	0.79	1.349
2,3,5,6-TeCB	65	44 + 47 + 65	C44				
2,3',4,4'-TeCB	66			3420	5.32 (S)	0.76	0.883
2,3',4,5-TeCB	67			33.2	4.50 (S)	0.70	0.856
2,3',4,5'-TeCB	68			44.9	5.22 (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			50.6	5.07 (S)	0.77	0.822
2,3',5',6-TeCB	73		U		0.799 (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			163	5.19 (S)	0.74	1.001
3,3',4,5-TeCB	78		U		5.75 (S)		
3,3',4,5'-TeCB	79			62.9	4.67 (S)	0.72	0.969
3,3',5,5'-TeCB	80		U		5.24 (S)		
3,4,4',5-TeCB	81		K	6.07	5.69 (S)	0.79	1.000
2,2',3,3',4-PeCB	82			299	2.99 (S)	1.48	0.934
2,2',3,3',5-PeCB	83	83 + 99	C	8610	2.73 (S)	1.57	0.885
2,2',3,3',6-PeCB	84			546	2.97 (S)	1.56	1.163
2,2',3,4,4'-PeCB	85	85 + 116 + 117	C	2260	2.27 (S)	1.60	0.919
2,2',3,4,5-PeCB	86	86 + 87 + 97 + 108 + 119 + 125	C G	4320	2.28 (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	811	2.68 (S)	1.56	1.154
2,2',3,4,6'-PeCB	89			24.4	2.82 (S)	1.60	1.183
2,2',3,4',5-PeCB	90	90 + 101 + 113	C	9500	2.27 (S)	1.56	0.869
2,2',3,4',6-PeCB	91	88 + 91	C88				
2,2',3,5,5'-PeCB	92			1970	2.72 (S)	1.58	0.853
2,2',3,5,6-PeCB	93	93 + 95 + 98 + 100 + 102	C	3800	2.55 (S)	1.57	1.121
2,2',3,5,6'-PeCB	94			20.1	2.87 (S)	1.63	1.102
2,2',3,5',6-PeCB	95	93 + 95 + 98 + 100 + 102	C93				
2,2',3,6,6'-PeCB	96			28.3	0.472 (S)	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				

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	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			132	2.33 (S)	1.48	1.093
2,2',4,6,6'-PeCB	104		K	5.68	0.495 (S)	2.00	1.001
2,3,3',4,4'-PeCB	105			3430	16.0 (S)	1.49	1.000
2,3,3',4,5-PeCB	106		U		17.0 (S)		
2,3,3',4',5-PeCB	107	107 + 124	C	224	17.9 (S)	1.49	0.991
2,3,3',4,5'-PeCB	108	86 + 87 + 97 + 108 + 119 + 125	C86				
2,3,3',4,6-PeCB	109			1010	18.1 (S)	1.53	0.998
2,3,3',4',6-PeCB	110	110 + 115	C	7660	2.05 (S)	1.57	0.925
2,3,3',5,5'-PeCB	111		K	13.9	1.97 (S)	2.04	0.946
2,3,3',5,6-PeCB	112		U		1.98 (S)		
2,3,3',5',6-PeCB	113	90 + 101 + 113	C90				
2,3,4,4',5-PeCB	114			253	18.0 (S)	1.49	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			10500	14.9 (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			66.4	1.94 (S)	1.61	0.958
2,3',4,5',6-PeCB	121			12.7	2.06 (S)	1.43	1.199
2',3,3',4,5-PeCB	122			24.9	20.5 (S)	1.55	1.009
2',3,4,4',5-PeCB	123			165	16.9 (S)	1.48	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	24.2	19.4 (S)	1.44	1.000
3,3',4,5,5'-PeCB	127			34.8	18.0 (S)	1.74	1.041
2,2',3,3',4,4'-HxCB	128	128 + 166	C	2760	11.1 (S)	1.24	0.959
2,2',3,3',4,5-HxCB	129	129 + 138 + 160 + 163	C	21900	11.4 (S)	1.25	0.928
2,2',3,3',4,5'-HxCB	130			957	14.6 (S)	1.24	0.913
2,2',3,3',4,6-HxCB	131			59.5	13.3 (S)	1.11	1.160
2,2',3,3',4,6'-HxCB	132			1720	14.4 (S)	1.23	1.175
2,2',3,3',5,5'-HxCB	133			403	13.2 (S)	1.28	1.192
2,2',3,3',5,6-HxCB	134	134 + 143	C	327	13.4 (S)	1.23	1.141
2,2',3,3',5,6'-HxCB	135	135 + 151 + 154	C	4270	0.714 (S)	1.27	1.104
2,2',3,3',6,6'-HxCB	136			739	0.540 (S)	1.24	1.025
2,2',3,4,4',5-HxCB	137			969	14.3 (S)	1.25	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	322	12.1 (S)	1.32	1.153
2,2',3,4,4',6'-HxCB	140	139 + 140	C139				
2,2',3,4,5,5'-HxCB	141			2010	12.7 (S)	1.26	0.903
2,2',3,4,5,6-HxCB	142		U		13.3 (S)		
2,2',3,4,5,6'-HxCB	143	134 + 143	C134				
2,2',3,4,5',6-HxCB	144			429	0.736 (S)	1.30	1.122
2,2',3,4,6,6'-HxCB	145		K J	1.08	0.586 (S)	1.67	1.034
2,2',3,4',5,5'-HxCB	146			3910	11.4 (S)	1.26	0.884
2,2',3,4',5,6-HxCB	147	147 + 149	C	6640	11.8 (S)	1.24	1.134
2,2',3,4',5,6'-HxCB	148			47.5	0.755 (S)	1.37	1.084
2,2',3,4',5',6-HxCB	149	147 + 149	C147				
2,2',3,4',6,6'-HxCB	150			29.4	0.554 (S)	1.24	1.013
2,2',3,5,5',6-HxCB	151	135 + 151 + 154	C135				
2,2',3,5,6,6'-HxCB	152			9.54	0.510 (S)	1.33	1.008
2,2',4,4',5,5'-HxCB	153	153 + 168	C	21400	10.0 (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			13.3	0.496 (S)	1.28	1.001
2,3,3',4,4',5-HxCB	156	156 + 157	C	2040	12.0 (S)	1.26	1.000
2,3,3',4,4',5'-HxCB	157	156 + 157	C156				
2,3,3',4,4',6-HxCB	158			1440	8.35 (S)	1.25	0.938
2,3,3',4,5,5'-HxCB	159		U		9.60 (S)		
2,3,3',4,5,6-HxCB	160	129 + 138 + 160 + 163	C129				

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This test is not NELAP accredited. Sample results relate only to the sample tested.

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2,3,3',4,5',6-HxCB	161		U		9.38 (S)		
2,3,3',4',5,5'-HxCB	162			68.9	8.71 (S)	1.29	0.989
2,3,3',4',5,6-HxCB	163	129 + 138 + 160 + 163	C129				
2,3,3',4',5',6-HxCB	164			774	9.29 (S)	1.27	0.921
2,3,3',5,5',6-HxCB	165			13.7	11.0 (S)	1.18	0.878
2,3,4,4',5,6-HxCB	166	128 + 166	C128				
2,3',4,4',5,5'-HxCB	167			802	10.3 (S)	1.24	1.000
2,3',4,4',5',6-HxCB	168	153 + 168	C153				
3,3',4,4',5,5'-HxCB	169		U		14.6 (S)		
2,2',3,3',4,4',5-HpCB	170			3100	0.685 (S)	1.06	1.000
2,2',3,3',4,4',6-HpCB	171	171 + 173	C	1290	1.01 (S)	1.07	1.163
2,2',3,3',4,5,5'-HpCB	172			874	1.06 (S)	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			2190	0.971 (S)	1.05	1.134
2,2',3,3',4,5',6-HpCB	175			193	0.963 (S)	1.01	1.103
2,2',3,3',4,6,6'-HpCB	176			262	0.738 (S)	1.08	1.034
2,2',3,3',4',5,6-HpCB	177			2080	0.752 (S)	1.08	1.146
2,2',3,3',5,5',6-HpCB	178			1310	0.940 (S)	1.07	1.086
2,2',3,3',5,6,6'-HpCB	179			1170	0.720 (S)	1.04	1.011
2,2',3,4,4',5,5'-HpCB	180	180 + 193	C	10700	0.662 (S)	1.06	1.000
2,2',3,4,4',5,6-HpCB	181			73.4	0.961 (S)	0.99	1.157
2,2',3,4,4',5,6'-HpCB	182		U		0.966 (S)		
2,2',3,4,4',5',6-HpCB	183	183 + 185	C	3630	0.937 (S)	1.05	1.128
2,2',3,4,4',6,6'-HpCB	184		K	17.6	0.696 (S)	1.24	1.025
2,2',3,4,5,5',6-HpCB	185	183 + 185	C183				
2,2',3,4,5,6,6'-HpCB	186		U		0.773 (S)		
2,2',3,4',5,5',6-HpCB	187			11000	0.903 (S)	1.06	1.110
2,2',3,4',5,6,6'-HpCB	188			19.2	0.560 (S)	0.95	1.001
2,3,3',4,4',5,5'-HpCB	189			114	1.74 (S)	0.94	1.001
2,3,3',4,4',5,6-HpCB	190			1160	0.788 (S)	0.99	0.947
2,3,3',4,4',5',6-HpCB	191			211	0.819 (S)	1.06	0.917
2,3,3',4,5,5',6-HpCB	192		U		0.882 (S)		
2,3,3',4',5,5',6-HpCB	193	180 + 193	C180				
2,2',3,3',4,4',5,5'-OcCB	194		G	813	0.887 (S)	0.86	0.991
2,2',3,3',4,4',5,6-OcCB	195			551	0.934 (S)	0.86	0.945
2,2',3,3',4,4',5,6'-OcCB	196		G	833	0.939 (S)	0.98	0.915
2,2',3,3',4,4',6,6'-OcCB	197	197 + 200	C	182	0.678 (S)	0.86	1.046
2,2',3,3',4,5,5',6-OcCB	198	198 + 199	C	2280	0.961 (S)	0.91	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			246	0.685 (S)	0.87	1.022
2,2',3,3',5,5',6,6'-OcCB	202			488	0.703 (S)	0.89	1.000
2,2',3,4,4',5,5',6-OcCB	203			1540	0.930 (S)	0.91	0.919
2,2',3,4,4',5,6,6'-OcCB	204		K J	1.73	0.680 (S)	2.06	1.038
2,3,3',4,4',5,5',6-OcCB	205			66.8	0.857 (S)	0.86	1.001
2,2',3,3',4,4',5,5',6-NoCB	206			472	0.707 (S)	0.76	1.001
2,2',3,3',4,4',5,6,6'-NoCB	207			61.8	0.520 (S)	0.76	1.020
2,2',3,3',4,5,5',6,6'-NoCB	208			169	0.644 (S)	0.82	1.000
2,2',3,3',4,4',5,5',6,6'-DeCB	209			197	0.536 (S)	1.16	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: _____Ting Chen_____

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Report Filename: 1668_PCB1668_PCBTF_L29961-20_Form1A_PB8C_361AS9_SJ2453045.html; Workgroup: WG65252; Design ID: 3360]

SGS AXYS METHOD MLA-010 Rev 12

Form 2

PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.
PDI-TF-SMB054
Sample Collection:
23-Aug-2018 12:31

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

Project No.	PORTLAND HARBOR PDI AND BASELINE TISSUE		
Contract No.:	4972	**Lab Sample I.D.:**	L29961-20
Matrix:	TISSUE	**Sample Size:**	10.1 g (wet)
Sample Receipt Date:	31-Aug-2018	**Initial Calibration Date:**	07-Jul-2018
Extraction Date:	19-Sep-2018	**Instrument ID:**	HR GC/MS
Analysis Date:	22-Oct-2018 **Time:** 17:54:55	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	100	**Sample Data Filename:**	**PB8C_361A S: 9**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB8C_358 S: 4
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PB8C_361A S: 1
Concentration Units:	pg absolute	**% Lipid:**	5.28

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This test is not NELAP accredited. Sample results relate only to the sample tested.

LABELED COMPOUND	IUPAC NO. [1]	CO-ELUTIONS	LAB FLAG [2]	SPIKE CONC.	CONC. FOUND	R(%) [3]	ION ABUND. RATIO	RRT
13C12-2-MoCB	1L			2000	663	33.1	3.48	0.718
13C12-4-MoCB	3L			2000	780	39.0	3.20	0.859
13C12-2,2'-DiCB	4L			2000	752	37.6	1.61	0.874
13C12-4,4'-DiCB	15L			2000	951	47.6	1.51	1.254
13C12-2,2',6-TriCB	19L			2000	1150	57.6	1.09	1.072
13C12-3,4,4'-TriCB	37L			2000	1080	53.9	1.05	1.093
13C12-2,2',6,6'-TeCB	54L			2000	1060	52.8	0.78	0.811
13C12-3,3',4,4'-TeCB	77L			2000	1290	64.5	0.75	1.397
13C12-3,4,4',5-TeCB	81L			2000	1230	61.6	0.72	1.374
13C12-2,2',4,6,6'-PeCB	104L			2000	872	43.6	1.54	0.808
13C12-2,3,3',4,4'-PeCB	105L			2000	1210	60.5	1.64	1.201
13C12-2,3,4,4',5-PeCB	114L			2000	1070	53.7	1.54	1.179
13C12-2,3',4,4',5-PeCB	118L			2000	1250	62.6	1.50	1.162
13C12-2',3,4,4',5-PeCB	123L			2000	1200	60.0	1.66	1.151
13C12-3,3',4,4',5-PeCB	126L			2000	1160	58.2	1.48	1.302
13C12-2,2',4,4',6,6'-HxCB	155L			2000	866	43.3	1.24	0.785
13C12-2,3,3',4,4',5-HxCB	156L	156L + 157L	C	4000	2370	59.2	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			2000	1130	56.6	1.36	1.078
13C12-3,3',4,4',5,5'-HxCB	169L			2000	1170	58.4	1.29	1.192
13C12-2,2',3,3',4,4',5-HpCB	170L		V	2000	3170	158	0.97	0.896
13C12-2,2',3,4,4',5,5'-HpCB	180L			2000	2980	149	1.01	0.872
13C12-2,2',3,4',5,6,6'-HpCB	188L			2000	2060	103	1.08	0.711
13C12-2,3,3',4,4',5,5'-HpCB	189L			2000	1180	58.9	0.98	0.958
13C12-2,2',3,3',5,5',6,6'-OcCB	202L			2000	1640	82.2	0.90	0.817
13C12-2,3,3',4,4',5,5',6-OcCB	205L			2000	1790	89.6	0.89	1.009
13C12-2,2',3,3',4,4',5,5',6-NoCB	206L			2000	2350	117	0.82	1.043
13C12-2,2',3,3',4,5,5',6,6'-NoCB	208L			2000	2340	117	0.82	0.948
13C12-2,2',3,3',4,4',5,5',6,6'-DeCB	209L			2000	1900	95.0	1.15	1.074
CLEANUP STANDARD								
13C12-2,4,4'-TriCB	28L			2000	1210	60.7	1.06	0.925
13C12-2,3,3',5,5'-PeCB	111L			2000	1330	66.5	1.60	1.088
13C12-2,2',3,3',5,5',6-HpCB	178L			2000	1160	57.9	1.13	1.011

(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: _____Ting Chen_____

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Report Filename: 1668_PCB1668_PCBTF_L29961-20_Form2_PB8C_361AS9_SJ2453045.html; Workgroup: WG65252; Design ID: 3360]

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

Project No.	N/A		
Contract No.:	4972	**Lab Sample I.D.:**	WG65252-101
Matrix:	CANOLA OIL	**Sample Size:**	10.0 g
Sample Receipt Date:	N/A	**Initial Calibration Date:**	07-Jul-2018
Extraction Date:	19-Sep-2018	**Instrument ID:**	HR GC/MS
Analysis Date:	19-Oct-2018 **Time:** 01:39:45	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	100	**Sample Data Filename:**	**PB8C_358 S: 4**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB8C_358 S: 4
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PB8C_358 S: 1
Concentration Units:	pg/g		

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This test is not NELAP accredited. Sample results relate only to the sample tested.

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2-MoCB	1		U		0.278 (S)		
3-MoCB	2		U		0.366 (S)		
4-MoCB	3		K J	0.626	0.388 (S)	3.63	1.001
2,2'-DiCB	4		U		2.29 (S)		
2,3-DiCB	5		U		1.92 (S)		
2,3'-DiCB	6		U		1.67 (S)		
2,4-DiCB	7		U		1.68 (S)		
2,4'-DiCB	8		J	1.48	1.46 (S)	1.35	1.207
2,5-DiCB	9		U		1.62 (S)		
2,6-DiCB	10		U		1.66 (S)		
3,3'-DiCB	11			3.08	1.79 (S)	1.74	0.968
3,4-DiCB	12	12 + 13	C U		1.77 (S)		
3,4'-DiCB	13	12 + 13	C12				
3,5-DiCB	14		U		1.72 (S)		
4,4'-DiCB	15		U		2.35 (S)		
2,2',3-TriCB	16		U		0.379 (S)		
2,2',4-TriCB	17		J	0.941	0.320 (S)	1.19	1.138
2,2',5-TriCB	18	18 + 30	C K J	1.18	0.272 (S)	1.84	1.114
2,2',6-TriCB	19		K J	0.594	0.334 (S)	0.41	1.004
2,3,3'-TriCB	20	20 + 28	C J	1.92	0.427 (S)	1.04	0.847
2,3,4-TriCB	21	21 + 33	C K J	0.946	0.406 (S)	0.79	0.856
2,3,4'-TriCB	22		K J	0.544	0.479 (S)	0.85	0.871
2,3,5-TriCB	23		U		0.442 (S)		
2,3,6-TriCB	24		U		0.232 (S)		
2,3',4-TriCB	25		U		0.360 (S)		
2,3',5-TriCB	26	26 + 29	C J	0.449	0.428 (S)	0.92	1.303
2,3',6-TriCB	27		U		0.235 (S)		
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		K J	1.57	0.401 (S)	0.60	0.835
2,4',6-TriCB	32		J	0.511	0.415 (S)	0.99	1.198
2',3,4-TriCB	33	21 + 33	C21				
2',3,5-TriCB	34		U		0.446 (S)		
3,3',4-TriCB	35		U		0.458 (S)		
3,3',5-TriCB	36		U		0.414 (S)		
3,4,4'-TriCB	37		U		0.498 (S)		
3,4,5-TriCB	38		U		0.443 (S)		
3,4',5-TriCB	39		U		0.430 (S)		

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2,2',3,3'-TeCB	40	40 + 41 + 71	C K J	0.813	0.324 (S)	0.93	1.338
2,2',3,4-TeCB	41	40 + 41 + 71	C40				
2,2',3,4'-TeCB	42		J	0.343	0.318 (S)	0.80	1.312
2,2',3,5-TeCB	43		U		0.337 (S)		
2,2',3,5'-TeCB	44	44 + 47 + 65	C	4.72	0.291 (S)	0.80	1.285
2,2',3,6-TeCB	45	45 + 51	C U		0.302 (S)		
2,2',3,6'-TeCB	46		U		0.341 (S)		
2,2',4,4'-TeCB	47	44 + 47 + 65	C44				
2,2',4,5-TeCB	48		K J	0.522	0.315 (S)	1.58	1.271
2,2',4,5'-TeCB	49	49 + 69	C J	2.62	0.267 (S)	0.68	1.259
2,2',4,6-TeCB	50	50 + 53	C K J	0.581	0.292 (S)	0.23	1.111
2,2',4,6'-TeCB	51	45 + 51	C45				
2,2',5,5'-TeCB	52		K J	2.86	0.295 (S)	1.27	1.233
2,2',5,6'-TeCB	53	50 + 53	C50				
2,2',6,6'-TeCB	54		U		0.208 (S)		
2,3,3',4-TeCB	55		U		0.544 (S)		
2,3,3',4'-TeCB	56		U		0.550 (S)		
2,3,3',5-TeCB	57		U		0.501 (S)		
2,3,3',5'-TeCB	58		U		0.520 (S)		
2,3,3',6-TeCB	59	59 + 62 + 75	C K J	0.575	0.239 (S)	0.21	1.302
2,3,4,4'-TeCB	60		K J	0.876	0.548 (S)	0.63	0.911
2,3,4,5-TeCB	61	61 + 70 + 74 + 76	C K	3.34	0.496 (S)	0.64	0.875
2,3,4,6-TeCB	62	59 + 62 + 75	C59				
2,3,4',5-TeCB	63		U		0.506 (S)		
2,3,4',6-TeCB	64		K J	1.45	0.233 (S)	1.09	1.348
2,3,5,6-TeCB	65	44 + 47 + 65	C44				
2,3',4,4'-TeCB	66			4.19	0.517 (S)	0.76	0.885
2,3',4,5-TeCB	67		U		0.437 (S)		
2,3',4,5'-TeCB	68		U		0.481 (S)		
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		0.487 (S)		
2,3',5',6-TeCB	73		U		0.250 (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		U		0.565 (S)		
3,3',4,5-TeCB	78		U		0.546 (S)		
3,3',4,5'-TeCB	79		U		0.439 (S)		
3,3',5,5'-TeCB	80		U		0.496 (S)		
3,4,4',5-TeCB	81		U		0.538 (S)		
2,2',3,3',4-PeCB	82		U		0.379 (S)		
2,2',3,3',5-PeCB	83	83 + 99	C K	3.61	0.344 (S)	2.19	0.885
2,2',3,3',6-PeCB	84		K J	0.604	0.371 (S)	0.80	1.163
2,2',3,4,4'-PeCB	85	85 + 116 + 117	C K J	0.865	0.289 (S)	0.90	0.920
2,2',3,4,5-PeCB	86	86 + 87 + 97 + 108 + 119 + 125	C K J	1.72	0.296 (S)	2.65	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 J	0.835	0.326 (S)	0.73	1.155
2,2',3,4,6'-PeCB	89		U		0.352 (S)		
2,2',3,4',5-PeCB	90	90 + 101 + 113	C K	5.29	0.294 (S)	2.03	0.869
2,2',3,4',6-PeCB	91	88 + 91	C88				
2,2',3,5,5'-PeCB	92		K J	0.844	0.335 (S)	3.08	0.853
2,2',3,5,6-PeCB	93	93 + 95 + 98 + 100 + 102	C J	2.76	0.317 (S)	1.35	1.123
2,2',3,5,6'-PeCB	94		U		0.343 (S)		
2,2',3,5',6-PeCB	95	93 + 95 + 98 + 100 + 102	C93				
2,2',3,6,6'-PeCB	96		U		0.295 (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 [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	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		0.286 (S)		
2,2',4,6,6'-PeCB	104		U		0.357 (S)		
2,3,3',4,4'-PeCB	105		K J	1.18	0.526 (S)	2.56	1.000
2,3,3',4,5-PeCB	106		U		0.516 (S)		
2,3,3',4',5-PeCB	107	107 + 124	C U		0.570 (S)		
2,3,3',4,5'-PeCB	108	86 + 87 + 97 + 108 + 119 + 125	C86				
2,3,3',4,6-PeCB	109		U		0.536 (S)		
2,3,3',4',6-PeCB	110	110 + 115	C K	3.10	0.258 (S)	2.20	0.925
2,3,3',5,5'-PeCB	111		U		0.265 (S)		
2,3,3',5,6-PeCB	112		U		0.247 (S)		
2,3,3',5',6-PeCB	113	90 + 101 + 113	C90				
2,3,4,4',5-PeCB	114		U		0.584 (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		K	4.30	0.526 (S)	1.80	1.000
2,3',4,4',6-PeCB	119	86 + 87 + 97 + 108 + 119 + 125	C86				
2,3',4,5,5'-PeCB	120		U		0.257 (S)		
2,3',4,5',6-PeCB	121		U		0.253 (S)		
2',3,3',4,5-PeCB	122		U		0.607 (S)		
2',3,4,4',5-PeCB	123		U		0.535 (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		0.740 (S)		
3,3',4,5,5'-PeCB	127		U		0.602 (S)		
2,2',3,3',4,4'-HxCB	128	128 + 166	C K J	1.55	0.656 (S)	0.62	0.958
2,2',3,3',4,5-HxCB	129	129 + 138 + 160 + 163	C	8.83	0.637 (S)	1.20	0.928
2,2',3,3',4,5'-HxCB	130		U		0.808 (S)		
2,2',3,3',4,6-HxCB	131		U		0.708 (S)		
2,2',3,3',4,6'-HxCB	132		K J	0.929	0.759 (S)	1.43	1.176
2,2',3,3',5,5'-HxCB	133		U		0.708 (S)		
2,2',3,3',5,6-HxCB	134	134 + 143	C U		0.720 (S)		
2,2',3,3',5,6'-HxCB	135	135 + 151 + 154	C K	3.55	0.503 (S)	2.04	1.104
2,2',3,3',6,6'-HxCB	136		K J	0.498	0.371 (S)	0.46	1.027
2,2',3,4,4',5-HxCB	137		K J	0.970	0.735 (S)	2.01	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		0.652 (S)		
2,2',3,4,4',6'-HxCB	140	139 + 140	C139				
2,2',3,4,5,5'-HxCB	141		J	2.23	0.676 (S)	1.22	0.903
2,2',3,4,5,6-HxCB	142		U		0.738 (S)		
2,2',3,4,5,6'-HxCB	143	134 + 143	C134				
2,2',3,4,5',6-HxCB	144		U		0.526 (S)		
2,2',3,4,6,6'-HxCB	145		U		0.395 (S)		
2,2',3,4',5,5'-HxCB	146		J	2.14	0.596 (S)	1.10	0.883
2,2',3,4',5,6-HxCB	147	147 + 149	C K	3.22	0.639 (S)	1.53	1.133
2,2',3,4',5,6'-HxCB	148		U		0.504 (S)		
2,2',3,4',5',6-HxCB	149	147 + 149	C147				
2,2',3,4',6,6'-HxCB	150		U		0.382 (S)		
2,2',3,5,5',6-HxCB	151	135 + 151 + 154	C135				
2,2',3,5,6,6'-HxCB	152		U		0.362 (S)		
2,2',4,4',5,5'-HxCB	153	153 + 168	C K	9.38	0.548 (S)	1.47	0.899
2,2',4,4',5,6'-HxCB	154	135 + 151 + 154	C135				
2,2',4,4',6,6'-HxCB	155		U		0.340 (S)		
2,3,3',4,4',5-HxCB	156	156 + 157	C J	0.737	0.701 (S)	1.06	1.000
2,3,3',4,4',5'-HxCB	157	156 + 157	C156				
2,3,3',4,4',6-HxCB	158		K J	0.566	0.510 (S)	2.01	0.938
2,3,3',4,5,5'-HxCB	159		U		0.568 (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 [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2,3,3',4,5',6-HxCB	161		U		0.528 (S)		
2,3,3',4',5,5'-HxCB	162		U		0.511 (S)		
2,3,3',4',5,6-HxCB	163	129 + 138 + 160 + 163	C129				
2,3,3',4',5',6-HxCB	164		U		0.555 (S)		
2,3,3',5,5',6-HxCB	165		U		0.592 (S)		
2,3,4,4',5,6-HxCB	166	128 + 166	C128				
2,3',4,4',5,5'-HxCB	167		K J	0.653	0.591 (S)	3.38	1.001
2,3',4,4',5',6-HxCB	168	153 + 168	C153				
3,3',4,4',5,5'-HxCB	169		U		0.739 (S)		
2,2',3,3',4,4',5-HpCB	170		K J	2.74	0.568 (S)	1.21	1.000
2,2',3,3',4,4',6-HpCB	171	171 + 173	C K J	0.792	0.565 (S)	3.56	1.163
2,2',3,3',4,5,5'-HpCB	172		K J	0.805	0.601 (S)	0.41	0.896
2,2',3,3',4,5,6-HpCB	173	171 + 173	C171				
2,2',3,3',4,5,6'-HpCB	174		K J	1.70	0.529 (S)	0.44	1.134
2,2',3,3',4,5',6-HpCB	175		U		0.525 (S)		
2,2',3,3',4,6,6'-HpCB	176		U		0.389 (S)		
2,2',3,3',4',5,6-HpCB	177		K J	1.15	0.390 (S)	0.84	1.146
2,2',3,3',5,5',6-HpCB	178		K J	0.796	0.541 (S)	1.53	1.084
2,2',3,3',5,6,6'-HpCB	179		J	0.507	0.375 (S)	1.15	1.010
2,2',3,4,4',5,5'-HpCB	180	180 + 193	C	12.2	0.536 (S)	1.11	1.000
2,2',3,4,4',5,6-HpCB	181		U		0.539 (S)		
2,2',3,4,4',5,6'-HpCB	182		U		0.511 (S)		
2,2',3,4,4',5',6-HpCB	183	183 + 185	C K J	2.04	0.538 (S)	1.66	1.128
2,2',3,4,4',6,6'-HpCB	184		U		0.370 (S)		
2,2',3,4,5,5',6-HpCB	185	183 + 185	C183				
2,2',3,4,5,6,6'-HpCB	186		U		0.417 (S)		
2,2',3,4',5,5',6-HpCB	187			6.28	0.500 (S)	0.98	1.111
2,2',3,4',5,6,6'-HpCB	188		U		0.381 (S)		
2,3,3',4,4',5,5'-HpCB	189		U		0.551 (S)		
2,3,3',4,4',5,6-HpCB	190		K J	0.657	0.485 (S)	1.85	0.946
2,3,3',4,4',5',6-HpCB	191		U		0.472 (S)		
2,3,3',4,5,5',6-HpCB	192		U		0.510 (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	2.12	0.476 (S)	1.35	0.992
2,2',3,3',4,4',5,6-OcCB	195		K J	0.928	0.517 (S)	2.29	0.946
2,2',3,3',4,4',5,6'-OcCB	196		K J	1.02	0.672 (S)	0.60	0.915
2,2',3,3',4,4',6,6'-OcCB	197	197 + 200	C U		0.470 (S)		
2,2',3,3',4,5,5',6-OcCB	198	198 + 199	C K J	1.61	0.685 (S)	2.52	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		0.462 (S)		
2,2',3,3',5,5',6,6'-OcCB	202		K J	0.710	0.563 (S)	1.59	1.001
2,2',3,4,4',5,5',6-OcCB	203		K J	0.957	0.646 (S)	1.16	0.919
2,2',3,4,4',5,6,6'-OcCB	204		U		0.480 (S)		
2,3,3',4,4',5,5',6-OcCB	205		U		0.405 (S)		
2,2',3,3',4,4',5,5',6-NoCB	206		U		0.772 (S)		
2,2',3,3',4,4',5,6,6'-NoCB	207		U		0.567 (S)		
2,2',3,3',4,5,5',6,6'-NoCB	208		U		0.667 (S)		
2,2',3,3',4,4',5,5',6,6'-DeCB	209		K J	0.740	0.496 (S)	1.78	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.
(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: _____Ting Chen_____

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Report Filename: 1668_PCB1668_PCBTF_WG65252-101_Form1A_PB8C_358S4_SJ2452897.html; Workgroup: WG65252; Design ID: 3360]

SGS AXYS METHOD MLA-010 Rev 12

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

Form 2

PCB CONGENER ANALYSIS REPORT

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

Project No.	N/A		
Contract No.:	4972	**Lab Sample I.D.:**	WG65252-101
Matrix:	CANOLA OIL	**Sample Size:**	10.0 g
Sample Receipt Date:	N/A	**Initial Calibration Date:**	07-Jul-2018
Extraction Date:	19-Sep-2018	**Instrument ID:**	HR GC/MS
Analysis Date:	19-Oct-2018 **Time:** 01:39:45	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	100	**Sample Data Filename:**	**PB8C_358 S: 4**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB8C_358 S: 4
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PB8C_358 S: 1
Concentration Units:	pg absolute		

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. [1]	CO-ELUTIONS	LAB FLAG [2]	SPIKE CONC.	CONC. FOUND	R(%) [3]	ION ABUND. RATIO	RRT
13C12-2-MoCB	1L			2000	630	31.5	3.01	0.718
13C12-4-MoCB	3L			2000	572	28.6	3.31	0.858
13C12-2,2'-DiCB	4L			2000	677	33.9	1.57	0.874
13C12-4,4'-DiCB	15L			2000	654	32.7	1.60	1.255
13C12-2,2',6-TriCB	19L			2000	716	35.8	1.05	1.071
13C12-3,4,4'-TriCB	37L			2000	779	38.9	1.16	1.093
13C12-2,2',6,6'-TeCB	54L			2000	839	42.0	0.76	0.811
13C12-3,3',4,4'-TeCB	77L			2000	991	49.5	0.76	1.398
13C12-3,4,4',5-TeCB	81L			2000	996	49.8	0.80	1.374
13C12-2,2',4,6,6'-PeCB	104L			2000	680	34.0	1.58	0.808
13C12-2,3,3',4,4'-PeCB	105L			2000	1060	52.9	1.62	1.201
13C12-2,3,4,4',5-PeCB	114L			2000	993	49.7	1.50	1.179
13C12-2,3',4,4',5-PeCB	118L			2000	1040	52.1	1.48	1.162
13C12-2',3,4,4',5-PeCB	123L			2000	1120	55.8	1.50	1.152
13C12-3,3',4,4',5-PeCB	126L			2000	923	46.2	1.48	1.302
13C12-2,2',4,4',6,6'-HxCB	155L			2000	760	38.0	1.20	0.785
13C12-2,3,3',4,4',5-HxCB	156L	156L + 157L	C	4000	1900	47.4	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			2000	952	47.6	1.15	1.078
13C12-3,3',4,4',5,5'-HxCB	169L			2000	782	39.1	1.24	1.192
13C12-2,2',3,3',4,4',5-HpCB	170L			2000	1160	57.9	1.18	0.897
13C12-2,2',3,4,4',5,5'-HpCB	180L			2000	1140	56.9	1.04	0.872
13C12-2,2',3,4',5,6,6'-HpCB	188L			2000	903	45.1	1.01	0.712
13C12-2,3,3',4,4',5,5'-HpCB	189L			2000	974	48.7	0.95	0.959
13C12-2,2',3,3',5,5',6,6'-OcCB	202L			2000	661	33.1	0.93	0.817
13C12-2,3,3',4,4',5,5',6-OcCB	205L			2000	1040	51.9	0.96	1.009
13C12-2,2',3,3',4,4',5,5',6-NoCB	206L			2000	1000	50.2	0.80	1.043
13C12-2,2',3,3',4,5,5',6,6'-NoCB	208L			2000	933	46.7	0.79	0.949
13C12-2,2',3,3',4,4',5,5',6,6'-DeCB	209L			2000	800	40.0	1.03	1.074
CLEANUP STANDARD								
13C12-2,4,4'-TriCB	28L			2000	900	45.0	1.01	0.925
13C12-2,3,3',5,5'-PeCB	111L			2000	1070	53.4	1.57	1.088
13C12-2,2',3,3',5,5',6-HpCB	178L			2000	997	49.8	1.09	1.011

(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: _____Ting Chen_____

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Report Filename: 1668_PCB1668_PCBTF_WG65252-101_Form2_PB8C_358S4_SJ2452897.html; Workgroup: WG65252; Design ID: 3360]

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.:**	WG65252-102
Matrix:	CANOLA OIL	**Initial Calibration Date:**	07-Jul-2018
Extraction Date:	19-Sep-2018	**Instrument ID:**	HR GC/MS
Analysis Date:	18-Oct-2018 **Time:** 23:32:10	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	100	**OPR Data Filename:**	**PB8C_358 S: 2**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB8C_358 S: 4
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PB8C_358 S: 1

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

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	ION ABUND. RATIO	SPIKE CONC. (ng/mL)	CONC. FOUND (ng/mL)	OPR CONC. LIMITS (ng/mL)	% RECOVERY
2-MoCB	1			3.08	50.0	48.7	25.0 - 75.0	97.5
4-MoCB	3			3.08	50.0	48.9	25.0 - 75.0	97.8
2,2'-DiCB	4			1.55	50.0	48.8	25.0 - 75.0	97.5
4,4'-DiCB	15			1.51	50.0	44.9	25.0 - 75.0	89.9
2,2',6-TriCB	19			0.99	50.0	57.5	25.0 - 75.0	115
3,4,4'-TriCB	37			1.01	50.0	48.2	25.0 - 75.0	96.5
2,2',6,6'-TeCB	54			0.79	50.0	54.1	25.0 - 75.0	108
3,3',4,4'-TeCB	77			0.73	50.0	46.1	25.0 - 75.0	92.3
3,4,4',5-TeCB	81			0.73	50.0	47.0	25.0 - 75.0	94.0
2,2',4,6,6'-PeCB	104			1.57	50.0	58.4	25.0 - 75.0	117
2,3,3',4,4'-PeCB	105			1.53	50.0	48.6	25.0 - 75.0	97.1
2,3,4,4',5-PeCB	114			1.52	50.0	49.7	25.0 - 75.0	99.4
2,3',4,4',5-PeCB	118			1.60	50.0	49.9	25.0 - 75.0	99.9
2',3,4,4',5-PeCB	123			1.50	50.0	48.5	25.0 - 75.0	96.9
3,3',4,4',5-PeCB	126			1.54	50.0	48.3	25.0 - 75.0	96.6
2,2',4,4',6,6'-HxCB	155			1.34	50.0	61.7	25.0 - 75.0	123
2,3,3',4,4',5-HxCB	156	156 + 157	C	1.22	100	106	50.0 - 150	106
2,3,3',4,4',5'-HxCB	157	156 + 157	C156					
2,3',4,4',5,5'-HxCB	167			1.28	50.0	55.4	25.0 - 75.0	111
3,3',4,4',5,5'-HxCB	169			1.23	50.0	50.5	25.0 - 75.0	101
2,2',3,4',5,6,6'-HpCB	188			1.02	50.0	56.0	25.0 - 75.0	112
2,3,3',4,4',5,5'-HpCB	189			1.06	50.0	45.8	25.0 - 75.0	91.7
2,2',3,3',5,5',6,6'-OcCB	202			0.97	50.0	58.7	25.0 - 75.0	117
2,3,3',4,4',5,5',6-OcCB	205			0.91	50.0	48.9	25.0 - 75.0	97.9
2,2',3,3',4,4',5,5',6-NoCB	206			0.80	50.0	53.0	25.0 - 75.0	106
2,2',3,3',4,5,5',6,6'-NoCB	208			0.72	50.0	59.5	25.0 - 75.0	119
2,2',3,3',4,4',5,5',6,6'-DeCB	209			1.11	50.0	55.2	25.0 - 75.0	110

(1) 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: _____Ting Chen_____

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.

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Report Filename: 1668_PCB1668_PCBTF_WG65252-102_Form8A_SJ2452892.html; Workgroup: WG65252; 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

Contract No.:	4972	**Lab Sample I.D.:**	WG65252-102
Matrix:	CANOLA OIL	**Initial Calibration Date:**	07-Jul-2018
Extraction Date:	19-Sep-2018	**Instrument ID:**	HR GC/MS
Analysis Date:	18-Oct-2018 **Time:** 23:32:10	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	100	**OPR Data Filename:**	**PB8C_358 S: 2**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB8C_358 S: 4
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PB8C_358 S: 1

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

LABELED COMPOUND	IUPAC NO. [1]	CO-ELUTIONS	LAB FLAG[2]	ION ABUND. RATIO	SPIKE CONC. (ng/mL)	CONC. FOUND (ng/mL)	OPR CONC. LIMITS (ng/mL)	% RECOVERY
13C12-2-MoCB	1L			3.08	100	48.3	15.0 - 140	48.3
13C12-4-MoCB	3L			3.34	100	46.4	15.0 - 140	46.4
13C12-2,2'-DiCB	4L			1.63	100	50.7	30.0 - 140	50.7
13C12-4,4'-DiCB	15L			1.59	100	52.7	30.0 - 140	52.7
13C12-2,2',6-TriCB	19L			0.99	100	59.3	30.0 - 140	59.3
13C12-3,4,4'-TriCB	37L			1.05	100	55.9	30.0 - 140	55.9
13C12-2,2',6,6'-TeCB	54L			0.83	100	63.2	30.0 - 140	63.2
13C12-3,3',4,4'-TeCB	77L			0.84	100	73.9	30.0 - 140	73.9
13C12-3,4,4',5-TeCB	81L			0.74	100	72.0	30.0 - 140	72.0
13C12-2,2',4,6,6'-PeCB	104L			1.72	100	51.9	30.0 - 140	51.9
13C12-2,3,3',4,4'-PeCB	105L			1.57	100	76.2	30.0 - 140	76.2
13C12-2,3,4,4',5-PeCB	114L			1.62	100	69.7	30.0 - 140	69.7
13C12-2,3',4,4',5-PeCB	118L			1.60	100	75.5	30.0 - 140	75.5
13C12-2',3,4,4',5-PeCB	123L			1.53	100	78.6	30.0 - 140	78.6
13C12-3,3',4,4',5-PeCB	126L			1.72	100	66.1	30.0 - 140	66.1
13C12-2,2',4,4',6,6'-HxCB	155L			1.25	100	49.1	30.0 - 140	49.1
13C12-2,3,3',4,4',5-HxCB	156L	156L + 157L	C	1.23	200	126	60.0 - 280	62.9
13C12-2,3,3',4,4',5'-HxCB	157L	156L + 157L	C156L					
13C12-2,3',4,4',5,5'-HxCB	167L			1.21	100	66.1	30.0 - 140	66.1
13C12-3,3',4,4',5,5'-HxCB	169L			1.24	100	57.3	30.0 - 140	57.3
13C12-2,2',3,4',5,6,6'-HpCB	188L			1.09	100	56.2	30.0 - 140	56.2
13C12-2,3,3',4,4',5,5'-HpCB	189L			1.16	100	62.4	30.0 - 140	62.4
13C12-2,2',3,3',5,5',6,6'-OcCB	202L			0.96	100	39.7	30.0 - 140	39.7
13C12-2,3,3',4,4',5,5',6-OcCB	205L			0.94	100	78.2	30.0 - 140	78.2
13C12-2,2',3,3',4,4',5,5',6-NoCB	206L			0.81	100	72.9	30.0 - 140	72.9
13C12-2,2',3,3',4,5,5',6,6'-NoCB	208L			0.82	100	55.9	30.0 - 140	55.9
13C12-2,2',3,3',4,4',5,5',6,6'-DeCB	209L			1.23	100	56.8	30.0 - 140	56.8
CLEANUP STANDARD								
13C12-2,4,4'-TriCB	28L			1.02	100	69.0	40.0 - 125	69.0
13C12-2,3,3',5,5'-PeCB	111L			1.62	100	75.2	40.0 - 125	75.2
13C12-2,2',3,3',5,5',6-HpCB	178L			0.97	100	72.5	40.0 - 125	72.5

(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: _____Ting Chen_____

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.

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Report Filename: 1668_PCB1668_PCBTF_WG65252-102_Form8B_SJ2452892.html; Workgroup: WG65252; Design ID: 3360]

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

				RELATIVE RESPONSE (RR)								
COMPOUND	**IUPAC NO.**	**CO-ELUTIONS**	**LAB FLAG[1]**	**CS0**	**CS1**	**CS2**	**CS3**	**CS4**	**CS5**	**CS6**	**MEAN RR**	**CV[2] (%RSD)**
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',4,5,5',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_____

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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)								
COMPOUND	**IUPAC NO.** [1]	**CO-ELUTIONS**	**LAB FLAG**[2]	**CS0**	**CS1**	**CS2**	**CS3**	**CS4**	**CS5**	**CS6**	**MEAN RR**	**CV**[3] **(%RSD)**
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
CLEAN-UP STANDARD												
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_____

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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[1]	M/Z's FORMING RATIO [2]	ION ABUNDANCE RATIO CS0	CS1	CS2	CS3	CS4	CS5	CS6	QC LIMITS [2]
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_____

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Report Filename: 1668_PCB1668_07-Jul-2018_PB8C__Form3C_GS78326.html; Workgroup: WG65252; 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.[1]	CO-ELUTIONS	LAB FLAG[2]	M/Z's FORMING RATIO [3]	ION ABUNDANCE RATIO CS0	CS1	CS2	CS3	CS4	CS5	CS6	QC LIMITS [3]
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
CLEAN-UP STANDARD												
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_____

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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_358 S: 1
Instrument ID:	HR GC/MS	**Analysis Date:**	18-Oct-2018
GC Column ID:	SPB OCTYL	**Analysis Time:**	22:28:22

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	MZ's FORMING RATIO [2]	ION ABUND. RATIO	QC LIMITS [3]	CONC. FOUND (ng/mL)	CONC. RANGE (ng/mL)
2-MoCB	1			**M/M+2**	3.04	2.66-3.60	22.4	17.5 - 32.5
4-MoCB	3			**M/M+2**	3.01	2.66-3.60	23.6	17.5 - 32.5
2,2'-DiCB	4			**M/M+2**	1.52	1.33-1.79	22.6	17.5 - 32.5
4,4'-DiCB	15			**M/M+2**	1.51	1.33-1.79	26.5	19.6 - 36.4
2,2',6-TriCB	19			**M/M+2**	1.08	0.88-1.20	28.1	17.5 - 32.5
3,4,4'-TriCB	37			**M/M+2**	1.02	0.88-1.20	22.6	17.5 - 32.5
2,2',6,6'-TeCB	54			**M/M+2**	0.79	0.65-0.89	52.9	35.0 - 65.0
3,3',4,4'-TeCB	77			**M/M+2**	0.79	0.65-0.89	45.5	35.0 - 65.0
3,4,4',5-TeCB	81			**M/M+2**	0.76	0.65-0.89	50.4	35.0 - 65.0
2,2',4,6,6'-PeCB	104			**M+2/M+4**	1.57	1.32-1.78	56.6	35.0 - 65.0
2,3,3',4,4'-PeCB	105			**M+2/M+4**	1.53	1.32-1.78	49.2	35.0 - 65.0
2,3,4,4',5-PeCB	114			**M+2/M+4**	1.55	1.32-1.78	49.1	35.0 - 65.0
2,3',4,4',5-PeCB	118			**M+2/M+4**	1.54	1.32-1.78	47.4	35.0 - 65.0
2',3,4,4',5-PeCB	123			**M+2/M+4**	1.54	1.32-1.78	47.3	35.0 - 65.0
3,3',4,4',5-PeCB	126			**M+2/M+4**	1.55	1.32-1.78	48.9	39.0 - 72.4
2,2',4,4',6,6'-HxCB	155			**M+2/M+4**	1.29	1.05-1.43	55.9	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	106	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**	1.23	1.05-1.43	56.8	35.0 - 65.0
3,3',4,4',5,5'-HxCB	169			**M+2/M+4**	1.28	1.05-1.43	56.0	35.0 - 65.0
2,2',3,4',5,6,6'-HpCB	188			**M+2/M+4**	1.06	0.89-1.21	53.2	35.0 - 65.0
2,3,3',4,4',5,5'-HpCB	189			**M+2/M+4**	1.01	0.89-1.21	43.8	35.0 - 65.0
2,2',3,3',5,5',6,6'-OcCB	202			**M+2/M+4**	0.90	0.76-1.02	90.3	58.9 - 110
2,3,3',4,4',5,5',6-OcCB	205			**M+2/M+4**	0.90	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**	0.79	0.65-0.89	77.4	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	87.2	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	78.6	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: _____Robert Tones_____

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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_358 S: 1
Instrument ID:	HR GC/MS	**Analysis Date:**	18-Oct-2018
GC Column ID:	SPB OCTYL	**Analysis Time:**	22:28:22

LABELED COMPOUND	IUPAC NO. [1]	CO-ELUTIONS	LAB FLAG [2]	MZ's FORMING RATIO [3]	ION ABUND. RATIO	QC LIMITS [4]	CONC. FOUND (ng/mL)	CONC. RANGE (ng/mL)
13C12-2-MoCB	1L			**M/M+2**	3.15	2.66-3.60	91.2	50.0 - 150
13C12-4-MoCB	3L			**M/M+2**	3.11	2.66-3.60	89.1	50.0 - 150
13C12-2,2'-DiCB	4L			**M/M+2**	1.56	1.33-1.79	91.7	50.0 - 150
13C12-4,4'-DiCB	15L			**M/M+2**	1.54	1.33-1.79	85.8	50.0 - 150
13C12-2,2',6-TriCB	19L			**M/M+2**	1.09	0.88-1.20	93.2	50.0 - 150
13C12-3,4,4'-TriCB	37L			**M/M+2**	1.02	0.88-1.20	82.9	50.0 - 150
13C12-2,2',6,6'-TeCB	54L			**M/M+2**	0.81	0.65-0.89	95.0	50.0 - 150
13C12-3,3',4,4'-TeCB	77L			**M/M+2**	0.77	0.65-0.89	93.1	50.0 - 150
13C12-3,4,4',5-TeCB	81L			**M/M+2**	0.75	0.65-0.89	93.3	50.0 - 150
13C12-2,2',4,6,6'-PeCB	104L			**M+2/M+4**	1.61	1.32-1.78	69.4	50.0 - 150
13C12-2,3,3',4,4'-PeCB	105L			**M+2/M+4**	1.59	1.32-1.78	90.3	50.0 - 150
13C12-2,3,4,4',5-PeCB	114L			**M+2/M+4**	1.56	1.32-1.78	89.5	50.0 - 150
13C12-2,3',4,4',5-PeCB	118L			**M+2/M+4**	1.56	1.32-1.78	92.4	50.0 - 150
13C12-2',3,4,4',5-PeCB	123L			**M+2/M+4**	1.55	1.32-1.78	92.2	50.0 - 150
13C12-3,3',4,4',5-PeCB	126L			**M+2/M+4**	1.55	1.32-1.78	84.5	50.0 - 150
13C12-2,2',4,4',6,6'-HxCB	155L			**M+2/M+4**	1.25	1.05-1.43	68.0	50.0 - 150
13C12-2,3,3',4,4',5-HxCB	156L	156L + 157L	C	**M+2/M+4**	1.30	1.05-1.43	167	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	88.8	50.0 - 150
13C12-3,3',4,4',5,5'-HxCB	169L			**M+2/M+4**	1.27	1.05-1.43	80.9	50.0 - 150
13C12-2,2',3,4',5,6,6'-HpCB	188L			**M+2/M+4**	1.04	0.89-1.21	82.7	50.0 - 150
13C12-2,3,3',4,4',5,5'-HpCB	189L			**M+2/M+4**	1.04	0.89-1.21	88.4	50.0 - 150
13C12-2,2',3,3',5,5',6,6'-OcCB	202L			**M+2/M+4**	0.92	0.76-1.02	63.1	50.0 - 150
13C12-2,3,3',4,4',5,5',6-OcCB	205L			**M+2/M+4**	0.90	0.76-1.02	91.8	50.0 - 150
13C12-2,2',3,3',4,4',5,5',6-NoCB	206L			**M+2/M+4**	0.81	0.65-0.89	83.9	50.0 - 150
13C12-2,2',3,3',4,5,5',6,6'-NoCB	208L			**M+2/M+4**	0.78	0.65-0.89	85.4	50.0 - 150
13C12-2,2',3,3',4,4',5,5',6,6'-DeCB	209L			**M+4/M+6**	1.24	0.99-1.33	65.6	50.0 - 150
CLEAN-UP STANDARD								
13C12-2,4,4'-TriCB	28L			**M/M+2**	1.03	0.88-1.20	96.9	60.0 - 130
13C12-2,3,3',5,5'-PeCB	111L			**M+2/M+4**	1.60	1.32-1.78	86.0	60.0 - 130
13C12-2,2',3,3',5,5',6-HpCB	178L			**M+2/M+4**	1.04	0.89-1.21	79.7	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: _____Robert Tones_____

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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

Initial Calibration Date:	07-Jul-2018	**VER Data Filename:**	PB8C_358 S: 1
Instrument ID:	HR GC/MS	**Analysis Date:**	18-Oct-2018
GC Column ID:	SPB OCTYL	**Analysis Time:**	22:28:22

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	RETENTION TIME REFERENCE	IUPAC NO. [2]	RRT	RRT QC LIMITS
2-MoCB	1			13C12-2-MoCB	1L	1.001	0.999-1.004
4-MoCB	3			13C12-4-MoCB	3L	1.002	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	1.000	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	1.001	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	1.000	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	1.000	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	1.001	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	1.000	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: _____Robert Tones_____

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Report Filename: 1668_PCB1668_PB8C_358S1__Form6A_SJ2452890.html; Workgroup: WG65252; 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_358 S: 1
Instrument ID:	HR GC/MS	**Analysis Date:**	18-Oct-2018
GC Column ID:	SPB OCTYL	**Analysis Time:**	22:28:22

LABELED COMPOUND	IUPAC NO. [1]	CO-ELUTIONS	LAB FLAG [2]	RETENTION TIME REFERENCE	IUPAC NO. [1]	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	0.858	0.827-0.889
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	1.254	1.223-1.286
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	0.798-0.824
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	1.151-1.172
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	1.302	1.291-1.312
13C12-2,2',4,4',6,6'-HxCB	155L			13C12-2,2',3,4,4',5'-HxCB	138L	0.785	0.777-0.793
13C12-2,3,3',4,4',5-HxCB	156L	156L + 157L	C	13C12-2,2',3,4,4',5'-HxCB	138L	1.108	1.099-1.116
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	1.069-1.086
13C12-3,3',4,4',5,5'-HxCB	169L			13C12-2,2',3,4,4',5'-HxCB	138L	1.192	1.183-1.200
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	0.818	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	0.943-0.955
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	0.924	0.911-0.937
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	1.003-1.019

(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: _____Robert Tones_____

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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_358 S: 1

Instrument ID: HR GC/MS **Analysis Date:** 18-Oct-2018

GC Column ID: SPB OCTYL **Analysis Time:** 22:28:22

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	RRF	MZ's FORMING RATIO [2]	ION ABUND. RATIO	RATIO QC LIMITS [3]	RRT	RRT QC LIMITS
3-MoCB	2			0.97	**M/M+2**	3.08	2.66-3.60	0.989	0.985 - 0.993
2,3-DiCB	5			0.98	**M/M+2**	1.50	1.33-1.79	1.198	1.195 - 1.202
2,3'-DiCB	6			1.13	**M/M+2**	1.50	1.33-1.79	1.175	1.172 - 1.179
2,4-DiCB	7			1.12	**M/M+2**	1.53	1.33-1.79	1.158	1.154 - 1.161
2,4'-DiCB	8			1.29	**M/M+2**	1.48	1.33-1.79	1.206	1.203 - 1.210
2,5-DiCB	9			1.16	**M/M+2**	1.52	1.33-1.79	1.146	1.142 - 1.149
2,6-DiCB	10			1.14	**M/M+2**	1.50	1.33-1.79	1.013	1.010 - 1.017
3,3'-DiCB	11			1.05	**M/M+2**	1.50	1.33-1.79	0.968	0.966 - 0.971
3,4-DiCB	12	12 + 13	C	1.07	**M/M+2**	1.51	1.33-1.79	0.985	0.983 - 0.988
3,4'-DiCB	13	12 + 13	C12						
3,5-DiCB	14			1.10	**M/M+2**	1.51	1.33-1.79	0.924	0.922 - 0.927
2,2',3-TriCB	16			0.87	**M/M+2**	1.08	0.88-1.20	1.165	1.162 - 1.168
2,2',4-TriCB	17			1.03	**M/M+2**	1.12	0.88-1.20	1.137	1.134 - 1.140
2,2',5-TriCB	18	18 + 30	C	1.21	**M/M+2**	1.07	0.88-1.20	1.112	1.109 - 1.115
2,3,3'-TriCB	20	20 + 28	C	1.22	**M/M+2**	1.02	0.88-1.20	0.848	0.845 - 0.851
2,3,4-TriCB	21	21 + 33	C	1.29	**M/M+2**	1.00	0.88-1.20	0.855	0.852 - 0.859
2,3,4'-TriCB	22			1.09	**M/M+2**	1.01	0.88-1.20	0.872	0.870 - 0.874
2,3,5-TriCB	23			1.18	**M/M+2**	1.00	0.88-1.20	1.282	1.279 - 1.285
2,3,6-TriCB	24			1.42	**M/M+2**	1.10	0.88-1.20	1.159	1.156 - 1.161
2,3',4-TriCB	25			1.45	**M/M+2**	1.00	0.88-1.20	0.824	0.823 - 0.826
2,3',5-TriCB	26	26 + 29	C	1.22	**M/M+2**	1.00	0.88-1.20	1.302	1.297 - 1.306
2,3',6-TriCB	27			1.41	**M/M+2**	1.08	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			1.30	**M/M+2**	1.00	0.88-1.20	0.836	0.834 - 0.838
2,4',6-TriCB	32			1.26	**M/M+2**	1.01	0.88-1.20	1.197	1.195 - 1.200
2',3,4-TriCB	33	21 + 33	C21						
2',3,5-TriCB	34			1.17	**M/M+2**	1.02	0.88-1.20	1.272	1.269 - 1.275
3,3',4-TriCB	35			1.14	**M/M+2**	1.01	0.88-1.20	0.985	0.984 - 0.987
3,3',5-TriCB	36			1.26	**M/M+2**	1.02	0.88-1.20	0.932	0.930 - 0.934
3,4,5-TriCB	38			1.18	**M/M+2**	1.02	0.88-1.20	0.967	0.965 - 0.969
3,4',5-TriCB	39			1.22	**M/M+2**	1.02	0.88-1.20	0.945	0.943 - 0.947
2,2',3,3'-TeCB	40	40 + 41 + 71	C	0.86	**M/M+2**	0.79	0.65-0.89	1.334	1.330 - 1.338
2,2',3,4-TeCB	41	40 + 41 + 71	C40						
2,2',3,4'-TeCB	42			0.87	**M/M+2**	0.79	0.65-0.89	1.311	1.309 - 1.314
2,2',3,5-TeCB	43			0.82	**M/M+2**	0.79	0.65-0.89	1.245	1.243 - 1.248
2,2',3,5'-TeCB	44	44 + 47 + 65	C	0.95	**M/M+2**	0.79	0.65-0.89	1.286	1.282 - 1.290
2,2',3,6-TeCB	45	45 + 51	C	0.92	**M/M+2**	0.79	0.65-0.89	1.146	1.142 - 1.150
2,2',3,6'-TeCB	46			0.81	**M/M+2**	0.78	0.65-0.89	1.161	1.158 - 1.163
2,2',4,4'-TeCB	47	44 + 47 + 65	C44						
2,2',4,5-TeCB	48			0.88	**M/M+2**	0.80	0.65-0.89	1.273	1.270 - 1.275
2,2',4,5'-TeCB	49	49 + 69	C	1.04	**M/M+2**	0.80	0.65-0.89	1.257	1.253 - 1.261
2,2',4,6-TeCB	50	50 + 53	C	0.95	**M/M+2**	0.79	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			0.94	**M/M+2**	0.79	0.65-0.89	1.234	1.232 - 1.236
2,2',5,6'-TeCB	53	50 + 53	C50						
2,3,3',4-TeCB	55			0.95	**M/M+2**	0.77	0.65-0.89	0.889	0.887 - 0.890
2,3,3',4'-TeCB	56			0.94	**M/M+2**	0.78	0.65-0.89	0.904	0.903 - 0.906

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	RRF	MZ's FORMING RATIO [2]	ION ABUND. RATIO	RATIO QC LIMITS [3]	RRT	RRT QC LIMITS
2,3,3',5-TeCB	57			1.03	**M/M+2**	0.77	0.65-0.89	0.843	0.842 - 0.845
2,3,3',5'-TeCB	58			0.99	**M/M+2**	0.78	0.65-0.89	0.851	0.849 - 0.852
2,3,3',6-TeCB	59	59 + 62 + 75	C	1.16	**M/M+2**	0.79	0.65-0.89	1.301	1.297 - 1.305
2,3,4,4'-TeCB	60			0.94	**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	1.04	**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			1.02	**M/M+2**	0.75	0.65-0.89	0.864	0.862 - 0.865
2,3,4',6-TeCB	64			1.19	**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**	0.77	0.65-0.89	0.884	0.882 - 0.885
2,3',4,5-TeCB	67			1.18	**M/M+2**	0.77	0.65-0.89	0.856	0.855 - 0.857
2,3',4,5'-TeCB	68			1.07	**M/M+2**	0.76	0.65-0.89	0.831	0.830 - 0.833
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			1.06	**M/M+2**	0.77	0.65-0.89	0.822	0.821 - 0.823
2,3',5',6-TeCB	73			1.11	**M/M+2**	0.79	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			0.94	**M/M+2**	0.78	0.65-0.89	0.987	0.985 - 0.988
3,3',4,5'-TeCB	79			1.17	**M/M+2**	0.78	0.65-0.89	0.970	0.968 - 0.971
3,3',5,5'-TeCB	80			1.04	**M/M+2**	0.77	0.65-0.89	0.923	0.922 - 0.925
2,2',3,3',4-PeCB	82			0.77	**M+2/M+4**	1.56	1.32-1.78	0.934	0.932 - 0.935
2,2',3,3',5-PeCB	83	83 + 99	C	0.84	**M+2/M+4**	1.57	1.32-1.78	0.884	0.881 - 0.887
2,2',3,3',6-PeCB	84			0.78	**M+2/M+4**	1.59	1.32-1.78	1.164	1.162 - 1.165
2,2',3,4,4'-PeCB	85	85 + 116 + 117	C	1.00	**M+2/M+4**	1.60	1.32-1.78	0.919	0.916 - 0.922
2,2',3,4,5-PeCB	86	86 + 87 + 97 + 108 + 119 + 125	C	0.98	**M+2/M+4**	1.59	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	0.89	**M+2/M+4**	1.60	1.32-1.78	1.152	1.148 - 1.156
2,2',3,4,6'-PeCB	89			0.82	**M+2/M+4**	1.57	1.32-1.78	1.183	1.181 - 1.185
2,2',3,4',5-PeCB	90	90 + 101 + 113	C	0.98	**M+2/M+4**	1.59	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**	1.57	1.32-1.78	0.853	0.851 - 0.854
2,2',3,5,6-PeCB	93	93 + 95 + 98 + 100 + 102	C	0.91	**M+2/M+4**	1.59	1.32-1.78	1.130	1.119 - 1.140
2,2',3,5,6'-PeCB	94			0.84	**M+2/M+4**	1.57	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			1.03	**M+2/M+4**	1.60	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			1.01	**M+2/M+4**	1.60	1.32-1.78	1.093	1.091 - 1.095
2,3,3',4,5-PeCB	106			1.13	**M+2/M+4**	1.54	1.32-1.78	1.004	1.003 - 1.005
2,3,3',4',5-PeCB	107	107 + 124	C	1.02	**M+2/M+4**	1.54	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			1.09	**M+2/M+4**	1.53	1.32-1.78	0.997	0.996 - 0.999
2,3,3',4',6-PeCB	110	110 + 115	C	1.12	**M+2/M+4**	1.60	1.32-1.78	0.926	0.923 - 0.928
2,3,3',5,5'-PeCB	111			1.09	**M+2/M+4**	1.57	1.32-1.78	0.945	0.944 - 0.946
2,3,3',5,6-PeCB	112			1.17	**M+2/M+4**	1.58	1.32-1.78	0.889	0.888 - 0.891
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			1.13	**M+2/M+4**	1.58	1.32-1.78	0.958	0.957 - 0.959
2,3',4,5',6-PeCB	121			1.14	**M+2/M+4**	1.61	1.32-1.78	1.199	1.198 - 1.201
2',3,3',4,5-PeCB	122			0.96	**M+2/M+4**	1.51	1.32-1.78	1.011	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 [1]	RRF	MZ's FORMING RATIO [2]	ION ABUND. RATIO	RATIO QC LIMITS [3]	RRT	RRT QC LIMITS
3,3',4,5,5'-PeCB	127			0.97	**M+2/M+4**	1.47	1.32-1.78	1.041	1.040 - 1.042
2,2',3,3',4,4'-HxCB	128	128 + 166	C	1.04	**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	1.07	**M+2/M+4**	1.25	1.05-1.43	0.930	0.927 - 0.932
2,2',3,3',4,5'-HxCB	130			0.85	**M+2/M+4**	1.22	1.05-1.43	0.913	0.912 - 0.914
2,2',3,3',4,6-HxCB	131			0.96	**M+2/M+4**	1.25	1.05-1.43	1.161	1.159 - 1.162
2,2',3,3',4,6'-HxCB	132			0.90	**M+2/M+4**	1.26	1.05-1.43	1.176	1.173 - 1.178
2,2',3,3',5,5'-HxCB	133			0.97	**M+2/M+4**	1.25	1.05-1.43	1.192	1.191 - 1.194
2,2',3,3',5,6-HxCB	134	134 + 143	C	0.95	**M+2/M+4**	1.24	1.05-1.43	1.143	1.140 - 1.145
2,2',3,3',5,6'-HxCB	135	135 + 151 + 154	C	0.83	**M+2/M+4**	1.28	1.05-1.43	1.108	1.102 - 1.113
2,2',3,3',6,6'-HxCB	136			1.12	**M+2/M+4**	1.27	1.05-1.43	1.025	1.024 - 1.027
2,2',3,4,4',5-HxCB	137			0.93	**M+2/M+4**	1.25	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	1.05	**M+2/M+4**	1.25	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			1.01	**M+2/M+4**	1.25	1.05-1.43	0.903	0.902 - 0.904
2,2',3,4,5,6-HxCB	142			0.93	**M+2/M+4**	1.27	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			0.79	**M+2/M+4**	1.28	1.05-1.43	1.122	1.121 - 1.124
2,2',3,4,6,6'-HxCB	145			1.05	**M+2/M+4**	1.31	1.05-1.43	1.035	1.033 - 1.037
2,2',3,4',5,5'-HxCB	146			1.15	**M+2/M+4**	1.26	1.05-1.43	0.883	0.882 - 0.885
2,2',3,4',5,6-HxCB	147	147 + 149	C	1.07	**M+2/M+4**	1.24	1.05-1.43	1.134	1.132 - 1.137
2,2',3,4',5,6'-HxCB	148			0.83	**M+2/M+4**	1.25	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			1.09	**M+2/M+4**	1.28	1.05-1.43	1.013	1.012 - 1.015
2,2',3,5,5',6-HxCB	151	135 + 151 + 154	C135						
2,2',3,5,6,6'-HxCB	152			1.15	**M+2/M+4**	1.32	1.05-1.43	1.007	1.006 - 1.009
2,2',4,4',5,5'-HxCB	153	153 + 168	C	1.25	**M+2/M+4**	1.24	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			1.34	**M+2/M+4**	1.26	1.05-1.43	0.938	0.937 - 0.939
2,3,3',4,5,5'-HxCB	159			1.20	**M+2/M+4**	1.24	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			1.29	**M+2/M+4**	1.26	1.05-1.43	0.887	0.886 - 0.888
2,3,3',4',5,5'-HxCB	162			1.34	**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			1.23	**M+2/M+4**	1.26	1.05-1.43	0.921	0.920 - 0.922
2,3,3',5,5',6-HxCB	165			1.15	**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			1.19	**M+2/M+4**	1.05	0.89-1.21	1.000	0.999 - 1.001
2,2',3,3',4,4',6-HpCB	171	171 + 173	C	0.74	**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			0.69	**M+2/M+4**	1.04	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			0.79	**M+2/M+4**	1.05	0.89-1.21	1.134	1.133 - 1.135
2,2',3,3',4,5',6-HpCB	175			0.79	**M+2/M+4**	1.07	0.89-1.21	1.103	1.101 - 1.104
2,2',3,3',4,6,6'-HpCB	176			1.07	**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			1.07	**M+2/M+4**	1.05	0.89-1.21	1.146	1.144 - 1.147
2,2',3,3',5,5',6-HpCB	178			0.77	**M+2/M+4**	1.10	0.89-1.21	1.085	1.084 - 1.086
2,2',3,3',5,6,6'-HpCB	179			1.11	**M+2/M+4**	1.04	0.89-1.21	1.010	1.009 - 1.011
2,2',3,4,4',5,5'-HpCB	180	180 + 193	C	1.07	**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			0.77	**M+2/M+4**	1.03	0.89-1.21	1.157	1.155 - 1.158
2,2',3,4,4',5,6'-HpCB	182			0.81	**M+2/M+4**	1.06	0.89-1.21	1.115	1.114 - 1.117
2,2',3,4,4',5',6-HpCB	183	183 + 185	C	0.77	**M+2/M+4**	1.06	0.89-1.21	1.129	1.127 - 1.130
2,2',3,4,4',6,6'-HpCB	184			1.13	**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			1.00	**M+2/M+4**	1.04	0.89-1.21	1.047	1.045 - 1.048
2,2',3,4',5,5',6-HpCB	187			0.83	**M+2/M+4**	1.04	0.89-1.21	1.110	1.109 - 1.111
2,3,3',4,4',5,6-HpCB	190			0.86	**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			0.88	**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			0.82	**M+2/M+4**	1.04	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			0.94	**M+2/M+4**	0.90	0.76-1.02	0.991	0.990 - 0.992
2,2',3,3',4,4',5,6-OcCB	195			0.86	**M+2/M+4**	0.87	0.76-1.02	0.946	0.945 - 0.947
2,2',3,3',4,4',5,6'-OcCB	196			0.64	**M+2/M+4**	0.90	0.76-1.02	0.916	0.915 - 0.916

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	RRF	MZ's FORMING RATIO [2]	ION ABUND. RATIO	RATIO QC LIMITS [3]	RRT	RRT QC LIMITS
2,2',3,3',4,4',6,6'-OcCB	197	197 + 200	C	0.92	**M+2/M+4**	0.90	0.76-1.02	1.046	1.043 - 1.048
2,2',3,3',4,5,5',6-OcCB	198	198 + 199	C	0.63	**M+2/M+4**	0.93	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			0.93	**M+2/M+4**	0.92	0.76-1.02	1.023	1.021 - 1.025
2,2',3,4,4',5,5',6-OcCB	203			0.67	**M+2/M+4**	0.89	0.76-1.02	0.920	0.919 - 0.920
2,2',3,4,4',5,6,6'-OcCB	204			0.90	**M+2/M+4**	0.94	0.76-1.02	1.039	1.038 - 1.040
2,2',3,3',4,4',5,6,6'-NoCB	207			1.23	**M+2/M+4**	0.77	0.65-0.89	1.019	1.019 - 1.020

(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: _____Ting Chen_____

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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_358 S: 1
Instrument ID:	HR GC/MS	**Analysis Date:**	18-Oct-2018
GC Column ID:	SPB OCTYL	**Analysis Time:**	22:28:22

LABELED COMPOUND	IUPAC NO. [1]	CO-ELUTIONS	LAB FLAG [2]	RRF	MZ's FORMING RATIO [3]	ION ABUND. RATIO	RATIO QC LIMITS [4]	RRT	RRT QC LIMITS
13C12-2-MoCB	1L			1.03	**M/M+2**	3.15	2.66-3.60	0.719	0.704 - 0.735
13C12-4-MoCB	3L			0.96	**M/M+2**	3.11	2.66-3.60	0.858	0.843 - 0.874
13C12-2,2'-DiCB	4L			0.63	**M/M+2**	1.56	1.33-1.79	0.874	0.858 - 0.889
13C12-4,4'-DiCB	15L			0.91	**M/M+2**	1.54	1.33-1.79	1.254	1.239 - 1.270
13C12-2,2',6-TriCB	19L			0.52	**M/M+2**	1.09	0.88-1.20	1.072	1.056 - 1.088
13C12-3,4,4'-TriCB	37L			1.40	**M/M+2**	1.02	0.88-1.20	1.092	1.082 - 1.102
13C12-2,2',6,6'-TeCB	54L			1.41	**M/M+2**	0.81	0.65-0.89	0.811	0.804 - 0.818
13C12-3,3',4,4'-TeCB	77L			1.22	**M/M+2**	0.77	0.65-0.89	1.397	1.390 - 1.403
13C12-3,4,4',5-TeCB	81L			1.21	**M/M+2**	0.75	0.65-0.89	1.373	1.366 - 1.379
13C12-2,2',4,6,6'-PeCB	104L			1.02	**M+2/M+4**	1.61	1.32-1.78	0.808	0.803 - 0.813
13C12-2,3,3',4,4'-PeCB	105L			1.27	**M+2/M+4**	1.59	1.32-1.78	1.201	1.195 - 1.206
13C12-2,3,4,4',5-PeCB	114L			1.21	**M+2/M+4**	1.56	1.32-1.78	1.179	1.174 - 1.185
13C12-2,3',4,4',5-PeCB	118L			1.26	**M+2/M+4**	1.56	1.32-1.78	1.162	1.157 - 1.167
13C12-2',3,4,4',5-PeCB	123L			1.28	**M+2/M+4**	1.55	1.32-1.78	1.151	1.146 - 1.157
13C12-3,3',4,4',5-PeCB	126L			1.06	**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			1.13	**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	1.12	**M+2/M+4**	1.30	1.05-1.43	1.108	1.103 - 1.112
13C12-2,3,3',4,4',5'-HxCB	157L	156L + 157L	C156L						
13C12-2,3',4,4',5,5'-HxCB	167L			1.14	**M+2/M+4**	1.26	1.05-1.43	1.078	1.073 - 1.082
13C12-3,3',4,4',5,5'-HxCB	169L			1.08	**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			0.83	**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			0.98	**M+2/M+4**	1.01	0.89-1.21	0.872	0.869 - 0.876
13C12-2,2',3,4',5,6,6'-HpCB	188L			1.56	**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			1.34	**M+2/M+4**	1.04	0.89-1.21	0.959	0.956 - 0.962
13C12-2,2',3,3',5,5',6,6'-OcCB	202L			1.13	**M+2/M+4**	0.92	0.76-1.02	0.818	0.814 - 0.821
13C12-2,3,3',4,4',5,5',6-OcCB	205L			1.38	**M+2/M+4**	0.90	0.76-1.02	1.009	1.005 - 1.014
13C12-2,2',3,3',4,4',5,5',6-NoCB	206L			0.92	**M+2/M+4**	0.81	0.65-0.89	1.043	1.039 - 1.048
13C12-2,2',3,3',4,5,5',6,6'-NoCB	208L			1.15	**M+2/M+4**	0.78	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: _____Ting Chen_____

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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_358 S: 11
Instrument ID:	HR GC/MS	**Analysis Date:**	19-Oct-2018
GC Column ID:	SPB OCTYL	**Analysis Time:**	09:06:30

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	MZ's FORMING RATIO [2]	ION ABUND. RATIO	QC LIMITS [3]	CONC. FOUND (ng/mL)	CONC. RANGE (ng/mL)
2-MoCB	1			**M/M+2**	3.02	2.66-3.60	22.6	17.5 - 32.5
4-MoCB	3			**M/M+2**	3.02	2.66-3.60	24.0	17.5 - 32.5
2,2'-DiCB	4			**M/M+2**	1.54	1.33-1.79	22.0	17.5 - 32.5
4,4'-DiCB	15			**M/M+2**	1.51	1.33-1.79	26.8	19.6 - 36.4
2,2',6-TriCB	19			**M/M+2**	1.06	0.88-1.20	27.6	17.5 - 32.5
3,4,4'-TriCB	37			**M/M+2**	1.01	0.88-1.20	22.2	17.5 - 32.5
2,2',6,6'-TeCB	54			**M/M+2**	0.78	0.65-0.89	52.9	35.0 - 65.0
3,3',4,4'-TeCB	77			**M/M+2**	0.75	0.65-0.89	44.5	35.0 - 65.0
3,4,4',5-TeCB	81			**M/M+2**	0.77	0.65-0.89	48.1	35.0 - 65.0
2,2',4,6,6'-PeCB	104			**M+2/M+4**	1.59	1.32-1.78	55.6	35.0 - 65.0
2,3,3',4,4'-PeCB	105			**M+2/M+4**	1.54	1.32-1.78	48.6	35.0 - 65.0
2,3,4,4',5-PeCB	114			**M+2/M+4**	1.55	1.32-1.78	48.7	35.0 - 65.0
2,3',4,4',5-PeCB	118			**M+2/M+4**	1.50	1.32-1.78	45.7	35.0 - 65.0
2',3,4,4',5-PeCB	123			**M+2/M+4**	1.53	1.32-1.78	52.1	35.0 - 65.0
3,3',4,4',5-PeCB	126			**M+2/M+4**	1.52	1.32-1.78	49.0	39.0 - 72.4
2,2',4,4',6,6'-HxCB	155			**M+2/M+4**	1.30	1.05-1.43	55.9	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	105	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	56.7	35.0 - 65.0
3,3',4,4',5,5'-HxCB	169			**M+2/M+4**	1.23	1.05-1.43	53.5	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**	1.02	0.89-1.21	42.9	35.0 - 65.0
2,2',3,3',5,5',6,6'-OcCB	202			**M+2/M+4**	0.90	0.76-1.02	89.4	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	77.8	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	89.1	58.7 - 109
2,2',3,3',4,4',5,5',6,6'-DeCB	209			**M+4/M+6**	1.22	0.99-1.33	75.5	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: _____Robert Tones_____

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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_358 S: 11
Instrument ID:	HR GC/MS	**Analysis Date:**	19-Oct-2018
GC Column ID:	SPB OCTYL	**Analysis Time:**	09:06:30

LABELED COMPOUND	IUPAC NO. [1]	CO-ELUTIONS	LAB FLAG [2]	MZ's FORMING RATIO [3]	ION ABUND. RATIO	QC LIMITS [4]	CONC. FOUND (ng/mL)	CONC. RANGE (ng/mL)
13C12-2-MoCB	1L			**M/M+2**	3.15	2.66-3.60	91.9	50.0 - 150
13C12-4-MoCB	3L			**M/M+2**	3.13	2.66-3.60	92.6	50.0 - 150
13C12-2,2'-DiCB	4L			**M/M+2**	1.54	1.33-1.79	92.7	50.0 - 150
13C12-4,4'-DiCB	15L			**M/M+2**	1.57	1.33-1.79	90.9	50.0 - 150
13C12-2,2',6-TriCB	19L			**M/M+2**	1.06	0.88-1.20	91.5	50.0 - 150
13C12-3,4,4'-TriCB	37L			**M/M+2**	1.04	0.88-1.20	87.7	50.0 - 150
13C12-2,2',6,6'-TeCB	54L			**M/M+2**	0.82	0.65-0.89	89.3	50.0 - 150
13C12-3,3',4,4'-TeCB	77L			**M/M+2**	0.78	0.65-0.89	97.3	50.0 - 150
13C12-3,4,4',5-TeCB	81L			**M/M+2**	0.77	0.65-0.89	97.0	50.0 - 150
13C12-2,2',4,6,6'-PeCB	104L			**M+2/M+4**	1.58	1.32-1.78	70.0	50.0 - 150
13C12-2,3,3',4,4'-PeCB	105L			**M+2/M+4**	1.57	1.32-1.78	99.2	50.0 - 150
13C12-2,3,4,4',5-PeCB	114L			**M+2/M+4**	1.60	1.32-1.78	96.2	50.0 - 150
13C12-2,3',4,4',5-PeCB	118L			**M+2/M+4**	1.60	1.32-1.78	100	50.0 - 150
13C12-2',3,4,4',5-PeCB	123L			**M+2/M+4**	1.60	1.32-1.78	103	50.0 - 150
13C12-3,3',4,4',5-PeCB	126L			**M+2/M+4**	1.54	1.32-1.78	98.2	50.0 - 150
13C12-2,2',4,4',6,6'-HxCB	155L			**M+2/M+4**	1.26	1.05-1.43	63.0	50.0 - 150
13C12-2,3,3',4,4',5-HxCB	156L	156L + 157L	C	**M+2/M+4**	1.28	1.05-1.43	196	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	98.1	50.0 - 150
13C12-3,3',4,4',5,5'-HxCB	169L			**M+2/M+4**	1.25	1.05-1.43	92.5	50.0 - 150
13C12-2,2',3,4',5,6,6'-HpCB	188L			**M+2/M+4**	1.08	0.89-1.21	67.7	50.0 - 150
13C12-2,3,3',4,4',5,5'-HpCB	189L			**M+2/M+4**	1.02	0.89-1.21	102	50.0 - 150
13C12-2,2',3,3',5,5',6,6'-OcCB	202L			**M+2/M+4**	0.91	0.76-1.02	54.1	50.0 - 150
13C12-2,3,3',4,4',5,5',6-OcCB	205L			**M+2/M+4**	0.90	0.76-1.02	92.3	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	84.6	50.0 - 150
13C12-2,2',3,3',4,5,5',6,6'-NoCB	208L			**M+2/M+4**	0.78	0.65-0.89	73.5	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	68.5	50.0 - 150
CLEAN-UP STANDARD								
13C12-2,4,4'-TriCB	28L			**M/M+2**	1.03	0.88-1.20	97.0	60.0 - 130
13C12-2,3,3',5,5'-PeCB	111L			**M+2/M+4**	1.63	1.32-1.78	86.8	60.0 - 130
13C12-2,2',3,3',5,5',6-HpCB	178L			**M+2/M+4**	1.05	0.89-1.21	77.3	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: _____Robert Tones_____

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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

Initial Calibration Date:	07-Jul-2018	**VER Data Filename:**	PB8C_358 S: 11
Instrument ID:	HR GC/MS	**Analysis Date:**	19-Oct-2018
GC Column ID:	SPB OCTYL	**Analysis Time:**	09:06:30

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	RETENTION TIME REFERENCE	IUPAC NO. [2]	RRT	RRT QC LIMITS
2-MoCB	1			13C12-2-MoCB	1L	1.003	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	1.000	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	1.001	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	1.000	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	1.001	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	1.000	1.000-1.001
3,3',4,4',5,5'-HxCB	169			13C12-3,3',4,4',5,5'-HxCB	169L	1.001	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	1.000	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	1.001	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.

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Report Filename: 1668_PCB1668_PB8C_358S11__Form6A_SJ2452906.html; Workgroup: WG65252; 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_358 S: 11
Instrument ID:	HR GC/MS	**Analysis Date:**	19-Oct-2018
GC Column ID:	SPB OCTYL	**Analysis Time:**	09:06:30

LABELED COMPOUND	IUPAC NO. [1]	CO-ELUTIONS	LAB FLAG [2]	RETENTION TIME REFERENCE	IUPAC NO. [1]	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	1.255	1.223-1.286
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	1.201	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	1.151-1.172
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	1.302	1.291-1.312
13C12-2,2',4,4',6,6'-HxCB	155L			13C12-2,2',3,4,4',5'-HxCB	138L	0.785	0.777-0.793
13C12-2,3,3',4,4',5-HxCB	156L	156L + 157L	C	13C12-2,2',3,4,4',5'-HxCB	138L	1.108	1.099-1.116
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	0.943-0.955
13C12-2,2',3,3',4,4',5,5',6,6'-DeCB	209L			13C12-2,2',3,3',4,4',5,5'-OcCB	194L	1.074	1.065-1.084
CLEANUP STANDARD							
13C12-2,4,4'-TriCB	28L			13C12-2,2',5,5'-TeCB	52L	0.924	0.911-0.937
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: _____Robert Tones_____

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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_359A S: 1
Instrument ID:	HR GC/MS	**Analysis Date:**	19-Oct-2018
GC Column ID:	SPB OCTYL	**Analysis Time:**	13:39:26

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	MZ's FORMING RATIO [2]	ION ABUND. RATIO	QC LIMITS [3]	CONC. FOUND (ng/mL)	CONC. RANGE (ng/mL)
2-MoCB	1			**M/M+2**	3.14	2.66-3.60	23.0	17.5 - 32.5
4-MoCB	3			**M/M+2**	3.10	2.66-3.60	24.0	17.5 - 32.5
2,2'-DiCB	4			**M/M+2**	1.52	1.33-1.79	22.7	17.5 - 32.5
4,4'-DiCB	15			**M/M+2**	1.46	1.33-1.79	25.5	19.6 - 36.4
2,2',6-TriCB	19			**M/M+2**	1.07	0.88-1.20	28.5	17.5 - 32.5
3,4,4'-TriCB	37			**M/M+2**	1.01	0.88-1.20	23.3	17.5 - 32.5
2,2',6,6'-TeCB	54			**M/M+2**	0.80	0.65-0.89	54.2	35.0 - 65.0
3,3',4,4'-TeCB	77			**M/M+2**	0.77	0.65-0.89	47.3	35.0 - 65.0
3,4,4',5-TeCB	81			**M/M+2**	0.75	0.65-0.89	50.1	35.0 - 65.0
2,2',4,6,6'-PeCB	104			**M+2/M+4**	1.58	1.32-1.78	58.0	35.0 - 65.0
2,3,3',4,4'-PeCB	105			**M+2/M+4**	1.52	1.32-1.78	48.5	35.0 - 65.0
2,3,4,4',5-PeCB	114			**M+2/M+4**	1.58	1.32-1.78	48.2	35.0 - 65.0
2,3',4,4',5-PeCB	118			**M+2/M+4**	1.53	1.32-1.78	46.8	35.0 - 65.0
2',3,4,4',5-PeCB	123			**M+2/M+4**	1.54	1.32-1.78	53.9	35.0 - 65.0
3,3',4,4',5-PeCB	126			**M+2/M+4**	1.52	1.32-1.78	49.9	39.0 - 72.4
2,2',4,4',6,6'-HxCB	155			**M+2/M+4**	1.27	1.05-1.43	56.1	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	105	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	56.4	35.0 - 65.0
3,3',4,4',5,5'-HxCB	169			**M+2/M+4**	1.36	1.05-1.43	57.3	35.0 - 65.0
2,2',3,4',5,6,6'-HpCB	188			**M+2/M+4**	1.06	0.89-1.21	53.6	35.0 - 65.0
2,3,3',4,4',5,5'-HpCB	189			**M+2/M+4**	1.03	0.89-1.21	44.7	35.0 - 65.0
2,2',3,3',5,5',6,6'-OcCB	202			**M+2/M+4**	0.90	0.76-1.02	91.0	58.9 - 110
2,3,3',4,4',5,5',6-OcCB	205			**M+2/M+4**	0.89	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**	0.80	0.65-0.89	79.0	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	87.8	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	79.8	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: _____Robert Tones_____

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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_359A S: 1
Instrument ID:	HR GC/MS	**Analysis Date:**	19-Oct-2018
GC Column ID:	SPB OCTYL	**Analysis Time:**	13:39:26

LABELED COMPOUND	IUPAC NO. [1]	CO-ELUTIONS	LAB FLAG [2]	MZ's FORMING RATIO [3]	ION ABUND. RATIO	QC LIMITS [4]	CONC. FOUND (ng/mL)	CONC. RANGE (ng/mL)
13C12-2-MoCB	1L			**M/M+2**	3.17	2.66-3.60	96.3	50.0 - 150
13C12-4-MoCB	3L			**M/M+2**	3.16	2.66-3.60	90.2	50.0 - 150
13C12-2,2'-DiCB	4L			**M/M+2**	1.58	1.33-1.79	93.0	50.0 - 150
13C12-4,4'-DiCB	15L			**M/M+2**	1.58	1.33-1.79	86.9	50.0 - 150
13C12-2,2',6-TriCB	19L			**M/M+2**	1.07	0.88-1.20	81.2	50.0 - 150
13C12-3,4,4'-TriCB	37L			**M/M+2**	1.04	0.88-1.20	88.9	50.0 - 150
13C12-2,2',6,6'-TeCB	54L			**M/M+2**	0.81	0.65-0.89	91.6	50.0 - 150
13C12-3,3',4,4'-TeCB	77L			**M/M+2**	0.76	0.65-0.89	105	50.0 - 150
13C12-3,4,4',5-TeCB	81L			**M/M+2**	0.76	0.65-0.89	109	50.0 - 150
13C12-2,2',4,6,6'-PeCB	104L			**M+2/M+4**	1.66	1.32-1.78	66.2	50.0 - 150
13C12-2,3,3',4,4'-PeCB	105L			**M+2/M+4**	1.57	1.32-1.78	104	50.0 - 150
13C12-2,3,4,4',5-PeCB	114L			**M+2/M+4**	1.59	1.32-1.78	95.2	50.0 - 150
13C12-2,3',4,4',5-PeCB	118L			**M+2/M+4**	1.55	1.32-1.78	96.6	50.0 - 150
13C12-2',3,4,4',5-PeCB	123L			**M+2/M+4**	1.55	1.32-1.78	97.5	50.0 - 150
13C12-3,3',4,4',5-PeCB	126L			**M+2/M+4**	1.56	1.32-1.78	93.4	50.0 - 150
13C12-2,2',4,4',6,6'-HxCB	155L			**M+2/M+4**	1.26	1.05-1.43	61.8	50.0 - 150
13C12-2,3,3',4,4',5-HxCB	156L	156L + 157L	C	**M+2/M+4**	1.29	1.05-1.43	174	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	89.9	50.0 - 150
13C12-3,3',4,4',5,5'-HxCB	169L			**M+2/M+4**	1.25	1.05-1.43	85.2	50.0 - 150
13C12-2,2',3,4',5,6,6'-HpCB	188L			**M+2/M+4**	1.06	0.89-1.21	73.4	50.0 - 150
13C12-2,3,3',4,4',5,5'-HpCB	189L			**M+2/M+4**	1.03	0.89-1.21	85.2	50.0 - 150
13C12-2,2',3,3',5,5',6,6'-OcCB	202L			**M+2/M+4**	0.94	0.76-1.02	55.3	50.0 - 150
13C12-2,3,3',4,4',5,5',6-OcCB	205L			**M+2/M+4**	0.90	0.76-1.02	88.2	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	79.1	50.0 - 150
13C12-2,2',3,3',4,5,5',6,6'-NoCB	208L			**M+2/M+4**	0.78	0.65-0.89	88.1	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	64.3	50.0 - 150
CLEAN-UP STANDARD								
13C12-2,4,4'-TriCB	28L			**M/M+2**	1.04	0.88-1.20	104	60.0 - 130
13C12-2,3,3',5,5'-PeCB	111L			**M+2/M+4**	1.62	1.32-1.78	95.2	60.0 - 130
13C12-2,2',3,3',5,5',6-HpCB	178L			**M+2/M+4**	1.04	0.89-1.21	76.7	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.

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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

Initial Calibration Date:	07-Jul-2018	**VER Data Filename:**	PB8C_359A S: 1
Instrument ID:	HR GC/MS	**Analysis Date:**	19-Oct-2018
GC Column ID:	SPB OCTYL	**Analysis Time:**	13:39:26

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	RETENTION TIME REFERENCE	IUPAC NO. [2]	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	0.999-1.003
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	1.000	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	1.001	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	1.000	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	1.000	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	1.000	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	1.001	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.

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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_359A S: 1
Instrument ID:	HR GC/MS	**Analysis Date:**	19-Oct-2018
GC Column ID:	SPB OCTYL	**Analysis Time:**	13:39:26

LABELED COMPOUND	IUPAC NO. [1]	CO-ELUTIONS	LAB FLAG [2]	RETENTION TIME REFERENCE	IUPAC NO. [1]	RRT	RRT QC LIMITS
13C12-2-MoCB	1L			13C12-2,5-DiCB	9L	0.720	0.688-0.751
13C12-4-MoCB	3L			13C12-2,5-DiCB	9L	0.859	0.827-0.890
13C12-2,2'-DiCB	4L			13C12-2,5-DiCB	9L	0.873	0.842-0.905
13C12-4,4'-DiCB	15L			13C12-2,5-DiCB	9L	1.254	1.223-1.286
13C12-2,2',6-TriCB	19L			13C12-2,5-DiCB	9L	1.072	1.041-1.104
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	1.398	1.385-1.411
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	0.807	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	1.169-1.190
13C12-2,3',4,4',5-PeCB	118L			13C12-2,2',4,5,5'-PeCB	101L	1.161	1.151-1.172
13C12-2',3,4,4',5-PeCB	123L			13C12-2,2',4,5,5'-PeCB	101L	1.151	1.141-1.161
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	0.777-0.793
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	1.069-1.086
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	1.000-1.019
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: _____Robert Tones_____

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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_359A S: 1

Instrument ID: HR GC/MS **Analysis Date:** 19-Oct-2018

GC Column ID: SPB OCTYL **Analysis Time:** 13:39:26

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	RRF	MZ's FORMING RATIO [2]	ION ABUND. RATIO	RATIO QC LIMITS [3]	RRT	RRT QC LIMITS
3-MoCB	2			1.00	**M/M+2**	3.11	2.66-3.60	0.988	0.984 - 0.991
2,3-DiCB	5			1.03	**M/M+2**	1.54	1.33-1.79	1.199	1.195 - 1.202
2,3'-DiCB	6			1.15	**M/M+2**	1.53	1.33-1.79	1.176	1.172 - 1.180
2,4-DiCB	7			1.11	**M/M+2**	1.51	1.33-1.79	1.158	1.154 - 1.162
2,4'-DiCB	8			1.23	**M/M+2**	1.55	1.33-1.79	1.208	1.205 - 1.212
2,5-DiCB	9			1.19	**M/M+2**	1.52	1.33-1.79	1.146	1.143 - 1.150
2,6-DiCB	10			1.15	**M/M+2**	1.52	1.33-1.79	1.014	1.011 - 1.018
3,3'-DiCB	11			1.05	**M/M+2**	1.49	1.33-1.79	0.969	0.967 - 0.972
3,4-DiCB	12	12 + 13	C	1.03	**M/M+2**	1.49	1.33-1.79	0.984	0.982 - 0.987
3,4'-DiCB	13	12 + 13	C12						
3,5-DiCB	14			1.10	**M/M+2**	1.50	1.33-1.79	0.925	0.922 - 0.927
2,2',3-TriCB	16			0.84	**M/M+2**	1.03	0.88-1.20	1.166	1.163 - 1.169
2,2',4-TriCB	17			1.01	**M/M+2**	1.05	0.88-1.20	1.139	1.136 - 1.141
2,2',5-TriCB	18	18 + 30	C	1.19	**M/M+2**	1.07	0.88-1.20	1.112	1.109 - 1.115
2,3,3'-TriCB	20	20 + 28	C	1.33	**M/M+2**	1.05	0.88-1.20	0.848	0.845 - 0.851
2,3,4-TriCB	21	21 + 33	C	1.28	**M/M+2**	1.00	0.88-1.20	0.855	0.852 - 0.858
2,3,4'-TriCB	22			1.16	**M/M+2**	1.02	0.88-1.20	0.872	0.870 - 0.873
2,3,5-TriCB	23			1.19	**M/M+2**	1.01	0.88-1.20	1.283	1.280 - 1.286
2,3,6-TriCB	24			1.28	**M/M+2**	1.08	0.88-1.20	1.159	1.156 - 1.162
2,3',4-TriCB	25			1.47	**M/M+2**	1.01	0.88-1.20	0.825	0.823 - 0.826
2,3',5-TriCB	26	26 + 29	C	1.28	**M/M+2**	1.00	0.88-1.20	1.302	1.298 - 1.307
2,3',6-TriCB	27			1.43	**M/M+2**	1.08	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			1.41	**M/M+2**	1.01	0.88-1.20	0.836	0.834 - 0.838
2,4',6-TriCB	32			1.35	**M/M+2**	1.01	0.88-1.20	1.197	1.194 - 1.200
2',3,4-TriCB	33	21 + 33	C21						
2',3,5-TriCB	34			1.27	**M/M+2**	1.01	0.88-1.20	1.273	1.270 - 1.276
3,3',4-TriCB	35			1.20	**M/M+2**	1.03	0.88-1.20	0.985	0.983 - 0.987
3,3',5-TriCB	36			1.33	**M/M+2**	1.01	0.88-1.20	0.932	0.930 - 0.933
3,4,5-TriCB	38			1.22	**M/M+2**	1.00	0.88-1.20	0.966	0.965 - 0.968
3,4',5-TriCB	39			1.24	**M/M+2**	1.02	0.88-1.20	0.945	0.943 - 0.947
2,2',3,3'-TeCB	40	40 + 41 + 71	C	0.80	**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			0.75	**M/M+2**	0.79	0.65-0.89	1.311	1.309 - 1.314
2,2',3,5-TeCB	43			0.72	**M/M+2**	0.80	0.65-0.89	1.246	1.244 - 1.249
2,2',3,5'-TeCB	44	44 + 47 + 65	C	0.89	**M/M+2**	0.79	0.65-0.89	1.286	1.281 - 1.290
2,2',3,6-TeCB	45	45 + 51	C	0.84	**M/M+2**	0.77	0.65-0.89	1.147	1.142 - 1.151
2,2',3,6'-TeCB	46			0.73	**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			0.80	**M/M+2**	0.77	0.65-0.89	1.272	1.270 - 1.275
2,2',4,5'-TeCB	49	49 + 69	C	0.96	**M/M+2**	0.78	0.65-0.89	1.257	1.253 - 1.261
2,2',4,6-TeCB	50	50 + 53	C	0.87	**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			0.90	**M/M+2**	0.78	0.65-0.89	1.235	1.232 - 1.237
2,2',5,6'-TeCB	53	50 + 53	C50						
2,3,3',4-TeCB	55			0.94	**M/M+2**	0.77	0.65-0.89	0.889	0.887 - 0.890
2,3,3',4'-TeCB	56			0.92	**M/M+2**	0.78	0.65-0.89	0.904	0.902 - 0.905

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	RRF	MZ's FORMING RATIO [2]	ION ABUND. RATIO	RATIO QC LIMITS [3]	RRT	RRT QC LIMITS
2,3,3',5-TeCB	57			1.01	**M/M+2**	0.75	0.65-0.89	0.844	0.842 - 0.845
2,3,3',5'-TeCB	58			1.01	**M/M+2**	0.77	0.65-0.89	0.850	0.849 - 0.852
2,3,3',6-TeCB	59	59 + 62 + 75	C	1.08	**M/M+2**	0.80	0.65-0.89	1.301	1.297 - 1.305
2,3,4,4'-TeCB	60			0.92	**M/M+2**	0.77	0.65-0.89	0.911	0.910 - 0.913
2,3,4,5-TeCB	61	61 + 70 + 74 + 76	C	1.01	**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			1.03	**M/M+2**	0.76	0.65-0.89	0.864	0.862 - 0.865
2,3,4',6-TeCB	64			1.09	**M/M+2**	0.79	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			1.03	**M/M+2**	0.77	0.65-0.89	0.883	0.882 - 0.885
2,3',4,5-TeCB	67			1.17	**M/M+2**	0.76	0.65-0.89	0.856	0.854 - 0.857
2,3',4,5'-TeCB	68			1.05	**M/M+2**	0.76	0.65-0.89	0.830	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			1.06	**M/M+2**	0.76	0.65-0.89	0.822	0.821 - 0.824
2,3',5',6-TeCB	73			1.04	**M/M+2**	0.79	0.65-0.89	1.241	1.239 - 1.244
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			0.97	**M/M+2**	0.77	0.65-0.89	0.987	0.985 - 0.988
3,3',4,5'-TeCB	79			1.14	**M/M+2**	0.78	0.65-0.89	0.970	0.969 - 0.972
3,3',5,5'-TeCB	80			1.03	**M/M+2**	0.78	0.65-0.89	0.923	0.922 - 0.925
2,2',3,3',4-PeCB	82			0.82	**M+2/M+4**	1.58	1.32-1.78	0.934	0.932 - 0.935
2,2',3,3',5-PeCB	83	83 + 99	C	0.81	**M+2/M+4**	1.57	1.32-1.78	0.884	0.881 - 0.887
2,2',3,3',6-PeCB	84			0.73	**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**	1.56	1.32-1.78	0.919	0.916 - 0.922
2,2',3,4,5-PeCB	86	86 + 87 + 97 + 108 + 119 + 125	C	0.96	**M+2/M+4**	1.58	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	0.84	**M+2/M+4**	1.60	1.32-1.78	1.154	1.150 - 1.158
2,2',3,4,6'-PeCB	89			0.79	**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	0.94	**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			0.81	**M+2/M+4**	1.62	1.32-1.78	0.853	0.851 - 0.854
2,2',3,5,6-PeCB	93	93 + 95 + 98 + 100 + 102	C	0.86	**M+2/M+4**	1.58	1.32-1.78	1.130	1.119 - 1.141
2,2',3,5,6'-PeCB	94			0.78	**M+2/M+4**	1.59	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			0.94	**M+2/M+4**	1.57	1.32-1.78	1.017	1.014 - 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			0.95	**M+2/M+4**	1.62	1.32-1.78	1.094	1.092 - 1.096
2,3,3',4,5-PeCB	106			1.05	**M+2/M+4**	1.54	1.32-1.78	1.004	1.003 - 1.005
2,3,3',4',5-PeCB	107	107 + 124	C	1.02	**M+2/M+4**	1.55	1.32-1.78	0.991	0.989 - 0.993
2,3,3',4,5'-PeCB	108	86 + 87 + 97 + 108 + 119 + 125	C86						
2,3,3',4,6-PeCB	109			1.05	**M+2/M+4**	1.51	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**	1.57	1.32-1.78	0.926	0.924 - 0.928
2,3,3',5,5'-PeCB	111			1.15	**M+2/M+4**	1.60	1.32-1.78	0.945	0.944 - 0.947
2,3,3',5,6-PeCB	112			1.12	**M+2/M+4**	1.60	1.32-1.78	0.889	0.888 - 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			1.18	**M+2/M+4**	1.61	1.32-1.78	0.958	0.957 - 0.959
2,3',4,5',6-PeCB	121			1.05	**M+2/M+4**	1.59	1.32-1.78	1.201	1.199 - 1.203
2',3,3',4,5-PeCB	122			0.95	**M+2/M+4**	1.52	1.32-1.78	1.011	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 [1]	RRF	MZ's FORMING RATIO [2]	ION ABUND. RATIO	RATIO QC LIMITS [3]	RRT	RRT QC LIMITS
3,3',4,5,5'-PeCB	127			0.97	**M+2/M+4**	1.48	1.32-1.78	1.041	1.040 - 1.042
2,2',3,3',4,4'-HxCB	128	128 + 166	C	1.04	**M+2/M+4**	1.25	1.05-1.43	0.958	0.956 - 0.960
2,2',3,3',4,5-HxCB	129	129 + 138 + 160 + 163	C	1.05	**M+2/M+4**	1.25	1.05-1.43	0.930	0.928 - 0.933
2,2',3,3',4,5'-HxCB	130			0.85	**M+2/M+4**	1.24	1.05-1.43	0.913	0.912 - 0.915
2,2',3,3',4,6-HxCB	131			0.88	**M+2/M+4**	1.26	1.05-1.43	1.160	1.159 - 1.162
2,2',3,3',4,6'-HxCB	132			0.86	**M+2/M+4**	1.26	1.05-1.43	1.175	1.173 - 1.178
2,2',3,3',5,5'-HxCB	133			0.89	**M+2/M+4**	1.28	1.05-1.43	1.192	1.191 - 1.194
2,2',3,3',5,6-HxCB	134	134 + 143	C	0.90	**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	0.80	**M+2/M+4**	1.28	1.05-1.43	1.107	1.102 - 1.113
2,2',3,3',6,6'-HxCB	136			1.01	**M+2/M+4**	1.26	1.05-1.43	1.025	1.024 - 1.027
2,2',3,4,4',5-HxCB	137			0.88	**M+2/M+4**	1.28	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	1.00	**M+2/M+4**	1.26	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			1.00	**M+2/M+4**	1.27	1.05-1.43	0.903	0.902 - 0.905
2,2',3,4,5,6-HxCB	142			0.92	**M+2/M+4**	1.27	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			0.76	**M+2/M+4**	1.38	1.05-1.43	1.123	1.121 - 1.124
2,2',3,4,6,6'-HxCB	145			0.95	**M+2/M+4**	1.31	1.05-1.43	1.035	1.033 - 1.036
2,2',3,4',5,5'-HxCB	146			1.10	**M+2/M+4**	1.25	1.05-1.43	0.884	0.883 - 0.885
2,2',3,4',5,6-HxCB	147	147 + 149	C	1.03	**M+2/M+4**	1.26	1.05-1.43	1.134	1.131 - 1.137
2,2',3,4',5,6'-HxCB	148			0.79	**M+2/M+4**	1.30	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			0.98	**M+2/M+4**	1.34	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			1.04	**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	1.19	**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			1.32	**M+2/M+4**	1.26	1.05-1.43	0.938	0.937 - 0.939
2,3,3',4,5,5'-HxCB	159			1.20	**M+2/M+4**	1.29	1.05-1.43	0.982	0.981 - 0.984
2,3,3',4,5,6-HxCB	160	129 + 138 + 160 + 163	C129						
2,3,3',4,5',6-HxCB	161			1.32	**M+2/M+4**	1.27	1.05-1.43	0.887	0.886 - 0.888
2,3,3',4',5,5'-HxCB	162			1.30	**M+2/M+4**	1.28	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			1.26	**M+2/M+4**	1.27	1.05-1.43	0.921	0.920 - 0.922
2,3,3',5,5',6-HxCB	165			1.10	**M+2/M+4**	1.28	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**	1.04	0.89-1.21	1.001	1.000 - 1.002
2,2',3,3',4,4',6-HpCB	171	171 + 173	C	0.74	**M+2/M+4**	1.06	0.89-1.21	1.163	1.160 - 1.165
2,2',3,3',4,5,5'-HpCB	172			0.71	**M+2/M+4**	1.05	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			0.82	**M+2/M+4**	1.04	0.89-1.21	1.134	1.132 - 1.135
2,2',3,3',4,5',6-HpCB	175			0.79	**M+2/M+4**	1.07	0.89-1.21	1.103	1.101 - 1.104
2,2',3,3',4,6,6'-HpCB	176			1.05	**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			0.99	**M+2/M+4**	1.05	0.89-1.21	1.146	1.144 - 1.147
2,2',3,3',5,5',6-HpCB	178			0.77	**M+2/M+4**	1.06	0.89-1.21	1.085	1.084 - 1.086
2,2',3,3',5,6,6'-HpCB	179			1.07	**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	1.02	**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			0.77	**M+2/M+4**	1.01	0.89-1.21	1.157	1.155 - 1.158
2,2',3,4,4',5,6'-HpCB	182			0.82	**M+2/M+4**	1.03	0.89-1.21	1.115	1.114 - 1.116
2,2',3,4,4',5',6-HpCB	183	183 + 185	C	0.78	**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			1.11	**M+2/M+4**	1.04	0.89-1.21	1.024	1.022 - 1.025
2,2',3,4,5,5',6-HpCB	185	183 + 185	C183						
2,2',3,4,5,6,6'-HpCB	186			1.00	**M+2/M+4**	1.04	0.89-1.21	1.047	1.045 - 1.048
2,2',3,4',5,5',6-HpCB	187			0.86	**M+2/M+4**	1.07	0.89-1.21	1.110	1.109 - 1.112
2,3,3',4,4',5,6-HpCB	190			0.96	**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			0.96	**M+2/M+4**	1.05	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**	1.08	0.89-1.21	0.902	0.902 - 0.903
2,3,3',4',5,5',6-HpCB	193	180 + 193	C180						
2,2',3,3',4,4',5,5'-OcCB	194			0.99	**M+2/M+4**	0.91	0.76-1.02	0.991	0.990 - 0.992
2,2',3,3',4,4',5,6-OcCB	195			1.04	**M+2/M+4**	0.88	0.76-1.02	0.945	0.944 - 0.946
2,2',3,3',4,4',5,6'-OcCB	196			0.68	**M+2/M+4**	0.89	0.76-1.02	0.915	0.915 - 0.916

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	RRF	MZ's FORMING RATIO [2]	ION ABUND. RATIO	RATIO QC LIMITS [3]	RRT	RRT QC LIMITS
2,2',3,3',4,4',6,6'-OcCB	197	197 + 200	C	0.92	**M+2/M+4**	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	0.66	**M+2/M+4**	0.89	0.76-1.02	1.114	1.113 - 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			0.93	**M+2/M+4**	0.91	0.76-1.02	1.023	1.021 - 1.025
2,2',3,4,4',5,5',6-OcCB	203			0.69	**M+2/M+4**	0.91	0.76-1.02	0.919	0.918 - 0.920
2,2',3,4,4',5,6,6'-OcCB	204			0.89	**M+2/M+4**	0.91	0.76-1.02	1.039	1.038 - 1.040
2,2',3,3',4,4',5,6,6'-NoCB	207			1.24	**M+2/M+4**	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: _____Ting Chen_____

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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_359A S: 1
Instrument ID:	HR GC/MS	**Analysis Date:**	19-Oct-2018
GC Column ID:	SPB OCTYL	**Analysis Time:**	13:39:26

LABELED COMPOUND	IUPAC NO. [1]	CO-ELUTIONS	LAB FLAG [2]	RRF	MZ's FORMING RATIO [3]	ION ABUND. RATIO	RATIO QC LIMITS [4]	RRT	RRT QC LIMITS
13C12-2-MoCB	1L			1.09	**M/M+2**	3.17	2.66-3.60	0.720	0.704 - 0.735
13C12-4-MoCB	3L			0.97	**M/M+2**	3.16	2.66-3.60	0.859	0.843 - 0.874
13C12-2,2'-DiCB	4L			0.64	**M/M+2**	1.58	1.33-1.79	0.873	0.858 - 0.889
13C12-4,4'-DiCB	15L			0.93	**M/M+2**	1.58	1.33-1.79	1.254	1.238 - 1.270
13C12-2,2',6-TriCB	19L			0.46	**M/M+2**	1.07	0.88-1.20	1.072	1.056 - 1.088
13C12-3,4,4'-TriCB	37L			1.50	**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**	0.81	0.65-0.89	0.811	0.804 - 0.818
13C12-3,3',4,4'-TeCB	77L			1.38	**M/M+2**	0.76	0.65-0.89	1.398	1.391 - 1.405
13C12-3,4,4',5-TeCB	81L			1.41	**M/M+2**	0.76	0.65-0.89	1.374	1.367 - 1.381
13C12-2,2',4,6,6'-PeCB	104L			0.98	**M+2/M+4**	1.66	1.32-1.78	0.807	0.802 - 0.813
13C12-2,3,3',4,4'-PeCB	105L			1.46	**M+2/M+4**	1.57	1.32-1.78	1.200	1.195 - 1.206
13C12-2,3,4,4',5-PeCB	114L			1.29	**M+2/M+4**	1.59	1.32-1.78	1.179	1.174 - 1.184
13C12-2,3',4,4',5-PeCB	118L			1.32	**M+2/M+4**	1.55	1.32-1.78	1.161	1.156 - 1.167
13C12-2',3,4,4',5-PeCB	123L			1.36	**M+2/M+4**	1.55	1.32-1.78	1.151	1.146 - 1.156
13C12-3,3',4,4',5-PeCB	126L			1.17	**M+2/M+4**	1.56	1.32-1.78	1.302	1.296 - 1.307
13C12-2,2',4,4',6,6'-HxCB	155L			1.03	**M+2/M+4**	1.26	1.05-1.43	0.785	0.781 - 0.789
13C12-2,3,3',4,4',5-HxCB	156L	156L + 157L	C	1.16	**M+2/M+4**	1.29	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			1.15	**M+2/M+4**	1.26	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**	1.25	1.05-1.43	1.192	1.188 - 1.196
13C12-2,2',3,3',4,4',5-HpCB	170L			0.83	**M+2/M+4**	1.04	0.89-1.21	0.897	0.894 - 0.900
13C12-2,2',3,4,4',5,5'-HpCB	180L			1.00	**M+2/M+4**	1.06	0.89-1.21	0.872	0.869 - 0.875
13C12-2,2',3,4',5,6,6'-HpCB	188L			1.38	**M+2/M+4**	1.06	0.89-1.21	0.712	0.709 - 0.715
13C12-2,3,3',4,4',5,5'-HpCB	189L			1.29	**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			0.99	**M+2/M+4**	0.94	0.76-1.02	0.817	0.814 - 0.820
13C12-2,3,3',4,4',5,5',6-OcCB	205L			1.33	**M+2/M+4**	0.90	0.76-1.02	1.009	1.005 - 1.014
13C12-2,2',3,3',4,4',5,5',6-NoCB	206L			0.87	**M+2/M+4**	0.78	0.65-0.89	1.043	1.039 - 1.048
13C12-2,2',3,3',4,5,5',6,6'-NoCB	208L			1.19	**M+2/M+4**	0.78	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: _____Ting Chen_____

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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_359A S: 8
Instrument ID:	HR GC/MS	**Analysis Date:**	19-Oct-2018
GC Column ID:	SPB OCTYL	**Analysis Time:**	21:05:30

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	MZ's FORMING RATIO [2]	ION ABUND. RATIO	QC LIMITS [3]	CONC. FOUND (ng/mL)	CONC. RANGE (ng/mL)
2-MoCB	1			**M/M+2**	3.05	2.66-3.60	22.7	17.5 - 32.5
4-MoCB	3			**M/M+2**	3.10	2.66-3.60	23.6	17.5 - 32.5
2,2'-DiCB	4			**M/M+2**	1.49	1.33-1.79	23.0	17.5 - 32.5
4,4'-DiCB	15			**M/M+2**	1.52	1.33-1.79	26.2	19.6 - 36.4
2,2',6-TriCB	19			**M/M+2**	1.07	0.88-1.20	27.8	17.5 - 32.5
3,4,4'-TriCB	37			**M/M+2**	1.03	0.88-1.20	22.6	17.5 - 32.5
2,2',6,6'-TeCB	54			**M/M+2**	0.79	0.65-0.89	55.7	35.0 - 65.0
3,3',4,4'-TeCB	77			**M/M+2**	0.75	0.65-0.89	46.5	35.0 - 65.0
3,4,4',5-TeCB	81			**M/M+2**	0.76	0.65-0.89	50.2	35.0 - 65.0
2,2',4,6,6'-PeCB	104			**M+2/M+4**	1.61	1.32-1.78	56.8	35.0 - 65.0
2,3,3',4,4'-PeCB	105			**M+2/M+4**	1.55	1.32-1.78	49.0	35.0 - 65.0
2,3,4,4',5-PeCB	114			**M+2/M+4**	1.53	1.32-1.78	49.3	35.0 - 65.0
2,3',4,4',5-PeCB	118			**M+2/M+4**	1.55	1.32-1.78	46.7	35.0 - 65.0
2',3,4,4',5-PeCB	123			**M+2/M+4**	1.51	1.32-1.78	53.0	35.0 - 65.0
3,3',4,4',5-PeCB	126			**M+2/M+4**	1.56	1.32-1.78	50.2	39.0 - 72.4
2,2',4,4',6,6'-HxCB	155			**M+2/M+4**	1.28	1.05-1.43	55.4	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	57.3	35.0 - 65.0
3,3',4,4',5,5'-HxCB	169			**M+2/M+4**	1.32	1.05-1.43	55.1	35.0 - 65.0
2,2',3,4',5,6,6'-HpCB	188			**M+2/M+4**	1.06	0.89-1.21	53.5	35.0 - 65.0
2,3,3',4,4',5,5'-HpCB	189			**M+2/M+4**	1.02	0.89-1.21	44.4	35.0 - 65.0
2,2',3,3',5,5',6,6'-OcCB	202			**M+2/M+4**	0.91	0.76-1.02	88.9	58.9 - 110
2,3,3',4,4',5,5',6-OcCB	205			**M+2/M+4**	0.90	0.76-1.02	76.1	52.5 - 97.5
2,2',3,3',4,4',5,5',6-NoCB	206			**M+2/M+4**	0.77	0.65-0.89	77.2	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	88.1	58.7 - 109
2,2',3,3',4,4',5,5',6,6'-DeCB	209			**M+4/M+6**	1.22	0.99-1.33	79.6	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: _____Robert Tones_____

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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_359A S: 8
Instrument ID:	HR GC/MS	**Analysis Date:**	19-Oct-2018
GC Column ID:	SPB OCTYL	**Analysis Time:**	21:05:30

LABELED COMPOUND	IUPAC NO. [1]	CO-ELUTIONS	LAB FLAG [2]	MZ's FORMING RATIO [3]	ION ABUND. RATIO	QC LIMITS [4]	CONC. FOUND (ng/mL)	CONC. RANGE (ng/mL)
13C12-2-MoCB	1L			**M/M+2**	3.15	2.66-3.60	90.5	50.0 - 150
13C12-4-MoCB	3L			**M/M+2**	3.15	2.66-3.60	89.9	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**	1.56	1.33-1.79	90.1	50.0 - 150
13C12-2,2',6-TriCB	19L			**M/M+2**	1.07	0.88-1.20	89.4	50.0 - 150
13C12-3,4,4'-TriCB	37L			**M/M+2**	1.06	0.88-1.20	87.6	50.0 - 150
13C12-2,2',6,6'-TeCB	54L			**M/M+2**	0.81	0.65-0.89	89.3	50.0 - 150
13C12-3,3',4,4'-TeCB	77L			**M/M+2**	0.77	0.65-0.89	101	50.0 - 150
13C12-3,4,4',5-TeCB	81L			**M/M+2**	0.78	0.65-0.89	97.3	50.0 - 150
13C12-2,2',4,6,6'-PeCB	104L			**M+2/M+4**	1.56	1.32-1.78	69.4	50.0 - 150
13C12-2,3,3',4,4'-PeCB	105L			**M+2/M+4**	1.57	1.32-1.78	104	50.0 - 150
13C12-2,3,4,4',5-PeCB	114L			**M+2/M+4**	1.60	1.32-1.78	99.9	50.0 - 150
13C12-2,3',4,4',5-PeCB	118L			**M+2/M+4**	1.56	1.32-1.78	99.5	50.0 - 150
13C12-2',3,4,4',5-PeCB	123L			**M+2/M+4**	1.58	1.32-1.78	101	50.0 - 150
13C12-3,3',4,4',5-PeCB	126L			**M+2/M+4**	1.59	1.32-1.78	102	50.0 - 150
13C12-2,2',4,4',6,6'-HxCB	155L			**M+2/M+4**	1.26	1.05-1.43	58.8	50.0 - 150
13C12-2,3,3',4,4',5-HxCB	156L	156L + 157L	C	**M+2/M+4**	1.28	1.05-1.43	177	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	90.7	50.0 - 150
13C12-3,3',4,4',5,5'-HxCB	169L			**M+2/M+4**	1.30	1.05-1.43	85.3	50.0 - 150
13C12-2,2',3,4',5,6,6'-HpCB	188L			**M+2/M+4**	1.04	0.89-1.21	69.4	50.0 - 150
13C12-2,3,3',4,4',5,5'-HpCB	189L			**M+2/M+4**	1.02	0.89-1.21	98.6	50.0 - 150
13C12-2,2',3,3',5,5',6,6'-OcCB	202L			**M+2/M+4**	0.87	0.76-1.02	54.7	50.0 - 150
13C12-2,3,3',4,4',5,5',6-OcCB	205L			**M+2/M+4**	0.88	0.76-1.02	92.9	50.0 - 150
13C12-2,2',3,3',4,4',5,5',6-NoCB	206L			**M+2/M+4**	0.80	0.65-0.89	88.5	50.0 - 150
13C12-2,2',3,3',4,5,5',6,6'-NoCB	208L			**M+2/M+4**	0.75	0.65-0.89	80.2	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	64.2	50.0 - 150
CLEAN-UP STANDARD								
13C12-2,4,4'-TriCB	28L			**M/M+2**	1.04	0.88-1.20	98.3	60.0 - 130
13C12-2,3,3',5,5'-PeCB	111L			**M+2/M+4**	1.62	1.32-1.78	93.2	60.0 - 130
13C12-2,2',3,3',5,5',6-HpCB	178L			**M+2/M+4**	1.05	0.89-1.21	81.9	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: _____Robert Tones_____

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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

Initial Calibration Date:	07-Jul-2018	**VER Data Filename:**	PB8C_359A S: 8
Instrument ID:	HR GC/MS	**Analysis Date:**	19-Oct-2018
GC Column ID:	SPB OCTYL	**Analysis Time:**	21:05:30

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	RETENTION TIME REFERENCE	IUPAC NO. [2]	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	0.999-1.003
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	1.000	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	1.001	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	1.000	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	1.000	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: _____Robert Tones_____

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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_359A S: 8
Instrument ID:	HR GC/MS	**Analysis Date:**	19-Oct-2018
GC Column ID:	SPB OCTYL	**Analysis Time:**	21:05:30

LABELED COMPOUND	IUPAC NO. [1]	CO-ELUTIONS	LAB FLAG [2]	RETENTION TIME REFERENCE	IUPAC NO. [1]	RRT	RRT QC LIMITS
13C12-2-MoCB	1L			13C12-2,5-DiCB	9L	0.720	0.688-0.751
13C12-4-MoCB	3L			13C12-2,5-DiCB	9L	0.858	0.826-0.889
13C12-2,2'-DiCB	4L			13C12-2,5-DiCB	9L	0.873	0.842-0.905
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	1.041-1.104
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	0.810	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	1.360-1.387
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	1.201	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	1.152-1.172
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	1.302	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	0.953-0.965
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	0.924	0.911-0.937
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: _____Robert Tones_____

For Axys Internal Use Only [XSL Template: Form16686B.xsl; Created: 02-Nov-2018 08:45:27; Application: XMLTransformer-1.16.51;
Report Filename: 1668_PCB1668_PB8C_359AS8__Form6B_SJ2455623.html; Workgroup: WG65252; 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_360A S: 10
Instrument ID:	HR GC/MS	**Analysis Date:**	20-Oct-2018
GC Column ID:	SPB OCTYL	**Analysis Time:**	08:51:16

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	MZ's FORMING RATIO [2]	ION ABUND. RATIO	QC LIMITS [3]	CONC. FOUND (ng/mL)	CONC. RANGE (ng/mL)
2-MoCB	1			**M/M+2**	3.02	2.66-3.60	22.7	17.5 - 32.5
4-MoCB	3			**M/M+2**	3.10	2.66-3.60	23.8	17.5 - 32.5
2,2'-DiCB	4			**M/M+2**	1.50	1.33-1.79	22.1	17.5 - 32.5
4,4'-DiCB	15			**M/M+2**	1.38	1.33-1.79	23.8	19.6 - 36.4
2,2',6-TriCB	19			**M/M+2**	1.05	0.88-1.20	27.8	17.5 - 32.5
3,4,4'-TriCB	37			**M/M+2**	1.00	0.88-1.20	22.4	17.5 - 32.5
2,2',6,6'-TeCB	54			**M/M+2**	0.80	0.65-0.89	53.4	35.0 - 65.0
3,3',4,4'-TeCB	77			**M/M+2**	0.77	0.65-0.89	44.7	35.0 - 65.0
3,4,4',5-TeCB	81			**M/M+2**	0.77	0.65-0.89	48.7	35.0 - 65.0
2,2',4,6,6'-PeCB	104			**M+2/M+4**	1.59	1.32-1.78	57.2	35.0 - 65.0
2,3,3',4,4'-PeCB	105			**M+2/M+4**	1.50	1.32-1.78	49.1	35.0 - 65.0
2,3,4,4',5-PeCB	114			**M+2/M+4**	1.49	1.32-1.78	47.8	35.0 - 65.0
2,3',4,4',5-PeCB	118			**M+2/M+4**	1.56	1.32-1.78	48.0	35.0 - 65.0
2',3,4,4',5-PeCB	123			**M+2/M+4**	1.55	1.32-1.78	46.8	35.0 - 65.0
3,3',4,4',5-PeCB	126			**M+2/M+4**	1.51	1.32-1.78	50.7	39.0 - 72.4
2,2',4,4',6,6'-HxCB	155			**M+2/M+4**	1.29	1.05-1.43	56.9	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	106	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	57.9	35.0 - 65.0
3,3',4,4',5,5'-HxCB	169			**M+2/M+4**	1.33	1.05-1.43	55.9	35.0 - 65.0
2,2',3,4',5,6,6'-HpCB	188			**M+2/M+4**	1.05	0.89-1.21	53.0	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**	0.94	0.76-1.02	91.5	58.9 - 110
2,3,3',4,4',5,5',6-OcCB	205			**M+2/M+4**	0.90	0.76-1.02	76.0	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	78.8	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	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	77.9	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: _____Robert Tones_____

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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_360A S: 10
Instrument ID:	HR GC/MS	**Analysis Date:**	20-Oct-2018
GC Column ID:	SPB OCTYL	**Analysis Time:**	08:51:16

LABELED COMPOUND	IUPAC NO. [1]	CO-ELUTIONS	LAB FLAG [2]	MZ's FORMING RATIO [3]	ION ABUND. RATIO	QC LIMITS [4]	CONC. FOUND (ng/mL)	CONC. RANGE (ng/mL)
13C12-2-MoCB	1L			**M/M+2**	3.16	2.66-3.60	89.9	50.0 - 150
13C12-4-MoCB	3L			**M/M+2**	3.18	2.66-3.60	89.0	50.0 - 150
13C12-2,2'-DiCB	4L			**M/M+2**	1.57	1.33-1.79	93.1	50.0 - 150
13C12-4,4'-DiCB	15L			**M/M+2**	1.56	1.33-1.79	90.6	50.0 - 150
13C12-2,2',6-TriCB	19L			**M/M+2**	1.08	0.88-1.20	90.7	50.0 - 150
13C12-3,4,4'-TriCB	37L			**M/M+2**	1.05	0.88-1.20	83.9	50.0 - 150
13C12-2,2',6,6'-TeCB	54L			**M/M+2**	0.80	0.65-0.89	90.9	50.0 - 150
13C12-3,3',4,4'-TeCB	77L			**M/M+2**	0.77	0.65-0.89	95.4	50.0 - 150
13C12-3,4,4',5-TeCB	81L			**M/M+2**	0.76	0.65-0.89	95.1	50.0 - 150
13C12-2,2',4,6,6'-PeCB	104L			**M+2/M+4**	1.64	1.32-1.78	68.5	50.0 - 150
13C12-2,3,3',4,4'-PeCB	105L			**M+2/M+4**	1.57	1.32-1.78	96.1	50.0 - 150
13C12-2,3,4,4',5-PeCB	114L			**M+2/M+4**	1.60	1.32-1.78	95.6	50.0 - 150
13C12-2,3',4,4',5-PeCB	118L			**M+2/M+4**	1.54	1.32-1.78	95.0	50.0 - 150
13C12-2',3,4,4',5-PeCB	123L			**M+2/M+4**	1.57	1.32-1.78	99.1	50.0 - 150
13C12-3,3',4,4',5-PeCB	126L			**M+2/M+4**	1.52	1.32-1.78	95.6	50.0 - 150
13C12-2,2',4,4',6,6'-HxCB	155L			**M+2/M+4**	1.28	1.05-1.43	63.9	50.0 - 150
13C12-2,3,3',4,4',5-HxCB	156L	156L + 157L	C	**M+2/M+4**	1.26	1.05-1.43	184	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	94.0	50.0 - 150
13C12-3,3',4,4',5,5'-HxCB	169L			**M+2/M+4**	1.26	1.05-1.43	89.5	50.0 - 150
13C12-2,2',3,4',5,6,6'-HpCB	188L			**M+2/M+4**	1.07	0.89-1.21	65.3	50.0 - 150
13C12-2,3,3',4,4',5,5'-HpCB	189L			**M+2/M+4**	1.04	0.89-1.21	95.6	50.0 - 150
13C12-2,2',3,3',5,5',6,6'-OcCB	202L			**M+2/M+4**	0.91	0.76-1.02	51.0	50.0 - 150
13C12-2,3,3',4,4',5,5',6-OcCB	205L			**M+2/M+4**	0.90	0.76-1.02	90.0	50.0 - 150
13C12-2,2',3,3',4,4',5,5',6-NoCB	206L			**M+2/M+4**	0.79	0.65-0.89	84.4	50.0 - 150
13C12-2,2',3,3',4,5,5',6,6'-NoCB	208L			**M+2/M+4**	0.78	0.65-0.89	75.4	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	68.0	50.0 - 150
CLEAN-UP STANDARD								
13C12-2,4,4'-TriCB	28L			**M/M+2**	1.03	0.88-1.20	93.8	60.0 - 130
13C12-2,3,3',5,5'-PeCB	111L			**M+2/M+4**	1.60	1.32-1.78	88.4	60.0 - 130
13C12-2,2',3,3',5,5',6-HpCB	178L			**M+2/M+4**	1.04	0.89-1.21	85.6	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.

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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

Initial Calibration Date:	07-Jul-2018	**VER Data Filename:**	PB8C_360A S: 10
Instrument ID:	HR GC/MS	**Analysis Date:**	20-Oct-2018
GC Column ID:	SPB OCTYL	**Analysis Time:**	08:51:16

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	RETENTION TIME REFERENCE	IUPAC NO. [2]	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	1.000	0.999-1.004
4,4'-DiCB	15			13C12-4,4'-DiCB	15L	1.000	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	1.000	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	1.001	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	1.001	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	1.000	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	1.001	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: _____Robert Tones_____

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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_360A S: 10
Instrument ID:	HR GC/MS	**Analysis Date:**	20-Oct-2018
GC Column ID:	SPB OCTYL	**Analysis Time:**	08:51:16

LABELED COMPOUND	IUPAC NO. [1]	CO-ELUTIONS	LAB FLAG [2]	RETENTION TIME REFERENCE	IUPAC NO. [1]	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	0.858	0.827-0.889
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	0.798-0.825
13C12-3,3',4,4'-TeCB	77L			13C12-2,2',5,5'-TeCB	52L	1.398	1.384-1.411
13C12-3,4,4',5-TeCB	81L			13C12-2,2',5,5'-TeCB	52L	1.374	1.361-1.388
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	1.152-1.172
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	1.302	1.291-1.312
13C12-2,2',4,4',6,6'-HxCB	155L			13C12-2,2',3,4,4',5'-HxCB	138L	0.785	0.777-0.793
13C12-2,3,3',4,4',5-HxCB	156L	156L + 157L	C	13C12-2,2',3,4,4',5'-HxCB	138L	1.108	1.099-1.116
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	1.069-1.086
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	1.000-1.019
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	1.065-1.083
CLEANUP STANDARD							
13C12-2,4,4'-TriCB	28L			13C12-2,2',5,5'-TeCB	52L	0.925	0.912-0.939
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: _____Robert Tones_____

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Report Filename: 1668_PCB1668_PB8C_360AS10__Form6B_SJ2453016.html; Workgroup: WG65252; 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_360 S: 1
Instrument ID:	HR GC/MS	**Analysis Date:**	19-Oct-2018
GC Column ID:	SPB OCTYL	**Analysis Time:**	22:12:34

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	MZ's FORMING RATIO [2]	ION ABUND. RATIO	QC LIMITS [3]	CONC. FOUND (ng/mL)	CONC. RANGE (ng/mL)
2-MoCB	1			**M/M+2**	3.08	2.66-3.60	22.5	17.5 - 32.5
4-MoCB	3			**M/M+2**	3.06	2.66-3.60	23.4	17.5 - 32.5
2,2'-DiCB	4			**M/M+2**	1.49	1.33-1.79	22.4	17.5 - 32.5
4,4'-DiCB	15			**M/M+2**	1.49	1.33-1.79	25.6	19.6 - 36.4
2,2',6-TriCB	19			**M/M+2**	1.09	0.88-1.20	28.0	17.5 - 32.5
3,4,4'-TriCB	37			**M/M+2**	1.01	0.88-1.20	22.9	17.5 - 32.5
2,2',6,6'-TeCB	54			**M/M+2**	0.79	0.65-0.89	52.4	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	47.8	35.0 - 65.0
2,2',4,6,6'-PeCB	104			**M+2/M+4**	1.63	1.32-1.78	57.6	35.0 - 65.0
2,3,3',4,4'-PeCB	105			**M+2/M+4**	1.50	1.32-1.78	48.9	35.0 - 65.0
2,3,4,4',5-PeCB	114			**M+2/M+4**	1.55	1.32-1.78	48.4	35.0 - 65.0
2,3',4,4',5-PeCB	118			**M+2/M+4**	1.57	1.32-1.78	46.3	35.0 - 65.0
2',3,4,4',5-PeCB	123			**M+2/M+4**	1.56	1.32-1.78	46.6	35.0 - 65.0
3,3',4,4',5-PeCB	126			**M+2/M+4**	1.51	1.32-1.78	49.3	39.0 - 72.4
2,2',4,4',6,6'-HxCB	155			**M+2/M+4**	1.28	1.05-1.43	55.7	35.0 - 65.0
2,3,3',4,4',5-HxCB	156	156 + 157	C	**M+2/M+4**	1.24	1.05-1.43	106	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	57.8	35.0 - 65.0
3,3',4,4',5,5'-HxCB	169			**M+2/M+4**	1.31	1.05-1.43	56.7	35.0 - 65.0
2,2',3,4',5,6,6'-HpCB	188			**M+2/M+4**	1.04	0.89-1.21	54.2	35.0 - 65.0
2,3,3',4,4',5,5'-HpCB	189			**M+2/M+4**	1.03	0.89-1.21	43.9	35.0 - 65.0
2,2',3,3',5,5',6,6'-OcCB	202			**M+2/M+4**	0.91	0.76-1.02	93.2	58.9 - 110
2,3,3',4,4',5,5',6-OcCB	205			**M+2/M+4**	0.89	0.76-1.02	74.7	52.5 - 97.5
2,2',3,3',4,4',5,5',6-NoCB	206			**M+2/M+4**	0.81	0.65-0.89	77.7	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	87.8	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	76.6	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: _____Robert Tones_____

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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_360 S: 1
Instrument ID:	HR GC/MS	**Analysis Date:**	19-Oct-2018
GC Column ID:	SPB OCTYL	**Analysis Time:**	22:12:34

LABELED COMPOUND	IUPAC NO. [1]	CO-ELUTIONS	LAB FLAG [2]	MZ's FORMING RATIO [3]	ION ABUND. RATIO	QC LIMITS [4]	CONC. FOUND (ng/mL)	CONC. RANGE (ng/mL)
13C12-2-MoCB	1L			**M/M+2**	3.14	2.66-3.60	92.6	50.0 - 150
13C12-4-MoCB	3L			**M/M+2**	3.14	2.66-3.60	91.3	50.0 - 150
13C12-2,2'-DiCB	4L			**M/M+2**	1.54	1.33-1.79	92.5	50.0 - 150
13C12-4,4'-DiCB	15L			**M/M+2**	1.57	1.33-1.79	92.2	50.0 - 150
13C12-2,2',6-TriCB	19L			**M/M+2**	1.07	0.88-1.20	90.7	50.0 - 150
13C12-3,4,4'-TriCB	37L			**M/M+2**	1.05	0.88-1.20	87.2	50.0 - 150
13C12-2,2',6,6'-TeCB	54L			**M/M+2**	0.80	0.65-0.89	95.3	50.0 - 150
13C12-3,3',4,4'-TeCB	77L			**M/M+2**	0.76	0.65-0.89	98.2	50.0 - 150
13C12-3,4,4',5-TeCB	81L			**M/M+2**	0.78	0.65-0.89	96.6	50.0 - 150
13C12-2,2',4,6,6'-PeCB	104L			**M+2/M+4**	1.60	1.32-1.78	66.9	50.0 - 150
13C12-2,3,3',4,4'-PeCB	105L			**M+2/M+4**	1.59	1.32-1.78	98.9	50.0 - 150
13C12-2,3,4,4',5-PeCB	114L			**M+2/M+4**	1.59	1.32-1.78	95.0	50.0 - 150
13C12-2,3',4,4',5-PeCB	118L			**M+2/M+4**	1.59	1.32-1.78	93.5	50.0 - 150
13C12-2',3,4,4',5-PeCB	123L			**M+2/M+4**	1.56	1.32-1.78	94.8	50.0 - 150
13C12-3,3',4,4',5-PeCB	126L			**M+2/M+4**	1.56	1.32-1.78	97.3	50.0 - 150
13C12-2,2',4,4',6,6'-HxCB	155L			**M+2/M+4**	1.27	1.05-1.43	64.4	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	180	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**	1.28	1.05-1.43	92.7	50.0 - 150
13C12-3,3',4,4',5,5'-HxCB	169L			**M+2/M+4**	1.28	1.05-1.43	86.2	50.0 - 150
13C12-2,2',3,4',5,6,6'-HpCB	188L			**M+2/M+4**	1.06	0.89-1.21	72.2	50.0 - 150
13C12-2,3,3',4,4',5,5'-HpCB	189L			**M+2/M+4**	1.06	0.89-1.21	90.0	50.0 - 150
13C12-2,2',3,3',5,5',6,6'-OcCB	202L			**M+2/M+4**	0.93	0.76-1.02	54.5	50.0 - 150
13C12-2,3,3',4,4',5,5',6-OcCB	205L			**M+2/M+4**	0.87	0.76-1.02	90.5	50.0 - 150
13C12-2,2',3,3',4,4',5,5',6-NoCB	206L			**M+2/M+4**	0.80	0.65-0.89	86.3	50.0 - 150
13C12-2,2',3,3',4,5,5',6,6'-NoCB	208L			**M+2/M+4**	0.78	0.65-0.89	83.7	50.0 - 150
13C12-2,2',3,3',4,4',5,5',6,6'-DeCB	209L			**M+4/M+6**	1.23	0.99-1.33	67.7	50.0 - 150
CLEAN-UP STANDARD								
13C12-2,4,4'-TriCB	28L			**M/M+2**	1.05	0.88-1.20	99.0	60.0 - 130
13C12-2,3,3',5,5'-PeCB	111L			**M+2/M+4**	1.62	1.32-1.78	89.3	60.0 - 130
13C12-2,2',3,3',5,5',6-HpCB	178L			**M+2/M+4**	1.04	0.89-1.21	81.9	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: _____Robert Tones_____

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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

Initial Calibration Date:	07-Jul-2018	**VER Data Filename:**	PB8C_360 S: 1
Instrument ID:	HR GC/MS	**Analysis Date:**	19-Oct-2018
GC Column ID:	SPB OCTYL	**Analysis Time:**	22:12:34

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	RETENTION TIME REFERENCE	IUPAC NO. [2]	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	1.001	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	0.998-1.002
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	1.001	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: _____Robert Tones_____

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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_360 S: 1
Instrument ID:	HR GC/MS	**Analysis Date:**	19-Oct-2018
GC Column ID:	SPB OCTYL	**Analysis Time:**	22:12:34

LABELED COMPOUND	IUPAC NO. [1]	CO-ELUTIONS	LAB FLAG [2]	RETENTION TIME REFERENCE	IUPAC NO. [1]	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	0.874	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	0.798-0.825
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	1.373	1.360-1.387
13C12-2,2',4,6,6'-PeCB	104L			13C12-2,2',4,5,5'-PeCB	101L	0.808	0.798-0.818
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	1.302	1.292-1.312
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	1.069-1.086
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	1.010	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	1.003-1.020

(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: _____Robert Tones_____

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Report Filename: 1668_PCB1668_PB8C_360S1__Form6B_SJ2452996.html; Workgroup: WG65252; 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_360 S: 1

Instrument ID: HR GC/MS **Analysis Date:** 19-Oct-2018

GC Column ID: SPB OCTYL **Analysis Time:** 22:12:34

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	RRF	MZ's FORMING RATIO [2]	ION ABUND. RATIO	RATIO QC LIMITS [3]	RRT	RRT QC LIMITS
3-MoCB	2			0.97	**M/M+2**	3.08	2.66-3.60	0.988	0.984 - 0.991
2,3-DiCB	5			0.99	**M/M+2**	1.50	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	1.176	1.172 - 1.179
2,4-DiCB	7			1.06	**M/M+2**	1.51	1.33-1.79	1.158	1.154 - 1.161
2,4'-DiCB	8			1.17	**M/M+2**	1.51	1.33-1.79	1.208	1.204 - 1.211
2,5-DiCB	9			1.10	**M/M+2**	1.49	1.33-1.79	1.146	1.142 - 1.149
2,6-DiCB	10			1.10	**M/M+2**	1.48	1.33-1.79	1.014	1.011 - 1.018
3,3'-DiCB	11			1.05	**M/M+2**	1.50	1.33-1.79	0.969	0.967 - 0.972
3,4-DiCB	12	12 + 13	C	1.05	**M/M+2**	1.47	1.33-1.79	0.985	0.983 - 0.988
3,4'-DiCB	13	12 + 13	C12						
3,5-DiCB	14			1.06	**M/M+2**	1.52	1.33-1.79	0.925	0.923 - 0.928
2,2',3-TriCB	16			0.83	**M/M+2**	1.04	0.88-1.20	1.166	1.163 - 1.168
2,2',4-TriCB	17			1.02	**M/M+2**	1.07	0.88-1.20	1.138	1.135 - 1.141
2,2',5-TriCB	18	18 + 30	C	1.20	**M/M+2**	1.06	0.88-1.20	1.112	1.109 - 1.115
2,3,3'-TriCB	20	20 + 28	C	1.24	**M/M+2**	1.00	0.88-1.20	0.848	0.845 - 0.851
2,3,4-TriCB	21	21 + 33	C	1.24	**M/M+2**	1.01	0.88-1.20	0.855	0.852 - 0.858
2,3,4'-TriCB	22			1.08	**M/M+2**	0.99	0.88-1.20	0.872	0.870 - 0.874
2,3,5-TriCB	23			1.16	**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**	1.07	0.88-1.20	1.159	1.156 - 1.162
2,3',4-TriCB	25			1.42	**M/M+2**	1.03	0.88-1.20	0.825	0.823 - 0.827
2,3',5-TriCB	26	26 + 29	C	1.21	**M/M+2**	1.01	0.88-1.20	1.302	1.297 - 1.307
2,3',6-TriCB	27			1.39	**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			1.31	**M/M+2**	1.01	0.88-1.20	0.836	0.835 - 0.838
2,4',6-TriCB	32			1.28	**M/M+2**	1.01	0.88-1.20	1.197	1.194 - 1.200
2',3,4-TriCB	33	21 + 33	C21						
2',3,5-TriCB	34			1.17	**M/M+2**	1.01	0.88-1.20	1.273	1.270 - 1.276
3,3',4-TriCB	35			1.18	**M/M+2**	1.00	0.88-1.20	0.985	0.984 - 0.987
3,3',5-TriCB	36			1.26	**M/M+2**	1.03	0.88-1.20	0.932	0.930 - 0.933
3,4,5-TriCB	38			1.21	**M/M+2**	1.01	0.88-1.20	0.967	0.965 - 0.969
3,4',5-TriCB	39			1.20	**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	0.84	**M/M+2**	0.78	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			0.80	**M/M+2**	0.79	0.65-0.89	1.311	1.309 - 1.314
2,2',3,5-TeCB	43			0.76	**M/M+2**	0.80	0.65-0.89	1.246	1.243 - 1.248
2,2',3,5'-TeCB	44	44 + 47 + 65	C	0.93	**M/M+2**	0.80	0.65-0.89	1.286	1.282 - 1.290
2,2',3,6-TeCB	45	45 + 51	C	0.89	**M/M+2**	0.79	0.65-0.89	1.146	1.142 - 1.150
2,2',3,6'-TeCB	46			0.77	**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			0.84	**M/M+2**	0.79	0.65-0.89	1.272	1.270 - 1.274
2,2',4,5'-TeCB	49	49 + 69	C	1.00	**M/M+2**	0.79	0.65-0.89	1.257	1.253 - 1.261
2,2',4,6-TeCB	50	50 + 53	C	0.91	**M/M+2**	0.80	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			0.92	**M/M+2**	0.80	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			0.91	**M/M+2**	0.78	0.65-0.89	0.889	0.887 - 0.890
2,3,3',4'-TeCB	56			0.93	**M/M+2**	0.78	0.65-0.89	0.904	0.903 - 0.906

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	RRF	MZ's FORMING RATIO [2]	ION ABUND. RATIO	RATIO QC LIMITS [3]	RRT	RRT QC LIMITS
2,3,3',5-TeCB	57			1.00	**M/M+2**	0.77	0.65-0.89	0.844	0.842 - 0.845
2,3,3',5'-TeCB	58			0.99	**M/M+2**	0.76	0.65-0.89	0.850	0.849 - 0.852
2,3,3',6-TeCB	59	59 + 62 + 75	C	1.12	**M/M+2**	0.80	0.65-0.89	1.302	1.297 - 1.306
2,3,4,4'-TeCB	60			0.89	**M/M+2**	0.79	0.65-0.89	0.911	0.909 - 0.912
2,3,4,5-TeCB	61	61 + 70 + 74 + 76	C	1.01	**M/M+2**	0.75	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			1.02	**M/M+2**	0.77	0.65-0.89	0.864	0.863 - 0.866
2,3,4',6-TeCB	64			1.14	**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			1.01	**M/M+2**	0.77	0.65-0.89	0.884	0.883 - 0.885
2,3',4,5-TeCB	67			1.14	**M/M+2**	0.77	0.65-0.89	0.856	0.854 - 0.857
2,3',4,5'-TeCB	68			1.04	**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			1.05	**M/M+2**	0.76	0.65-0.89	0.822	0.821 - 0.824
2,3',5',6-TeCB	73			1.08	**M/M+2**	0.77	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			0.95	**M/M+2**	0.78	0.65-0.89	0.987	0.986 - 0.989
3,3',4,5'-TeCB	79			1.16	**M/M+2**	0.77	0.65-0.89	0.970	0.969 - 0.972
3,3',5,5'-TeCB	80			1.05	**M/M+2**	0.76	0.65-0.89	0.924	0.922 - 0.925
2,2',3,3',4-PeCB	82			0.75	**M+2/M+4**	1.54	1.32-1.78	0.934	0.933 - 0.936
2,2',3,3',5-PeCB	83	83 + 99	C	0.83	**M+2/M+4**	1.60	1.32-1.78	0.884	0.881 - 0.887
2,2',3,3',6-PeCB	84			0.79	**M+2/M+4**	1.57	1.32-1.78	1.164	1.162 - 1.166
2,2',3,4,4'-PeCB	85	85 + 116 + 117	C	0.99	**M+2/M+4**	1.57	1.32-1.78	0.919	0.917 - 0.922
2,2',3,4,5-PeCB	86	86 + 87 + 97 + 108 + 119 + 125	C	0.97	**M+2/M+4**	1.59	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	0.87	**M+2/M+4**	1.54	1.32-1.78	1.153	1.149 - 1.157
2,2',3,4,6'-PeCB	89			0.82	**M+2/M+4**	1.55	1.32-1.78	1.183	1.181 - 1.185
2,2',3,4',5-PeCB	90	90 + 101 + 113	C	0.97	**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			0.84	**M+2/M+4**	1.55	1.32-1.78	0.853	0.851 - 0.854
2,2',3,5,6-PeCB	93	93 + 95 + 98 + 100 + 102	C	0.90	**M+2/M+4**	1.57	1.32-1.78	1.130	1.119 - 1.141
2,2',3,5,6'-PeCB	94			0.81	**M+2/M+4**	1.57	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			0.98	**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			0.99	**M+2/M+4**	1.60	1.32-1.78	1.094	1.092 - 1.096
2,3,3',4,5-PeCB	106			1.05	**M+2/M+4**	1.49	1.32-1.78	1.004	1.003 - 1.005
2,3,3',4',5-PeCB	107	107 + 124	C	0.99	**M+2/M+4**	1.52	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			1.06	**M+2/M+4**	1.52	1.32-1.78	0.997	0.996 - 0.999
2,3,3',4',6-PeCB	110	110 + 115	C	1.10	**M+2/M+4**	1.55	1.32-1.78	0.926	0.924 - 0.928
2,3,3',5,5'-PeCB	111			1.12	**M+2/M+4**	1.58	1.32-1.78	0.945	0.944 - 0.946
2,3,3',5,6-PeCB	112			1.13	**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			1.14	**M+2/M+4**	1.61	1.32-1.78	0.958	0.957 - 0.959
2,3',4,5',6-PeCB	121			1.10	**M+2/M+4**	1.57	1.32-1.78	1.200	1.198 - 1.202
2',3,3',4,5-PeCB	122			0.88	**M+2/M+4**	1.51	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 [1]	RRF	MZ's FORMING RATIO [2]	ION ABUND. RATIO	RATIO QC LIMITS [3]	RRT	RRT QC LIMITS
3,3',4,5,5'-PeCB	127			1.00	**M+2/M+4**	1.57	1.32-1.78	1.041	1.040 - 1.042
2,2',3,3',4,4'-HxCB	128	128 + 166	C	1.07	**M+2/M+4**	1.26	1.05-1.43	0.958	0.957 - 0.960
2,2',3,3',4,5-HxCB	129	129 + 138 + 160 + 163	C	1.02	**M+2/M+4**	1.25	1.05-1.43	0.930	0.927 - 0.933
2,2',3,3',4,5'-HxCB	130			0.80	**M+2/M+4**	1.27	1.05-1.43	0.913	0.912 - 0.914
2,2',3,3',4,6-HxCB	131			0.89	**M+2/M+4**	1.24	1.05-1.43	1.160	1.159 - 1.162
2,2',3,3',4,6'-HxCB	132			0.81	**M+2/M+4**	1.26	1.05-1.43	1.176	1.173 - 1.178
2,2',3,3',5,5'-HxCB	133			0.86	**M+2/M+4**	1.22	1.05-1.43	1.192	1.190 - 1.194
2,2',3,3',5,6-HxCB	134	134 + 143	C	0.85	**M+2/M+4**	1.23	1.05-1.43	1.142	1.140 - 1.145
2,2',3,3',5,6'-HxCB	135	135 + 151 + 154	C	0.77	**M+2/M+4**	1.28	1.05-1.43	1.107	1.102 - 1.113
2,2',3,3',6,6'-HxCB	136			1.02	**M+2/M+4**	1.28	1.05-1.43	1.025	1.024 - 1.027
2,2',3,4,4',5-HxCB	137			0.89	**M+2/M+4**	1.26	1.05-1.43	0.918	0.917 - 0.920
2,2',3,4,4',5'-HxCB	138	129 + 138 + 160 + 163	C129						
2,2',3,4,4',6-HxCB	139	139 + 140	C	0.93	**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			0.90	**M+2/M+4**	1.24	1.05-1.43	0.904	0.902 - 0.905
2,2',3,4,5,6-HxCB	142			0.83	**M+2/M+4**	1.25	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			0.74	**M+2/M+4**	1.31	1.05-1.43	1.122	1.120 - 1.123
2,2',3,4,6,6'-HxCB	145			0.96	**M+2/M+4**	1.27	1.05-1.43	1.034	1.032 - 1.036
2,2',3,4',5,5'-HxCB	146			1.01	**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	0.93	**M+2/M+4**	1.29	1.05-1.43	1.134	1.132 - 1.137
2,2',3,4',5,6'-HxCB	148			0.75	**M+2/M+4**	1.26	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			0.99	**M+2/M+4**	1.26	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			1.05	**M+2/M+4**	1.25	1.05-1.43	1.007	1.006 - 1.009
2,2',4,4',5,5'-HxCB	153	153 + 168	C	1.14	**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			1.33	**M+2/M+4**	1.26	1.05-1.43	0.938	0.937 - 0.939
2,3,3',4,5,5'-HxCB	159			1.26	**M+2/M+4**	1.27	1.05-1.43	0.982	0.981 - 0.984
2,3,3',4,5,6-HxCB	160	129 + 138 + 160 + 163	C129						
2,3,3',4,5',6-HxCB	161			1.24	**M+2/M+4**	1.27	1.05-1.43	0.887	0.886 - 0.888
2,3,3',4',5,5'-HxCB	162			1.34	**M+2/M+4**	1.28	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			1.16	**M+2/M+4**	1.24	1.05-1.43	0.921	0.920 - 0.922
2,3,3',5,5',6-HxCB	165			1.07	**M+2/M+4**	1.27	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			1.15	**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	0.73	**M+2/M+4**	1.07	0.89-1.21	1.163	1.161 - 1.165
2,2',3,3',4,5,5'-HpCB	172			0.69	**M+2/M+4**	1.06	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			0.78	**M+2/M+4**	1.07	0.89-1.21	1.134	1.133 - 1.135
2,2',3,3',4,5',6-HpCB	175			0.82	**M+2/M+4**	1.05	0.89-1.21	1.103	1.101 - 1.104
2,2',3,3',4,6,6'-HpCB	176			0.99	**M+2/M+4**	1.05	0.89-1.21	1.034	1.033 - 1.036
2,2',3,3',4',5,6-HpCB	177			1.02	**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			0.79	**M+2/M+4**	1.03	0.89-1.21	1.086	1.084 - 1.087
2,2',3,3',5,6,6'-HpCB	179			1.04	**M+2/M+4**	1.07	0.89-1.21	1.011	1.009 - 1.012
2,2',3,4,4',5,5'-HpCB	180	180 + 193	C	1.03	**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			0.77	**M+2/M+4**	1.02	0.89-1.21	1.157	1.156 - 1.159
2,2',3,4,4',5,6'-HpCB	182			0.81	**M+2/M+4**	1.06	0.89-1.21	1.116	1.115 - 1.117
2,2',3,4,4',5',6-HpCB	183	183 + 185	C	0.79	**M+2/M+4**	1.03	0.89-1.21	1.129	1.127 - 1.130
2,2',3,4,4',6,6'-HpCB	184			1.04	**M+2/M+4**	1.04	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			0.94	**M+2/M+4**	1.05	0.89-1.21	1.047	1.046 - 1.048
2,2',3,4',5,5',6-HpCB	187			0.86	**M+2/M+4**	1.02	0.89-1.21	1.110	1.109 - 1.112
2,3,3',4,4',5,6-HpCB	190			0.92	**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			0.92	**M+2/M+4**	1.07	0.89-1.21	0.918	0.917 - 0.919
2,3,3',4,5,5',6-HpCB	192			0.86	**M+2/M+4**	1.09	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			1.03	**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			0.93	**M+2/M+4**	0.91	0.76-1.02	0.945	0.944 - 0.946
2,2',3,3',4,4',5,6'-OcCB	196			0.64	**M+2/M+4**	0.88	0.76-1.02	0.915	0.914 - 0.916

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	RRF	MZ's FORMING RATIO [2]	ION ABUND. RATIO	RATIO QC LIMITS [3]	RRT	RRT QC LIMITS
2,2',3,3',4,4',6,6'-OcCB	197	197 + 200	C	0.90	**M+2/M+4**	0.90	0.76-1.02	1.046	1.043 - 1.048
2,2',3,3',4,5,5',6-OcCB	198	198 + 199	C	0.65	**M+2/M+4**	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			0.90	**M+2/M+4**	0.94	0.76-1.02	1.023	1.021 - 1.025
2,2',3,4,4',5,5',6-OcCB	203			0.67	**M+2/M+4**	0.88	0.76-1.02	0.919	0.918 - 0.920
2,2',3,4,4',5,6,6'-OcCB	204			0.88	**M+2/M+4**	0.92	0.76-1.02	1.039	1.038 - 1.040
2,2',3,3',4,4',5,6,6'-NoCB	207			1.24	**M+2/M+4**	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: _____Ting Chen_____

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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_360 S: 1
Instrument ID:	HR GC/MS	**Analysis Date:**	19-Oct-2018
GC Column ID:	SPB OCTYL	**Analysis Time:**	22:12:34

LABELED COMPOUND	IUPAC NO. [1]	CO-ELUTIONS	LAB FLAG [2]	RRF	MZ's FORMING RATIO [3]	ION ABUND. RATIO	RATIO QC LIMITS [4]	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			0.98	**M/M+2**	3.14	2.66-3.60	0.859	0.843 - 0.875
13C12-2,2'-DiCB	4L			0.63	**M/M+2**	1.54	1.33-1.79	0.874	0.858 - 0.889
13C12-4,4'-DiCB	15L			0.98	**M/M+2**	1.57	1.33-1.79	1.254	1.238 - 1.269
13C12-2,2',6-TriCB	19L			0.51	**M/M+2**	1.07	0.88-1.20	1.072	1.056 - 1.088
13C12-3,4,4'-TriCB	37L			1.48	**M/M+2**	1.05	0.88-1.20	1.092	1.082 - 1.102
13C12-2,2',6,6'-TeCB	54L			1.41	**M/M+2**	0.80	0.65-0.89	0.811	0.805 - 0.818
13C12-3,3',4,4'-TeCB	77L			1.29	**M/M+2**	0.76	0.65-0.89	1.397	1.391 - 1.404
13C12-3,4,4',5-TeCB	81L			1.25	**M/M+2**	0.78	0.65-0.89	1.373	1.367 - 1.380
13C12-2,2',4,6,6'-PeCB	104L			0.99	**M+2/M+4**	1.60	1.32-1.78	0.808	0.803 - 0.813
13C12-2,3,3',4,4'-PeCB	105L			1.39	**M+2/M+4**	1.59	1.32-1.78	1.201	1.196 - 1.206
13C12-2,3,4,4',5-PeCB	114L			1.29	**M+2/M+4**	1.59	1.32-1.78	1.180	1.174 - 1.185
13C12-2,3',4,4',5-PeCB	118L			1.28	**M+2/M+4**	1.59	1.32-1.78	1.162	1.157 - 1.168
13C12-2',3,4,4',5-PeCB	123L			1.32	**M+2/M+4**	1.56	1.32-1.78	1.152	1.146 - 1.157
13C12-3,3',4,4',5-PeCB	126L			1.22	**M+2/M+4**	1.56	1.32-1.78	1.302	1.297 - 1.307
13C12-2,2',4,4',6,6'-HxCB	155L			1.07	**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	1.21	**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			1.19	**M+2/M+4**	1.28	1.05-1.43	1.078	1.074 - 1.082
13C12-3,3',4,4',5,5'-HxCB	169L			1.15	**M+2/M+4**	1.28	1.05-1.43	1.192	1.188 - 1.196
13C12-2,2',3,3',4,4',5-HpCB	170L			0.83	**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			1.02	**M+2/M+4**	1.04	0.89-1.21	0.873	0.870 - 0.876
13C12-2,2',3,4',5,6,6'-HpCB	188L			1.36	**M+2/M+4**	1.06	0.89-1.21	0.712	0.709 - 0.715
13C12-2,3,3',4,4',5,5'-HpCB	189L			1.36	**M+2/M+4**	1.06	0.89-1.21	0.959	0.956 - 0.962
13C12-2,2',3,3',5,5',6,6'-OcCB	202L			0.97	**M+2/M+4**	0.93	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**	0.87	0.76-1.02	1.010	1.005 - 1.014
13C12-2,2',3,3',4,4',5,5',6-NoCB	206L			0.95	**M+2/M+4**	0.80	0.65-0.89	1.043	1.039 - 1.048
13C12-2,2',3,3',4,5,5',6,6'-NoCB	208L			1.13	**M+2/M+4**	0.78	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: _____Ting Chen_____

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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_361A S: 1
Instrument ID:	HR GC/MS	**Analysis Date:**	22-Oct-2018
GC Column ID:	SPB OCTYL	**Analysis Time:**	09:24:48

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	MZ's FORMING RATIO [2]	ION ABUND. RATIO	QC LIMITS [3]	CONC. FOUND (ng/mL)	CONC. RANGE (ng/mL)
2-MoCB	1			**M/M+2**	3.03	2.66-3.60	21.9	17.5 - 32.5
4-MoCB	3			**M/M+2**	3.02	2.66-3.60	22.7	17.5 - 32.5
2,2'-DiCB	4			**M/M+2**	1.50	1.33-1.79	20.9	17.5 - 32.5
4,4'-DiCB	15			**M/M+2**	1.41	1.33-1.79	23.6	19.6 - 36.4
2,2',6-TriCB	19			**M/M+2**	1.05	0.88-1.20	28.7	17.5 - 32.5
3,4,4'-TriCB	37			**M/M+2**	0.97	0.88-1.20	21.0	17.5 - 32.5
2,2',6,6'-TeCB	54			**M/M+2**	0.80	0.65-0.89	53.6	35.0 - 65.0
3,3',4,4'-TeCB	77			**M/M+2**	0.78	0.65-0.89	44.8	35.0 - 65.0
3,4,4',5-TeCB	81			**M/M+2**	0.75	0.65-0.89	46.8	35.0 - 65.0
2,2',4,6,6'-PeCB	104			**M+2/M+4**	1.55	1.32-1.78	55.8	35.0 - 65.0
2,3,3',4,4'-PeCB	105			**M+2/M+4**	1.51	1.32-1.78	47.5	35.0 - 65.0
2,3,4,4',5-PeCB	114			**M+2/M+4**	1.42	1.32-1.78	47.0	35.0 - 65.0
2,3',4,4',5-PeCB	118			**M+2/M+4**	1.50	1.32-1.78	45.5	35.0 - 65.0
2',3,4,4',5-PeCB	123			**M+2/M+4**	1.53	1.32-1.78	52.3	35.0 - 65.0
3,3',4,4',5-PeCB	126			**M+2/M+4**	1.46	1.32-1.78	47.4	39.0 - 72.4
2,2',4,4',6,6'-HxCB	155			**M+2/M+4**	1.28	1.05-1.43	54.9	35.0 - 65.0
2,3,3',4,4',5-HxCB	156	156 + 157	C	**M+2/M+4**	1.23	1.05-1.43	106	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	56.8	35.0 - 65.0
3,3',4,4',5,5'-HxCB	169			**M+2/M+4**	1.28	1.05-1.43	53.5	35.0 - 65.0
2,2',3,4',5,6,6'-HpCB	188			**M+2/M+4**	1.02	0.89-1.21	53.4	35.0 - 65.0
2,3,3',4,4',5,5'-HpCB	189			**M+2/M+4**	1.03	0.89-1.21	41.8	35.0 - 65.0
2,2',3,3',5,5',6,6'-OcCB	202			**M+2/M+4**	0.91	0.76-1.02	90.8	58.9 - 110
2,3,3',4,4',5,5',6-OcCB	205			**M+2/M+4**	0.88	0.76-1.02	75.8	52.5 - 97.5
2,2',3,3',4,4',5,5',6-NoCB	206			**M+2/M+4**	0.77	0.65-0.89	76.8	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	86.1	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	75.0	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: _____Robert Tones_____

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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_361A S: 1
Instrument ID:	HR GC/MS	**Analysis Date:**	22-Oct-2018
GC Column ID:	SPB OCTYL	**Analysis Time:**	09:24:48

LABELED COMPOUND	IUPAC NO. [1]	CO-ELUTIONS	LAB FLAG [2]	MZ's FORMING RATIO [3]	ION ABUND. RATIO	QC LIMITS [4]	CONC. FOUND (ng/mL)	CONC. RANGE (ng/mL)
13C12-2-MoCB	1L			**M/M+2**	3.16	2.66-3.60	94.9	50.0 - 150
13C12-4-MoCB	3L			**M/M+2**	3.17	2.66-3.60	92.8	50.0 - 150
13C12-2,2'-DiCB	4L			**M/M+2**	1.59	1.33-1.79	91.7	50.0 - 150
13C12-4,4'-DiCB	15L			**M/M+2**	1.55	1.33-1.79	86.4	50.0 - 150
13C12-2,2',6-TriCB	19L			**M/M+2**	1.08	0.88-1.20	87.8	50.0 - 150
13C12-3,4,4'-TriCB	37L			**M/M+2**	1.01	0.88-1.20	86.1	50.0 - 150
13C12-2,2',6,6'-TeCB	54L			**M/M+2**	0.80	0.65-0.89	94.6	50.0 - 150
13C12-3,3',4,4'-TeCB	77L			**M/M+2**	0.76	0.65-0.89	95.2	50.0 - 150
13C12-3,4,4',5-TeCB	81L			**M/M+2**	0.76	0.65-0.89	96.3	50.0 - 150
13C12-2,2',4,6,6'-PeCB	104L			**M+2/M+4**	1.63	1.32-1.78	71.3	50.0 - 150
13C12-2,3,3',4,4'-PeCB	105L			**M+2/M+4**	1.57	1.32-1.78	90.9	50.0 - 150
13C12-2,3,4,4',5-PeCB	114L			**M+2/M+4**	1.54	1.32-1.78	86.6	50.0 - 150
13C12-2,3',4,4',5-PeCB	118L			**M+2/M+4**	1.56	1.32-1.78	90.4	50.0 - 150
13C12-2',3,4,4',5-PeCB	123L			**M+2/M+4**	1.56	1.32-1.78	91.0	50.0 - 150
13C12-3,3',4,4',5-PeCB	126L			**M+2/M+4**	1.49	1.32-1.78	88.9	50.0 - 150
13C12-2,2',4,4',6,6'-HxCB	155L			**M+2/M+4**	1.29	1.05-1.43	65.6	50.0 - 150
13C12-2,3,3',4,4',5-HxCB	156L	156L + 157L	C	**M+2/M+4**	1.26	1.05-1.43	177	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**	1.29	1.05-1.43	90.1	50.0 - 150
13C12-3,3',4,4',5,5'-HxCB	169L			**M+2/M+4**	1.26	1.05-1.43	85.2	50.0 - 150
13C12-2,2',3,4',5,6,6'-HpCB	188L			**M+2/M+4**	1.08	0.89-1.21	77.5	50.0 - 150
13C12-2,3,3',4,4',5,5'-HpCB	189L			**M+2/M+4**	1.01	0.89-1.21	83.5	50.0 - 150
13C12-2,2',3,3',5,5',6,6'-OcCB	202L			**M+2/M+4**	0.93	0.76-1.02	60.6	50.0 - 150
13C12-2,3,3',4,4',5,5',6-OcCB	205L			**M+2/M+4**	0.91	0.76-1.02	91.6	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	84.4	50.0 - 150
13C12-2,2',3,3',4,5,5',6,6'-NoCB	208L			**M+2/M+4**	0.79	0.65-0.89	86.8	50.0 - 150
13C12-2,2',3,3',4,4',5,5',6,6'-DeCB	209L			**M+4/M+6**	1.17	0.99-1.33	70.0	50.0 - 150
CLEAN-UP STANDARD								
13C12-2,4,4'-TriCB	28L			**M/M+2**	1.03	0.88-1.20	97.6	60.0 - 130
13C12-2,3,3',5,5'-PeCB	111L			**M+2/M+4**	1.62	1.32-1.78	90.4	60.0 - 130
13C12-2,2',3,3',5,5',6-HpCB	178L			**M+2/M+4**	1.05	0.89-1.21	82.3	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: _____Robert Tones_____

For Axys Internal Use Only [XSL Template: Form16684B.xsl; Created: 02-Nov-2018 08:45:27; Application: XMLTransformer-1.16.51; Report Filename: 1668_PCB1668_PB8C_361AS1__Form4B_SJ2453049.html; Workgroup: WG65252; 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

Initial Calibration Date:	07-Jul-2018	**VER Data Filename:**	PB8C_361A S: 1
Instrument ID:	HR GC/MS	**Analysis Date:**	22-Oct-2018
GC Column ID:	SPB OCTYL	**Analysis Time:**	09:24:48

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	RETENTION TIME REFERENCE	IUPAC NO. [2]	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	1.002	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	1.001	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	1.001	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	1.000	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	1.001	1.000-1.001
2,3,3',4,4',5,5'-HpCB	189			13C12-2,3,3',4,4',5,5'-HpCB	189L	1.001	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	1.001	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: _____Robert Tones_____

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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_361A S: 1
Instrument ID:	HR GC/MS	**Analysis Date:**	22-Oct-2018
GC Column ID:	SPB OCTYL	**Analysis Time:**	09:24:48

LABELED COMPOUND	IUPAC NO. [1]	CO-ELUTIONS	LAB FLAG [2]	RETENTION TIME REFERENCE	IUPAC NO. [1]	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	0.874	0.843-0.905
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	1.200	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	1.152-1.173
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	0.705-0.718
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	1.000-1.018
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	1.077-1.098
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.

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Report Filename: 1668_PCB1668_PB8C_361AS1__Form6B_SJ2453049.html; Workgroup: WG65252; 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_361A S: 1

Instrument ID: HR GC/MS **Analysis Date:** 22-Oct-2018

GC Column ID: SPB OCTYL **Analysis Time:** 09:24:48

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	RRF	MZ's FORMING RATIO [2]	ION ABUND. RATIO	RATIO QC LIMITS [3]	RRT	RRT QC LIMITS
3-MoCB	2			0.94	**M/M+2**	3.00	2.66-3.60	0.988	0.984 - 0.992
2,3-DiCB	5			0.95	**M/M+2**	1.48	1.33-1.79	1.197	1.193 - 1.200
2,3'-DiCB	6			1.07	**M/M+2**	1.52	1.33-1.79	1.175	1.172 - 1.179
2,4-DiCB	7			1.04	**M/M+2**	1.49	1.33-1.79	1.156	1.153 - 1.160
2,4'-DiCB	8			1.19	**M/M+2**	1.50	1.33-1.79	1.206	1.203 - 1.210
2,5-DiCB	9			1.10	**M/M+2**	1.50	1.33-1.79	1.145	1.142 - 1.149
2,6-DiCB	10			1.07	**M/M+2**	1.47	1.33-1.79	1.013	1.010 - 1.017
3,3'-DiCB	11			0.97	**M/M+2**	1.42	1.33-1.79	0.968	0.966 - 0.971
3,4-DiCB	12	12 + 13	C	0.98	**M/M+2**	1.43	1.33-1.79	0.984	0.982 - 0.987
3,4'-DiCB	13	12 + 13	C12						
3,5-DiCB	14			1.02	**M/M+2**	1.46	1.33-1.79	0.925	0.923 - 0.928
2,2',3-TriCB	16			0.83	**M/M+2**	1.05	0.88-1.20	1.166	1.163 - 1.169
2,2',4-TriCB	17			1.02	**M/M+2**	1.07	0.88-1.20	1.138	1.135 - 1.141
2,2',5-TriCB	18	18 + 30	C	1.20	**M/M+2**	1.05	0.88-1.20	1.112	1.109 - 1.115
2,3,3'-TriCB	20	20 + 28	C	1.16	**M/M+2**	0.99	0.88-1.20	0.848	0.845 - 0.851
2,3,4-TriCB	21	21 + 33	C	1.16	**M/M+2**	0.98	0.88-1.20	0.855	0.852 - 0.858
2,3,4'-TriCB	22			1.01	**M/M+2**	0.99	0.88-1.20	0.871	0.870 - 0.873
2,3,5-TriCB	23			1.08	**M/M+2**	1.01	0.88-1.20	1.282	1.279 - 1.285
2,3,6-TriCB	24			1.39	**M/M+2**	1.09	0.88-1.20	1.160	1.157 - 1.162
2,3',4-TriCB	25			1.30	**M/M+2**	1.01	0.88-1.20	0.825	0.823 - 0.827
2,3',5-TriCB	26	26 + 29	C	1.12	**M/M+2**	0.97	0.88-1.20	1.302	1.297 - 1.306
2,3',6-TriCB	27			1.44	**M/M+2**	1.08	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			1.22	**M/M+2**	0.99	0.88-1.20	0.837	0.835 - 0.838
2,4',6-TriCB	32			1.18	**M/M+2**	0.98	0.88-1.20	1.197	1.195 - 1.200
2',3,4-TriCB	33	21 + 33	C21						
2',3,5-TriCB	34			1.08	**M/M+2**	0.99	0.88-1.20	1.272	1.269 - 1.275
3,3',4-TriCB	35			1.10	**M/M+2**	1.00	0.88-1.20	0.985	0.984 - 0.987
3,3',5-TriCB	36			1.17	**M/M+2**	1.00	0.88-1.20	0.931	0.929 - 0.933
3,4,5-TriCB	38			1.11	**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**	0.99	0.88-1.20	0.945	0.943 - 0.947
2,2',3,3'-TeCB	40	40 + 41 + 71	C	0.87	**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			0.84	**M/M+2**	0.77	0.65-0.89	1.312	1.310 - 1.314
2,2',3,5-TeCB	43			0.80	**M/M+2**	0.80	0.65-0.89	1.246	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	0.89	**M/M+2**	0.79	0.65-0.89	1.147	1.143 - 1.151
2,2',3,6'-TeCB	46			0.77	**M/M+2**	0.80	0.65-0.89	1.161	1.158 - 1.163
2,2',4,4'-TeCB	47	44 + 47 + 65	C44						
2,2',4,5-TeCB	48			0.87	**M/M+2**	0.78	0.65-0.89	1.273	1.271 - 1.276
2,2',4,5'-TeCB	49	49 + 69	C	1.03	**M/M+2**	0.79	0.65-0.89	1.257	1.253 - 1.261
2,2',4,6-TeCB	50	50 + 53	C	0.92	**M/M+2**	0.79	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			0.94	**M/M+2**	0.77	0.65-0.89	1.234	1.232 - 1.236
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			0.89	**M/M+2**	0.78	0.65-0.89	0.904	0.903 - 0.906

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	RRF	MZ's FORMING RATIO [2]	ION ABUND. RATIO	RATIO QC LIMITS [3]	RRT	RRT QC LIMITS
2,3,3',5-TeCB	57			0.98	**M/M+2**	0.75	0.65-0.89	0.844	0.842 - 0.845
2,3,3',5'-TeCB	58			0.93	**M/M+2**	0.80	0.65-0.89	0.851	0.849 - 0.852
2,3,3',6-TeCB	59	59 + 62 + 75	C	1.20	**M/M+2**	0.79	0.65-0.89	1.301	1.297 - 1.305
2,3,4,4'-TeCB	60			0.90	**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	0.99	**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			0.99	**M/M+2**	0.76	0.65-0.89	0.864	0.863 - 0.866
2,3,4',6-TeCB	64			1.19	**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			0.98	**M/M+2**	0.76	0.65-0.89	0.884	0.883 - 0.886
2,3',4,5-TeCB	67			1.16	**M/M+2**	0.72	0.65-0.89	0.856	0.855 - 0.857
2,3',4,5'-TeCB	68			1.00	**M/M+2**	0.74	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	0.823	0.821 - 0.824
2,3',5',6-TeCB	73			1.09	**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			1.12	**M/M+2**	0.74	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			0.77	**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	0.84	**M+2/M+4**	1.55	1.32-1.78	0.884	0.882 - 0.887
2,2',3,3',6-PeCB	84			0.78	**M+2/M+4**	1.61	1.32-1.78	1.164	1.162 - 1.165
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	0.917 - 0.922
2,2',3,4,5-PeCB	86	86 + 87 + 97 + 108 + 119 + 125	C	1.01	**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	0.86	**M+2/M+4**	1.59	1.32-1.78	1.153	1.149 - 1.157
2,2',3,4,6'-PeCB	89			0.82	**M+2/M+4**	1.57	1.32-1.78	1.183	1.181 - 1.185
2,2',3,4',5-PeCB	90	90 + 101 + 113	C	1.01	**M+2/M+4**	1.59	1.32-1.78	0.869	0.866 - 0.871
2,2',3,4',6-PeCB	91	88 + 91	C88						
2,2',3,5,5'-PeCB	92			0.85	**M+2/M+4**	1.58	1.32-1.78	0.853	0.851 - 0.854
2,2',3,5,6-PeCB	93	93 + 95 + 98 + 100 + 102	C	0.90	**M+2/M+4**	1.56	1.32-1.78	1.130	1.119 - 1.140
2,2',3,5,6'-PeCB	94			0.80	**M+2/M+4**	1.57	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			1.05	**M+2/M+4**	1.59	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			0.99	**M+2/M+4**	1.61	1.32-1.78	1.094	1.092 - 1.096
2,3,3',4,5-PeCB	106			1.00	**M+2/M+4**	1.46	1.32-1.78	1.004	1.003 - 1.005
2,3,3',4',5-PeCB	107	107 + 124	C	0.95	**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			0.94	**M+2/M+4**	1.54	1.32-1.78	0.997	0.996 - 0.999
2,3,3',4',6-PeCB	110	110 + 115	C	1.12	**M+2/M+4**	1.60	1.32-1.78	0.926	0.924 - 0.928
2,3,3',5,5'-PeCB	111			1.17	**M+2/M+4**	1.59	1.32-1.78	0.945	0.944 - 0.946
2,3,3',5,6-PeCB	112			1.17	**M+2/M+4**	1.64	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			1.18	**M+2/M+4**	1.59	1.32-1.78	0.958	0.957 - 0.959
2,3',4,5',6-PeCB	121			1.12	**M+2/M+4**	1.61	1.32-1.78	1.200	1.198 - 1.202
2',3,3',4,5-PeCB	122			0.83	**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 [1]	RRF	MZ's FORMING RATIO [2]	ION ABUND. RATIO	RATIO QC LIMITS [3]	RRT	RRT QC LIMITS
3,3',4,5,5'-PeCB	127			0.95	**M+2/M+4**	1.51	1.32-1.78	1.041	1.040 - 1.043
2,2',3,3',4,4'-HxCB	128	128 + 166	C	1.04	**M+2/M+4**	1.28	1.05-1.43	0.958	0.957 - 0.960
2,2',3,3',4,5-HxCB	129	129 + 138 + 160 + 163	C	1.01	**M+2/M+4**	1.26	1.05-1.43	0.930	0.927 - 0.933
2,2',3,3',4,5'-HxCB	130			0.79	**M+2/M+4**	1.26	1.05-1.43	0.913	0.912 - 0.914
2,2',3,3',4,6-HxCB	131			0.86	**M+2/M+4**	1.20	1.05-1.43	1.160	1.158 - 1.162
2,2',3,3',4,6'-HxCB	132			0.80	**M+2/M+4**	1.27	1.05-1.43	1.175	1.173 - 1.178
2,2',3,3',5,5'-HxCB	133			0.87	**M+2/M+4**	1.25	1.05-1.43	1.191	1.190 - 1.193
2,2',3,3',5,6-HxCB	134	134 + 143	C	0.86	**M+2/M+4**	1.27	1.05-1.43	1.142	1.139 - 1.144
2,2',3,3',5,6'-HxCB	135	135 + 151 + 154	C	0.78	**M+2/M+4**	1.28	1.05-1.43	1.107	1.101 - 1.112
2,2',3,3',6,6'-HxCB	136			1.03	**M+2/M+4**	1.26	1.05-1.43	1.025	1.024 - 1.027
2,2',3,4,4',5-HxCB	137			0.80	**M+2/M+4**	1.30	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	0.95	**M+2/M+4**	1.29	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			0.91	**M+2/M+4**	1.28	1.05-1.43	0.903	0.902 - 0.904
2,2',3,4,5,6-HxCB	142			0.87	**M+2/M+4**	1.30	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			0.75	**M+2/M+4**	1.26	1.05-1.43	1.122	1.120 - 1.123
2,2',3,4,6,6'-HxCB	145			0.95	**M+2/M+4**	1.26	1.05-1.43	1.034	1.032 - 1.036
2,2',3,4',5,5'-HxCB	146			1.01	**M+2/M+4**	1.28	1.05-1.43	0.884	0.883 - 0.885
2,2',3,4',5,6-HxCB	147	147 + 149	C	0.97	**M+2/M+4**	1.27	1.05-1.43	1.134	1.132 - 1.137
2,2',3,4',5,6'-HxCB	148			0.73	**M+2/M+4**	1.27	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			1.00	**M+2/M+4**	1.26	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			1.09	**M+2/M+4**	1.24	1.05-1.43	1.007	1.006 - 1.009
2,2',4,4',5,5'-HxCB	153	153 + 168	C	1.14	**M+2/M+4**	1.27	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			1.38	**M+2/M+4**	1.25	1.05-1.43	0.938	0.936 - 0.939
2,3,3',4,5,5'-HxCB	159			1.20	**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			1.23	**M+2/M+4**	1.26	1.05-1.43	0.887	0.886 - 0.888
2,3,3',4',5,5'-HxCB	162			1.32	**M+2/M+4**	1.28	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			1.24	**M+2/M+4**	1.26	1.05-1.43	0.921	0.920 - 0.922
2,3,3',5,5',6-HxCB	165			1.05	**M+2/M+4**	1.28	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			1.23	**M+2/M+4**	1.07	0.89-1.21	1.000	0.999 - 1.001
2,2',3,3',4,4',6-HpCB	171	171 + 173	C	0.79	**M+2/M+4**	1.06	0.89-1.21	1.163	1.161 - 1.165
2,2',3,3',4,5,5'-HpCB	172			0.75	**M+2/M+4**	1.01	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			0.82	**M+2/M+4**	1.06	0.89-1.21	1.134	1.133 - 1.135
2,2',3,3',4,5',6-HpCB	175			0.83	**M+2/M+4**	1.09	0.89-1.21	1.103	1.101 - 1.104
2,2',3,3',4,6,6'-HpCB	176			1.08	**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			1.06	**M+2/M+4**	1.07	0.89-1.21	1.146	1.145 - 1.148
2,2',3,3',5,5',6-HpCB	178			0.85	**M+2/M+4**	1.03	0.89-1.21	1.085	1.084 - 1.087
2,2',3,3',5,6,6'-HpCB	179			1.10	**M+2/M+4**	1.08	0.89-1.21	1.010	1.009 - 1.011
2,2',3,4,4',5,5'-HpCB	180	180 + 193	C	1.05	**M+2/M+4**	1.06	0.89-1.21	1.000	0.999 - 1.001
2,2',3,4,4',5,6-HpCB	181			0.83	**M+2/M+4**	1.07	0.89-1.21	1.157	1.155 - 1.158
2,2',3,4,4',5,6'-HpCB	182			0.82	**M+2/M+4**	1.07	0.89-1.21	1.116	1.114 - 1.117
2,2',3,4,4',5',6-HpCB	183	183 + 185	C	0.85	**M+2/M+4**	1.08	0.89-1.21	1.128	1.127 - 1.129
2,2',3,4,4',6,6'-HpCB	184			1.14	**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			1.03	**M+2/M+4**	1.08	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			1.01	**M+2/M+4**	1.08	0.89-1.21	0.947	0.946 - 0.948
2,3,3',4,4',5',6-HpCB	191			0.97	**M+2/M+4**	1.05	0.89-1.21	0.917	0.916 - 0.918
2,3,3',4,5,5',6-HpCB	192			0.90	**M+2/M+4**	1.07	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			0.91	**M+2/M+4**	0.90	0.76-1.02	0.991	0.990 - 0.992
2,2',3,3',4,4',5,6-OcCB	195			0.86	**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			0.69	**M+2/M+4**	0.90	0.76-1.02	0.916	0.915 - 0.916

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	RRF	MZ's FORMING RATIO [2]	ION ABUND. RATIO	RATIO QC LIMITS [3]	RRT	RRT QC LIMITS
2,2',3,3',4,4',6,6'-OcCB	197	197 + 200	C	0.95	**M+2/M+4**	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	0.67	**M+2/M+4**	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			0.94	**M+2/M+4**	0.92	0.76-1.02	1.023	1.021 - 1.025
2,2',3,4,4',5,5',6-OcCB	203			0.69	**M+2/M+4**	0.94	0.76-1.02	0.919	0.918 - 0.920
2,2',3,4,4',5,6,6'-OcCB	204			0.95	**M+2/M+4**	0.92	0.76-1.02	1.039	1.038 - 1.040
2,2',3,3',4,4',5,6,6'-NoCB	207			1.26	**M+2/M+4**	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: _____Ting Chen_____

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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_361A S: 1
Instrument ID:	HR GC/MS	**Analysis Date:**	22-Oct-2018
GC Column ID:	SPB OCTYL	**Analysis Time:**	09:24:48

LABELED COMPOUND	IUPAC NO. [1]	CO-ELUTIONS	LAB FLAG [2]	RRF	MZ's FORMING RATIO [3]	ION ABUND. RATIO	RATIO QC LIMITS [4]	RRT	RRT QC LIMITS
13C12-2-MoCB	1L			1.07	**M/M+2**	3.16	2.66-3.60	0.720	0.704 - 0.735
13C12-4-MoCB	3L			1.00	**M/M+2**	3.17	2.66-3.60	0.858	0.843 - 0.874
13C12-2,2'-DiCB	4L			0.63	**M/M+2**	1.59	1.33-1.79	0.874	0.858 - 0.890
13C12-4,4'-DiCB	15L			0.92	**M/M+2**	1.55	1.33-1.79	1.253	1.238 - 1.269
13C12-2,2',6-TriCB	19L			0.49	**M/M+2**	1.08	0.88-1.20	1.071	1.055 - 1.086
13C12-3,4,4'-TriCB	37L			1.46	**M/M+2**	1.01	0.88-1.20	1.092	1.082 - 1.102
13C12-2,2',6,6'-TeCB	54L			1.40	**M/M+2**	0.80	0.65-0.89	0.811	0.804 - 0.818
13C12-3,3',4,4'-TeCB	77L			1.25	**M/M+2**	0.76	0.65-0.89	1.397	1.390 - 1.403
13C12-3,4,4',5-TeCB	81L			1.24	**M/M+2**	0.76	0.65-0.89	1.373	1.366 - 1.379
13C12-2,2',4,6,6'-PeCB	104L			1.05	**M+2/M+4**	1.63	1.32-1.78	0.808	0.803 - 0.813
13C12-2,3,3',4,4'-PeCB	105L			1.28	**M+2/M+4**	1.57	1.32-1.78	1.200	1.195 - 1.205
13C12-2,3,4,4',5-PeCB	114L			1.17	**M+2/M+4**	1.54	1.32-1.78	1.179	1.174 - 1.185
13C12-2,3',4,4',5-PeCB	118L			1.23	**M+2/M+4**	1.56	1.32-1.78	1.162	1.157 - 1.167
13C12-2',3,4,4',5-PeCB	123L			1.27	**M+2/M+4**	1.56	1.32-1.78	1.151	1.146 - 1.157
13C12-3,3',4,4',5-PeCB	126L			1.11	**M+2/M+4**	1.49	1.32-1.78	1.302	1.297 - 1.307
13C12-2,2',4,4',6,6'-HxCB	155L			1.09	**M+2/M+4**	1.29	1.05-1.43	0.786	0.782 - 0.790
13C12-2,3,3',4,4',5-HxCB	156L	156L + 157L	C	1.18	**M+2/M+4**	1.26	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**	1.29	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**	1.26	1.05-1.43	1.192	1.188 - 1.196
13C12-2,2',3,3',4,4',5-HpCB	170L			0.82	**M+2/M+4**	1.06	0.89-1.21	0.897	0.894 - 0.900
13C12-2,2',3,4,4',5,5'-HpCB	180L			1.05	**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			1.46	**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			1.27	**M+2/M+4**	1.01	0.89-1.21	0.959	0.956 - 0.962
13C12-2,2',3,3',5,5',6,6'-OcCB	202L			1.08	**M+2/M+4**	0.93	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**	0.91	0.76-1.02	1.009	1.004 - 1.014
13C12-2,2',3,3',4,4',5,5',6-NoCB	206L			0.93	**M+2/M+4**	0.77	0.65-0.89	1.043	1.038 - 1.048
13C12-2,2',3,3',4,5,5',6,6'-NoCB	208L			1.17	**M+2/M+4**	0.79	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: _____Ting Chen_____

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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_361A S: 10
Instrument ID:	HR GC/MS	**Analysis Date:**	22-Oct-2018
GC Column ID:	SPB OCTYL	**Analysis Time:**	18:58:42

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	MZ's FORMING RATIO [2]	ION ABUND. RATIO	QC LIMITS [3]	CONC. FOUND (ng/mL)	CONC. RANGE (ng/mL)
2-MoCB	1			**M/M+2**	2.99	2.66-3.60	21.2	17.5 - 32.5
4-MoCB	3			**M/M+2**	3.00	2.66-3.60	22.0	17.5 - 32.5
2,2'-DiCB	4			**M/M+2**	1.48	1.33-1.79	20.6	17.5 - 32.5
4,4'-DiCB	15			**M/M+2**	1.47	1.33-1.79	24.2	19.6 - 36.4
2,2',6-TriCB	19			**M/M+2**	1.06	0.88-1.20	27.9	17.5 - 32.5
3,4,4'-TriCB	37			**M/M+2**	0.98	0.88-1.20	20.8	17.5 - 32.5
2,2',6,6'-TeCB	54			**M/M+2**	0.80	0.65-0.89	52.3	35.0 - 65.0
3,3',4,4'-TeCB	77			**M/M+2**	0.74	0.65-0.89	42.8	35.0 - 65.0
3,4,4',5-TeCB	81			**M/M+2**	0.74	0.65-0.89	46.1	35.0 - 65.0
2,2',4,6,6'-PeCB	104			**M+2/M+4**	1.61	1.32-1.78	55.8	35.0 - 65.0
2,3,3',4,4'-PeCB	105			**M+2/M+4**	1.45	1.32-1.78	45.9	35.0 - 65.0
2,3,4,4',5-PeCB	114			**M+2/M+4**	1.49	1.32-1.78	46.8	35.0 - 65.0
2,3',4,4',5-PeCB	118			**M+2/M+4**	1.50	1.32-1.78	44.2	35.0 - 65.0
2',3,4,4',5-PeCB	123			**M+2/M+4**	1.51	1.32-1.78	42.4	35.0 - 65.0
3,3',4,4',5-PeCB	126			**M+2/M+4**	1.47	1.32-1.78	47.2	39.0 - 72.4
2,2',4,4',6,6'-HxCB	155			**M+2/M+4**	1.26	1.05-1.43	54.8	35.0 - 65.0
2,3,3',4,4',5-HxCB	156	156 + 157	C	**M+2/M+4**	1.23	1.05-1.43	102	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**	1.25	1.05-1.43	54.5	35.0 - 65.0
2,2',3,4',5,6,6'-HpCB	188			**M+2/M+4**	1.04	0.89-1.21	52.2	35.0 - 65.0
2,3,3',4,4',5,5'-HpCB	189			**M+2/M+4**	1.01	0.89-1.21	41.0	35.0 - 65.0
2,2',3,3',5,5',6,6'-OcCB	202			**M+2/M+4**	0.89	0.76-1.02	89.6	58.9 - 110
2,3,3',4,4',5,5',6-OcCB	205			**M+2/M+4**	0.86	0.76-1.02	72.3	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	75.9	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	83.4	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	77.0	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: _____Robert Tones_____

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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_361A S: 10
Instrument ID:	HR GC/MS	**Analysis Date:**	22-Oct-2018
GC Column ID:	SPB OCTYL	**Analysis Time:**	18:58:42

LABELED COMPOUND	IUPAC NO. [1]	CO-ELUTIONS	LAB FLAG [2]	MZ's FORMING RATIO [3]	ION ABUND. RATIO	QC LIMITS [4]	CONC. FOUND (ng/mL)	CONC. RANGE (ng/mL)
13C12-2-MoCB	1L			**M/M+2**	3.18	2.66-3.60	95.9	50.0 - 150
13C12-4-MoCB	3L			**M/M+2**	3.13	2.66-3.60	95.7	50.0 - 150
13C12-2,2'-DiCB	4L			**M/M+2**	1.58	1.33-1.79	89.8	50.0 - 150
13C12-4,4'-DiCB	15L			**M/M+2**	1.57	1.33-1.79	90.8	50.0 - 150
13C12-2,2',6-TriCB	19L			**M/M+2**	1.08	0.88-1.20	92.1	50.0 - 150
13C12-3,4,4'-TriCB	37L			**M/M+2**	1.02	0.88-1.20	82.4	50.0 - 150
13C12-2,2',6,6'-TeCB	54L			**M/M+2**	0.80	0.65-0.89	91.9	50.0 - 150
13C12-3,3',4,4'-TeCB	77L			**M/M+2**	0.76	0.65-0.89	96.1	50.0 - 150
13C12-3,4,4',5-TeCB	81L			**M/M+2**	0.75	0.65-0.89	96.0	50.0 - 150
13C12-2,2',4,6,6'-PeCB	104L			**M+2/M+4**	1.61	1.32-1.78	70.4	50.0 - 150
13C12-2,3,3',4,4'-PeCB	105L			**M+2/M+4**	1.51	1.32-1.78	89.4	50.0 - 150
13C12-2,3,4,4',5-PeCB	114L			**M+2/M+4**	1.56	1.32-1.78	85.5	50.0 - 150
13C12-2,3',4,4',5-PeCB	118L			**M+2/M+4**	1.53	1.32-1.78	87.0	50.0 - 150
13C12-2',3,4,4',5-PeCB	123L			**M+2/M+4**	1.54	1.32-1.78	87.8	50.0 - 150
13C12-3,3',4,4',5-PeCB	126L			**M+2/M+4**	1.54	1.32-1.78	90.1	50.0 - 150
13C12-2,2',4,4',6,6'-HxCB	155L			**M+2/M+4**	1.29	1.05-1.43	65.6	50.0 - 150
13C12-2,3,3',4,4',5-HxCB	156L	156L + 157L	C	**M+2/M+4**	1.29	1.05-1.43	189	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	96.2	50.0 - 150
13C12-3,3',4,4',5,5'-HxCB	169L			**M+2/M+4**	1.27	1.05-1.43	93.9	50.0 - 150
13C12-2,2',3,4',5,6,6'-HpCB	188L			**M+2/M+4**	1.09	0.89-1.21	70.2	50.0 - 150
13C12-2,3,3',4,4',5,5'-HpCB	189L			**M+2/M+4**	1.02	0.89-1.21	72.9	50.0 - 150
13C12-2,2',3,3',5,5',6,6'-OcCB	202L			**M+2/M+4**	0.93	0.76-1.02	55.1	50.0 - 150
13C12-2,3,3',4,4',5,5',6-OcCB	205L			**M+2/M+4**	0.91	0.76-1.02	91.2	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	88.7	50.0 - 150
13C12-2,2',3,3',4,5,5',6,6'-NoCB	208L			**M+2/M+4**	0.78	0.65-0.89	83.8	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	71.7	50.0 - 150
CLEAN-UP STANDARD								
13C12-2,4,4'-TriCB	28L			**M/M+2**	1.04	0.88-1.20	92.2	60.0 - 130
13C12-2,3,3',5,5'-PeCB	111L			**M+2/M+4**	1.62	1.32-1.78	91.6	60.0 - 130
13C12-2,2',3,3',5,5',6-HpCB	178L			**M+2/M+4**	1.05	0.89-1.21	84.8	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.

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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

Initial Calibration Date:	07-Jul-2018	**VER Data Filename:**	PB8C_361A S: 10
Instrument ID:	HR GC/MS	**Analysis Date:**	22-Oct-2018
GC Column ID:	SPB OCTYL	**Analysis Time:**	18:58:42

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	RETENTION TIME REFERENCE	IUPAC NO. [2]	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	1.000	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	1.001	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	1.000	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	1.000	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	1.001	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	1.001	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	1.001	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.

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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_361A S: 10
Instrument ID:	HR GC/MS	**Analysis Date:**	22-Oct-2018
GC Column ID:	SPB OCTYL	**Analysis Time:**	18:58:42

LABELED COMPOUND	IUPAC NO. [1]	CO-ELUTIONS	LAB FLAG [2]	RETENTION TIME REFERENCE	IUPAC NO. [1]	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	1.254	1.223-1.286
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	0.798-0.824
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	1.374	1.360-1.387
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	1.201	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	1.151-1.172
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	1.302	1.291-1.312
13C12-2,2',4,4',6,6'-HxCB	155L			13C12-2,2',3,4,4',5'-HxCB	138L	0.785	0.777-0.793
13C12-2,3,3',4,4',5-HxCB	156L	156L + 157L	C	13C12-2,2',3,4,4',5'-HxCB	138L	1.108	1.099-1.116
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	1.069-1.086
13C12-3,3',4,4',5,5'-HxCB	169L			13C12-2,2',3,4,4',5'-HxCB	138L	1.192	1.183-1.200
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	0.942-0.955
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.

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Accreditation Scope

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

				Serum	Solids											Tissue							Urine	Water	Water, Non-Potable								
Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	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	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									Y
		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	Y							Y		Y						Y			Y
		SGS AXYS MLA-007	MLA-007	Y	Y		Y								Y	Y							Y		Y									Y
	2,4'-DDE	EPA 625	MLA-007																						Y									Y
		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	Y							Y		Y						Y			Y
		SGS AXYS MLA-007	MLA-007	Y	Y		Y								Y	Y							Y		Y									Y
	2,4'-DDT	EPA 625	MLA-007																						Y									Y
		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	Y							Y		Y						Y			Y
		SGS AXYS MLA-007	MLA-007	Y	Y		Y								Y	Y							Y		Y									Y
	4,4'-DDD	EPA 625	MLA-007																						Y				Y	Y		Y		Y
		EPA 8270	MLA-007				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	Y							Y		Y						Y			Y
		SGS AXYS MLA-007	MLA-007	Y	Y		Y								Y	Y							Y		Y									Y
	4,4'-DDE	EPA 625	MLA-007																						Y				Y	Y		Y		Y
		EPA 8270	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	Solids										Tissue							Urine	Water	Water, Non-Potable									
				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	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 **
		EPA 1699	MLA-028				Y							Y										Y									Y	
		SGS AXYS MLA-028	MLA-028		Y		Y					Y		Y		Y							Y		Y						Y			Y	
		SGS AXYS MLA-007	MLA-007		Y		Y							Y		Y							Y		Y						Y			Y	
	4,4'-DDT	EPA 625	MLA-007																						Y				Y	Y		Y		Y	
		EPA 8270	MLA-007				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							Y		Y						Y			Y	
		SGS AXYS MLA-007	MLA-007		Y		Y							Y		Y							Y		Y						Y			Y	
	Aldrin	EPA 625	MLA-007																						Y				Y	Y		Y		Y	
		EPA 8270	MLA-007				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							Y		Y						Y			Y	
		SGS AXYS MLA-007	MLA-007		Y		Y							Y		Y							Y		Y						Y			Y	
	Alpha-HCH	EPA 625	MLA-007																						Y				Y	Y		Y		Y	
		EPA 8270	MLA-007				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							Y		Y						Y			Y	
		SGS AXYS MLA-007	MLA-007		Y		Y							Y		Y							Y		Y						Y			Y	
	Beta-HCH	EPA 625	MLA-007																						Y				Y	Y		Y		Y	
		EPA 8270	MLA-007				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							Y		Y						Y			Y	
		SGS AXYS MLA-007	MLA-007		Y		Y							Y		Y							Y		Y						Y			Y	
	Chlordane, technical	EPA 625	MLA-007																													Y			
		EPA 8270	MLA-007				Y			Y	Y		Y	Y												Y				Y	Y		Y		Y	
		SGS AXYS MLA-007	MLA-007				Y							Y											Y									Y	
	cis-Chlordane (alpha-Chlordane)	EPA 8270	MLA-007				Y			Y		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							Y		Y						Y			Y	
		SGS AXYS MLA-007	MLA-007		Y		Y							Y		Y							Y		Y						Y			Y	
	cis-Nonachlor	EPA 8270	MLA-007				Y					Y		Y											Y									Y	
		EPA 1699	MLA-028				Y							Y											Y									Y	
		SGS AXYS MLA-028	MLA-028		Y		Y					Y		Y		Y							Y		Y						Y			Y	
		SGS AXYS MLA-007	MLA-007		Y		Y							Y		Y							Y		Y						Y			Y	
	Delta-HCH	EPA 608	MLA-007																						Y				Y	Y		Y		Y	
		EPA 8081	MLA-007				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							Y		Y						Y			Y	
		SGS AXYS MLA-007	MLA-007		Y		Y							Y		Y							Y		Y						Y			Y	
	Dieldrin	EPA 608	MLA-007																						Y				Y	Y		Y		Y	
		EPA 8081	MLA-007				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							Y		Y						Y			Y	
		SGS AXYS MLA-007	MLA-007		Y		Y							Y		Y							Y		Y						Y			Y	
	Endosulphan I	EPA 608	MLA-007																						Y				Y	Y		Y		Y	
		EPA 8081	MLA-007				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							Y		Y						Y			Y	
		SGS AXYS MLA-007	MLA-007		Y		Y							Y		Y							Y		Y						Y			Y	
	Endosulphan II	EPA 608	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	Solids											Tissue							Urine	Water	Water, Non-Potable									
				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	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 **
		EPA 8081	MLA-007				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		Y							Y	Y		Y					Y			Y
		SGS AXYS MLA-007	MLA-007	Y	Y		Y							Y		Y							Y	Y		Y								Y
	Endosulphan sulphate	EPA 608	MLA-007																							Y				Y	Y		Y	Y
		EPA 8081	MLA-007				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		Y							Y	Y		Y					Y			Y
		SGS AXYS MLA-007	MLA-007	Y	Y		Y							Y		Y							Y	Y		Y								Y
	Endrin	EPA 608	MLA-007																							Y				Y	Y		Y	Y
		EPA 8081	MLA-007				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		Y							Y	Y		Y					Y			Y
		SGS AXYS MLA-007	MLA-007	Y	Y		Y							Y		Y							Y	Y		Y								Y
	Endrin aldehyde	EPA 608	MLA-007																							Y				Y	Y		Y	Y
		EPA 8081	MLA-007				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		Y							Y	Y		Y					Y			Y
		SGS AXYS MLA-007	MLA-007		Y		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		Y							Y	Y		Y					Y			Y
		SGS AXYS MLA-007	MLA-007	Y	Y		Y							Y		Y							Y	Y		Y								Y
	Gamma-HCH (Lindane)	EPA 625	MLA-007																							Y				Y	Y		Y	Y
		EPA 8270	MLA-007				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		Y							Y	Y		Y					Y			Y
		SGS AXYS MLA-007	MLA-007	Y	Y		Y							Y		Y							Y	Y		Y								Y
	Heptachlor	EPA 625	MLA-007																							Y				Y	Y		Y	Y
		EPA 8270	MLA-007				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		Y							Y	Y		Y					Y			Y
		SGS AXYS MLA-007	MLA-007	Y	Y		Y							Y		Y							Y	Y		Y								Y
	Heptachlor epoxide	EPA 608	MLA-007																							Y				Y	Y		Y	Y
		EPA 8081	MLA-007				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		Y							Y	Y		Y					Y			Y
		SGS AXYS MLA-007	MLA-007	Y	Y		Y							Y		Y							Y	Y		Y								Y
	Hexachlorobenzene	EPA 1625	MLA-007																							Y				Y				Y
		EPA 8270	MLA-007				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		Y							Y	Y		Y					Y			Y
		SGS AXYS MLA-007	MLA-007	Y	Y		Y							Y		Y							Y	Y		Y								Y
	Methoxychlor	EPA 608	MLA-007																							Y				Y	Y		Y	Y
		EPA 8081	MLA-007				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		Y							Y	Y		Y					Y			Y
		SGS AXYS MLA-007	MLA-007	Y	Y		Y							Y		Y							Y	Y		Y								Y
	Mirex	EPA 8270	MLA-007				Y			Y		Y		Y												Y				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	Solids											Tissue						Urine	Water	Water, Non-Potable									
				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	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-028	MLA-028	Y	Y		Y					Y		Y		Y							Y		Y					Y			Y	
		SGS AXYS MLA-007	MLA-007	Y	Y		Y							Y		Y							Y		Y								Y	
	Oxychlordane	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		Y							Y		Y					Y			Y	
		SGS AXYS MLA-007	MLA-007	Y	Y		Y									Y							Y		Y								Y	
	Toxaphene	EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	trans-Chlordane (gamma-Chlordane)	EPA 8270	MLA-007				Y			Y		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		Y							Y		Y					Y			Y	
		SGS AXYS MLA-007	MLA-007	Y	Y		Y							Y		Y							Y		Y								Y	
	trans-Nonachlor	EPA 8270	MLA-007				Y					Y		Y											Y								Y	
		EPA 1699	MLA-028				Y							Y											Y								Y	
		SGS AXYS MLA-028	MLA-028	Y	Y		Y					Y		Y		Y							Y		Y					Y			Y	
		SGS AXYS MLA-007	MLA-007	Y	Y		Y							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-Dimethyldibenzothiophene	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-Methyldibenzothiophene	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-Methyldibenzothiophene	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			Y	Y				Y	
		EPA 8270	MLA-021				Y			Y	Y			Y	Y																			
		SGS AXYS MLA-021	MLA-021		Y		Y								Y								Y		Y								Y	
	Acenaphthylene	EPA 1625	MLA-021																						Y			Y	Y				Y	
		EPA 8270	MLA-021				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	Water, Non-Potable									
				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	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-021	MLA-021		Y		Y							Y		Y						Y		Y									Y	
	Anthracene	EPA 1625	MLA-021																					Y				Y	Y				Y	
		EPA 8270	MLA-021				Y			Y	Y		Y	Y																				
		SGS AXYS MLA-021	MLA-021		Y		Y							Y		Y						Y		Y									Y	
	Benz[a]anthracene	EPA 1625	MLA-021																					Y				Y	Y				Y	
		EPA 8270	MLA-021				Y			Y	Y		Y	Y																				
		SGS AXYS MLA-021	MLA-021		Y		Y							Y		Y						Y		Y									Y	
	Benzo[a]pyrene	EPA 1625	MLA-021																					Y				Y	Y				Y	
		EPA 8270	MLA-021				Y			Y	Y		Y	Y																				
		SGS AXYS MLA-021	MLA-021		Y		Y							Y		Y						Y		Y									Y	
	Benzo[b]fluoranthene	EPA 1625	MLA-021																					Y				Y	Y		Y		Y	
		EPA 8270	MLA-021				Y			Y	Y		Y	Y																				
		SGS AXYS MLA-021	MLA-021		Y		Y							Y		Y						Y		Y									Y	
	Benzo[e]pyrene	SGS AXYS MLA-021	MLA-021		Y											Y						Y												
	Benzo[ghi]perylene	EPA 1625	MLA-021																					Y				Y	Y				Y	
		EPA 8270	MLA-021				Y			Y	Y		Y	Y																				
		SGS AXYS MLA-021	MLA-021		Y		Y							Y		Y						Y		Y									Y	
	Benzo[j/k]fluoranthenes	SGS AXYS MLA-021	MLA-021		Y											Y						Y												
	Benzo[k]fluoranthene	EPA 1625	MLA-021																					Y				Y	Y		Y		Y	
		EPA 8270	MLA-021				Y			Y			Y	Y																				
		SGS AXYS MLA-021	MLA-021				Y							Y										Y									Y	
	Biphenyl	SGS AXYS MLA-021	MLA-021		Y																		Y											
	C1-Acenaphthenes	SGS AXYS MLA-021	MLA-021		Y																		Y											
	C1-Benz(a)anthracenes/chrysenes	SGS AXYS MLA-021	MLA-021		Y																		Y											
	C1-Benzofluoranthenes/ Benzopyrenes	SGS AXYS MLA-021	MLA-021		Y																		Y											
	C1-Biphenyls	SGS AXYS MLA-021	MLA-021		Y																		Y											
	C1-Dibenzothiophene	SGS AXYS MLA-021	MLA-021		Y																		Y											
	C1-Fluoranthenes/Pyrenes	SGS AXYS MLA-021	MLA-021		Y																		Y											
	C1-Fluorenes	SGS AXYS MLA-021	MLA-021		Y																		Y											
	C1-Naphthalenes	SGS AXYS MLA-021	MLA-021		Y																		Y											
	C1-Phenanthrenes/Anthracenes	SGS AXYS MLA-021	MLA-021		Y																		Y											
	C2-Benz(a)anthracenes/Chrysenes	SGS AXYS MLA-021	MLA-021		Y																		Y											
	C2-Benzofluoranthenes/ Benzopyrenes	SGS AXYS MLA-021	MLA-021		Y																		Y											
	C2-Biphenyls	SGS AXYS MLA-021	MLA-021		Y																		Y											
	C2-Dibenzothiophene	SGS AXYS MLA-021	MLA-021		Y																		Y											
	C2-Fluoranthenes/Pyrenes	SGS AXYS MLA-021	MLA-021		Y																		Y											
	C2-Fluorenes	SGS AXYS MLA-021	MLA-021		Y																		Y											
	C2-Naphthalenes	SGS AXYS MLA-021	MLA-021		Y																		Y											
	C2-Phenanthrenes/Anthracenes	SGS AXYS MLA-021	MLA-021		Y																		Y											
	C3-Benz(a)anthracenes/Chrysenes	SGS AXYS MLA-021	MLA-021		Y																		Y											
	C3-Dibenzothiophene	SGS AXYS MLA-021	MLA-021		Y																		Y											
	C3-Fluoranthenes/Pyrenes	SGS AXYS MLA-021	MLA-021		Y																		Y											
	C3-Fluorenes	SGS AXYS MLA-021	MLA-021		Y																		Y											
	C3-Naphthalenes	SGS AXYS MLA-021	MLA-021		Y																		Y											
	C3-Phenanthrenes/Anthracenes	SGS AXYS MLA-021	MLA-021		Y																		Y											
	C4-Benz(a)anthracenes/Chrysenes	SGS AXYS MLA-021	MLA-021		Y																		Y											
	C4-Dibenzothiophene	SGS AXYS MLA-021	MLA-021		Y																		Y											
	C4-Fluoranthenes/Pyrenes	SGS AXYS MLA-021	MLA-021		Y																		Y											
	C4-Naphthalenes	SGS AXYS MLA-021	MLA-021		Y																		Y											
	C4-Phenanthrenes/Anthracenes	SGS AXYS MLA-021	MLA-021		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	Water, Non-Potable								
				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	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 **
	Chrysene	EPA 1625	MLA-021																					Y				Y	Y				Y	
		EPA 8270	MLA-021				Y			Y	Y		Y	Y																					
		SGS AXYS MLA-021	MLA-021		Y		Y							Y		Y							Y		Y									Y	
	Dibenz[a,h]anthracene	EPA 1625	MLA-021																					Y				Y	Y				Y	
		EPA 8270	MLA-021				Y			Y	Y		Y	Y																					
		SGS AXYS MLA-021	MLA-021		Y		Y							Y		Y							Y		Y									Y	
	Dibenzothiophene	SGS AXYS MLA-021	MLA-021		Y																		Y												
	Fluoranthene	EPA 1625	MLA-021																					Y				Y	Y				Y	
		EPA 8270	MLA-021				Y			Y	Y		Y	Y																					
		SGS AXYS MLA-021	MLA-021		Y		Y							Y		Y							Y		Y									Y	
	Fluorene	EPA 1625	MLA-021																					Y				Y	Y				Y	
		EPA 8270	MLA-021				Y			Y	Y		Y	Y																					
		SGS AXYS MLA-021	MLA-021		Y		Y							Y		Y							Y		Y									Y	
	Indeno[1,2,3-cd]pyrene	EPA 1625	MLA-021																					Y				Y	Y				Y	
		EPA 8270	MLA-021				Y			Y	Y		Y	Y																					
		SGS AXYS MLA-021	MLA-021		Y		Y							Y		Y							Y		Y									Y	
	Naphthalene	EPA 1625	MLA-021																					Y				Y	Y				Y	
		EPA 8270	MLA-021				Y			Y	Y		Y	Y																					
		SGS AXYS MLA-021	MLA-021		Y		Y							Y		Y							Y		Y									Y	
	Perylene	SGS AXYS MLA-021	MLA-021		Y											Y							Y												
	Phenanthrene	EPA 1625	MLA-021																					Y				Y	Y				Y	
		EPA 8270	MLA-021				Y			Y	Y		Y	Y																					
		SGS AXYS MLA-021	MLA-021		Y		Y							Y		Y							Y		Y									Y	
	Pyrene	EPA 1625	MLA-021																					Y				Y	Y				Y	
		EPA 8270	MLA-021				Y			Y	Y		Y	Y																					
		SGS AXYS MLA-021	MLA-021		Y		Y							Y		Y							Y		Y									Y	
	Retene	SGS AXYS MLA-021	MLA-021		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	Water, Non-Potable								
				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	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-033	MLA-033	Y	Y											Y							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.
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Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	Serum	Solids											Tissue						Urine	Water	Water, Non-Potable									
				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	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-033	MLA-033	Y	Y											Y							Y											
	BDE-33 2',3,4-tribromodiphenylether	EPA 1614	MLA-033									Y																		Y				
		SGS AXYS MLA-033	MLA-033	Y	Y											Y							Y											
PCB Aroclors	"PCBs" category (CA only)	EPA 625	MLA-007																					Y										
		EPA 8270	MLA-007			Y																												
	PCB Aroclor 1016	EPA 1668	MLA-010				Y						Y	Y											Y						Y		Y	
		EPA 625	MLA-007																						Y				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							Y		Y									Y	
	PCB Aroclor 1016/1242	EPA 8270	MLA-007									Y																						
	PCB Aroclor 1221	EPA 1668	MLA-010				Y						Y	Y											Y						Y		Y	
		EPA 625	MLA-007																						Y				Y	Y	Y		Y	
		EPA 8270	MLA-007				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	
		EPA 625	MLA-007																						Y				Y	Y	Y		Y	
		EPA 8270	MLA-007				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 1242	EPA 1668	MLA-010				Y						Y	Y											Y						Y		Y	
		EPA 625	MLA-007																						Y				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							Y		Y									Y	
	PCB Aroclor 1248	EPA 1668	MLA-010				Y						Y	Y											Y						Y		Y	
		EPA 625	MLA-007																						Y				Y	Y	Y		Y	
		EPA 8270	MLA-007				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 1254	EPA 1668	MLA-010				Y						Y	Y											Y						Y		Y	
		EPA 625	MLA-007																						Y				Y	Y	Y		Y	
		EPA 8270	MLA-007				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 1260	EPA 1668	MLA-010				Y						Y	Y											Y						Y		Y	
		EPA 625	MLA-007																						Y				Y	Y	Y		Y	
		EPA 8270	MLA-007				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 1268	SGS AXYS MLA-007	MLA-007		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		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					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	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y									Y	
	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		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y									Y	

Accreditation Scope

SGS AXYS Analytical Services Ltd.
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Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	Serum	Solids										Tissue						Urine	Water	Water, Non-Potable									
				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	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 **
	PCB 101 2,2',4,5,5'-Pentachlorobiphenyl	EPA 1668	MLA-010				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	
	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	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	
	PCB 103 2,2',4,5',6-Pentachlorobiphenyl	EPA 1668	MLA-010				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							Y		Y				Y		Y			Y								Y	
	PCB 104 2,2',4,6,6'-Pentachlorobiphenyl	EPA 1668	MLA-010				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							Y		Y				Y		Y			Y								Y	
	PCB 105 2,3,3',4,4'-Pentachlorobiphenyl	EPA 1668	MLA-010				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	
	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	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	
	PCB 107 2,3,3',4',5-Pentachlorobiphenyl	EPA 1668	MLA-010				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	
	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	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	
	PCB 109 2,3,3',4,6-Pentachlorobiphenyl	EPA 1668	MLA-010				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	
	PCB 11 3,3'-Dichlorobiphenyl	EPA 1668	MLA-010				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							Y		Y				Y		Y			Y								Y	
	PCB 110 2,3,3',4',6-Pentachlorobiphenyl	EPA 1668	MLA-010				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							Y		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	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	
	PCB 111/117	EPA 8270	MLA-007									Y																						
	PCB 112 2,3,3',5,6-Pentachlorobiphenyl	EPA 1668	MLA-010				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							Y		Y				Y		Y			Y								Y	
	PCB 113 2,3,3',5',6-Pentachlorobiphenyl	EPA 1668	MLA-010				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							Y		Y				Y		Y			Y								Y	
	PCB 114 2,3,4,4',5-Pentachlorobiphenyl	EPA 1668	MLA-010				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							Y		Y				Y		Y			Y								Y	
	PCB 115 2,3,4,4',6-Pentachlorobiphenyl	EPA 1668	MLA-010				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	
	PCB 116 2,3,4,5,6-Pentachlorobiphenyl	EPA 1668	MLA-010				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	
	PCB 117 2,3,4',5,6-Pentachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y						Y					Y		Y	Y	Y	Y		Y	Y	

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Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	Serum	Solids										Tissue						Urine	Water	Water, Non-Potable								
				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	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		Y			Y							Y	
	PCB 118 2,3',4,4',5-Pentachlorobiphenyl	EPA 1668	MLA-010				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	
		SGS AXYS MLA-901	MLA-901	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		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		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		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		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		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		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		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		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		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		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		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		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		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		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		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		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		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y				Y		Y			Y							Y	
		SGS AXYS MLA-007	MLA-007		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		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		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		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y				Y		Y			Y							Y	
		SGS AXYS MLA-007	MLA-007		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		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y				Y		Y			Y							Y	
		SGS AXYS MLA-007	MLA-007		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		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		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	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y				Y		Y			Y							Y	
		SGS AXYS MLA-007	MLA-007		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		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y				Y		Y			Y							Y	

Accreditation Scope

SGS AXYS Analytical Services Ltd.
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Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	Serum	Solids											Tissue						Urine	Water	Water, Non-Potable								
				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	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 **
	PCB 131/142	EPA 8270	MLA-007									Y																					
		SGS AXYS MLA-007	MLA-007		Y											Y							Y										
	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		Y	Y
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					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	Y
		EPA 8270	MLA-007									Y																					
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							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	Y	Y	Y		Y	Y
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							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	Y
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							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	Y
		EPA 8270	MLA-007									Y																					
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y
		SGS AXYS MLA-007	MLA-007		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	Y
		EPA 8270	MLA-007									Y																					
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							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	Y
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							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	Y
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							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	Y
		EPA 8270	MLA-007									Y																					
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							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	Y
		EPA 8270	MLA-007									Y																					
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							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	Y
		EPA 8270	MLA-007									Y																					
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							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	Y
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							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	Y
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							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	Y
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							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	Y
		EPA 8270	MLA-007									Y																					
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							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	Y

Accreditation Scope

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

Accreditation Scope

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

				Serum	Solids											Tissue							Urine	Water	Water, Non-Potable								
Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	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	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 **
	PCB 158/160	EPA 8270	MLA-007									Y																					
		SGS AXYS MLA-007	MLA-007		Y											Y							Y										
	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
		EPA 8270	MLA-007									Y																					
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y							Y
		SGS AXYS MLA-007	MLA-007		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
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y							Y
	PCB 16/32	EPA 8270	MLA-007									Y																					
		SGS AXYS MLA-007	MLA-007		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
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y							Y
		SGS AXYS MLA-007	MLA-007		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
		EPA 8270	MLA-007									Y																					
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y							Y
		SGS AXYS MLA-007	MLA-007		Y											Y							Y										
	PCB 162 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
		EPA 8270	MLA-007									Y																					
		SGS AXYS MLA-010	MLA-010	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
		SGS AXYS MLA-010	MLA-010	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
		SGS AXYS MLA-010	MLA-010	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
		EPA 8270	MLA-007									Y																					
		SGS AXYS MLA-010	MLA-010	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
		EPA 8270	MLA-007									Y																					
		SGS AXYS MLA-010	MLA-010	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
		EPA 8270	MLA-007									Y																					
		SGS AXYS MLA-010	MLA-010	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
		SGS AXYS MLA-010	MLA-010	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
		EPA 8270	MLA-007									Y																					
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y							Y
		SGS AXYS MLA-007	MLA-007		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
		EPA 8270	MLA-007									Y																					
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y							Y
		SGS AXYS MLA-007	MLA-007		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
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y							Y
		SGS AXYS MLA-901	MLA-901	Y																													
	PCB 170/190	EPA 8270	MLA-007									Y																					
		SGS AXYS MLA-007	MLA-007		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
		EPA 8270	MLA-007									Y																					

Accreditation Scope

SGS AXYS Analytical Services Ltd.
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				Serum	Solids											Tissue							Urine	Water	Water, Non-Potable								
Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	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	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		Y		Y								Y	
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 172 2,2',3,3',4,5,5'-Heptachlorobiphenyl	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		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	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		Y		Y								Y	
	PCB 174 2,2',3,3',4,5,6'-Heptachlorobiphenyl	EPA 1668	MLA-010				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	
	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	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		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	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		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	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		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	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		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	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		Y		Y								Y	
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 18 2,2',5-Trichlorobiphenyl	EPA 1668	MLA-010				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							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	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		Y		Y								Y	
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
		SGS AXYS MLA-901	MLA-901	Y																														
	PCB 181 2,2',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	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 182 2,2',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	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 183 2,2',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	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											

Accreditation Scope

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Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	Serum	Solids										Tissue						Urine	Water	Water, Non-Potable									
				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	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 **
	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	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		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
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
		SGS AXYS MLA-007	MLA-007		Y											Y							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
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		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
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		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											Y							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
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		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
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
		SGS AXYS MLA-007	MLA-007		Y											Y							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
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
		SGS AXYS MLA-007	MLA-007		Y											Y							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
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		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
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
		SGS AXYS MLA-007	MLA-007		Y											Y							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
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		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
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
		SGS AXYS MLA-007	MLA-007		Y											Y							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
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
		SGS AXYS MLA-007	MLA-007		Y											Y							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
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
		SGS AXYS MLA-007	MLA-007		Y											Y							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
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 196/203	EPA 8270	MLA-007									Y																						

Accreditation Scope

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				Serum	Solids											Tissue							Urine	Water	Water, Non-Potable								
Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	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	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-007	MLA-007		Y											Y							Y											
	PCB 197 2,2',3,3',4,4',6,6'-Octachlorobiphenyl	EPA 1668	MLA-010				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		Y									Y
		SGS AXYS MLA-007	MLA-007		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			Y	Y				Y	Y
		EPA 8270	MLA-007										Y																					
		SGS AXYS MLA-010	MLA-010	Y	Y		Y								Y						Y		Y		Y									Y
		SGS AXYS MLA-007	MLA-007		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	Y				Y	Y
		EPA 8270	MLA-007										Y																					
		SGS AXYS MLA-010	MLA-010	Y	Y		Y								Y						Y		Y		Y									Y
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 2 3-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						Y		Y		Y									Y
	PCB 20 2,3,3'-Trichlorobiphenyl	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		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			Y	Y				Y	Y
		EPA 8270	MLA-007										Y																					
		SGS AXYS MLA-010	MLA-010	Y	Y		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			Y	Y				Y	Y
		EPA 8270	MLA-007										Y																					
		SGS AXYS MLA-010	MLA-010	Y	Y		Y								Y						Y		Y		Y									Y
		SGS AXYS MLA-007	MLA-007		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			Y	Y				Y	Y
		EPA 8270	MLA-007										Y																					
		SGS AXYS MLA-010	MLA-010	Y	Y		Y								Y						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			Y	Y				Y	Y
		SGS AXYS MLA-010	MLA-010	Y	Y		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			Y	Y				Y	Y
		EPA 8270	MLA-007										Y																					
		SGS AXYS MLA-010	MLA-010	Y	Y		Y								Y						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			Y	Y				Y	Y
		EPA 8270	MLA-007										Y																					
		SGS AXYS MLA-010	MLA-010	Y	Y		Y								Y						Y		Y		Y									Y
		SGS AXYS MLA-007	MLA-007		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			Y	Y				Y	Y
		EPA 8270	MLA-007										Y																					
		SGS AXYS MLA-010	MLA-010	Y	Y		Y								Y						Y		Y		Y									Y
		SGS AXYS MLA-007	MLA-007		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	Y				Y	Y
		EPA 8270	MLA-007										Y																					
		SGS AXYS MLA-010	MLA-010	Y	Y		Y								Y						Y		Y		Y									Y
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 208 2,2',3,3',4,5,5',6,6'-Nonachlorobiphenyl	EPA 1668	MLA-010				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		Y									Y
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
	PCB 209 Decachlorobiphenyl	EPA 1668	MLA-010				Y			Y	Y	Y	Y	Y	Y						Y					Y			Y	Y				Y	Y

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				Serum	Solids											Tissue						Urine	Water	Water, Non-Potable									
Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	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	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 **
		EPA 8270	MLA-007									Y																					
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y
		SGS AXYS MLA-007	MLA-007		Y											Y							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
		SGS AXYS MLA-010	MLA-010	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							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		Y		Y								Y
		SGS AXYS MLA-007	MLA-007		Y											Y							Y										
	PCB 23 2,3,5-Trichlorobiphenyl	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		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							Y				Y		Y	Y	Y	Y		Y	Y
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y
	PCB 24/27	EPA 8270	MLA-007									Y																					
		SGS AXYS MLA-007	MLA-007		Y											Y							Y										
	PCB 25 2,3',4-Trichlorobiphenyl	EPA 1668	MLA-010				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							Y		Y					Y		Y		Y								Y
		SGS AXYS MLA-007	MLA-007		Y											Y							Y										
	PCB 26 2,3',5-Trichlorobiphenyl	EPA 1668	MLA-010				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							Y		Y					Y		Y		Y								Y
		SGS AXYS MLA-007	MLA-007		Y											Y							Y										
	PCB 27 2,3',6-Trichlorobiphenyl	EPA 1668	MLA-010				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
	PCB 28 2,4,4'-Trichlorobiphenyl	EPA 1668	MLA-010				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							Y		Y					Y		Y		Y								Y
		SGS AXYS MLA-007	MLA-007		Y											Y							Y										
	PCB 29 2,4,5-Trichlorobiphenyl	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		Y		Y								Y
	PCB 3 4-Chlorobiphenyl	EPA 1668	MLA-010				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							Y		Y					Y		Y		Y								Y
	PCB 30 2,4,6-Trichlorobiphenyl	EPA 1668	MLA-010				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
	PCB 31 2,4',5-Trichlorobiphenyl	EPA 1668	MLA-010				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							Y		Y					Y		Y		Y								Y
		SGS AXYS MLA-007	MLA-007		Y											Y							Y										
	PCB 32 2,4',6-Trichlorobiphenyl	EPA 1668	MLA-010				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
	PCB 33 2,3',4'-Trichlorobiphenyl	EPA 1668	MLA-010				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
	PCB 33/20/21	EPA 8270	MLA-007									Y																					
		SGS AXYS MLA-007	MLA-007		Y											Y							Y										
	PCB 34 2,3',5'-Trichlorobiphenyl	EPA 1668	MLA-010				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
		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	Water, Non-Potable									
				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	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 **
	PCB 35 3,3',4-Trichlorobiphenyl	EPA 1668	MLA-010				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							Y		Y					Y		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	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		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	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		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	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		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	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		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	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		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	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
		SGS AXYS MLA-007	MLA-007		Y											Y							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	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 41/71/64/68	EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-007	MLA-007		Y											Y							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	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 42/59	EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-007	MLA-007		Y											Y							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	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								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	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
		SGS AXYS MLA-007	MLA-007		Y											Y							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	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
		SGS AXYS MLA-007	MLA-007		Y											Y							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	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
		SGS AXYS MLA-007	MLA-007		Y											Y							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	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 47/48/75	EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-007	MLA-007		Y											Y							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	
		SGS AXYS MLA-010	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	Water, Non-Potable									
				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	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 **
	PCB 49 2,2',4,5'-Tetrachlorobiphenyl	EPA 1668	MLA-010				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	
	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	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	
	PCB 50 2,2',4,6-Tetrachlorobiphenyl	EPA 1668	MLA-010				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							Y		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	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		Y			Y								Y	
	PCB 52 2,2',5,5'-Tetrachlorobiphenyl	EPA 1668	MLA-010				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	
	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	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		Y			Y								Y	
	PCB 54 2,2',6,6'-Tetrachlorobiphenyl	EPA 1668	MLA-010				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							Y		Y				Y		Y			Y								Y	
	PCB 55 2,3,3',4-Tetrachlorobiphenyl	EPA 1668	MLA-010				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							Y		Y				Y		Y			Y								Y	
	PCB 56 2,3,3',4'-Tetrachlorobiphenyl	EPA 1668	MLA-010				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	
	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	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		Y			Y								Y	
	PCB 58 2,3,3',5'-Tetrachlorobiphenyl	EPA 1668	MLA-010				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							Y		Y				Y		Y			Y								Y	
	PCB 59 2,3,3',6-Tetrachlorobiphenyl	EPA 1668	MLA-010				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	
	PCB 6 2,3'-Dichlorobiphenyl	EPA 1668	MLA-010				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							Y		Y				Y		Y			Y								Y	
	PCB 60 2,3,4,4'-Tetrachlorobiphenyl	EPA 1668	MLA-010				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	
	PCB 61 2,3,4,5-Tetrachlorobiphenyl	EPA 1668	MLA-010				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	
	PCB 62 2,3,4,6-Tetrachlorobiphenyl	EPA 1668	MLA-010				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	
	PCB 62/65	EPA 8270	MLA-007									Y																						
	PCB 63 2,3,4',5-Tetrachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y						Y					Y		Y	Y	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																						

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SGS AXYS Analytical Services Ltd.
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Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	Serum: CALA	Solids: CALA	Solids: California DPH	Solids: Florida DOH	Solids: Minnesota DOH	Solids: New Jersey DEP	Solids: New York DOH	Solids: Virginia DGS	Solids: Washington DE	Solids: Maine DOH	Solids: ANAB ISO 17025	Solids: ANAB DoD **	Tissue: CALA	Tissue: Florida DOH	Tissue: Minnesota DOH	Tissue: New Jersey DEP	Tissue: Virginia DGS	Tissue: ANAB ISO 17025	Urine: CALA	Water: CALA	Water, Non-Potable: California DPH	Water, Non-Potable: Florida DOH	Water, Non-Potable: Minnesota DOH	Water, Non-Potable: New Jersey DEP	Water, Non-Potable: New York DOH	Water, Non-Potable: Virginia DGS	Water, Non-Potable: Washington DE *	Water, Non-Potable: Maine DOH	Water, Non-Potable: Pennsylvania DEP	Water, Non-Potable: ANAB ISO 17025	Water, Non-Potable: ANAB DoD **
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							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	Y	
		SGS AXYS MLA-010	MLA-010	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	
		SGS AXYS MLA-010	MLA-010	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	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 66/80	EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-007	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	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 68 2,3',4,5'-Tetrachlorobiphenyl	EPA 1668	MLA-010				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	
	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	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	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	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 7/9	EPA 8270	MLA-007									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	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
	PCB 70/76	EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-007	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	Y	
		SGS AXYS MLA-010	MLA-010	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	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	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	Y	
		SGS AXYS MLA-010	MLA-010	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	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
		SGS AXYS MLA-901	MLA-901	Y																														
	PCB 74/61	EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-007	MLA-007		Y											Y							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	Y	
		SGS AXYS MLA-010	MLA-010	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	Y	Y		Y	Y	
		SGS AXYS MLA-010	MLA-010	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	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y		Y		Y								Y	
		SGS AXYS MLA-007	MLA-007		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	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	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	Y	Y		Y	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	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	Water, Non-Potable									
				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	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 **
	PCB 8 2,4'-Dichlorobiphenyl	EPA 1668	MLA-010				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	
	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	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	
	PCB 81 3,4,4',5-Tetrachlorobiphenyl	EPA 1668	MLA-010				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							Y		Y					Y	Y	Y		Y								Y	
	PCB 82 2,2',3,3',4-Pentachlorobiphenyl	EPA 1668	MLA-010				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							Y		Y					Y	Y	Y		Y								Y	
	PCB 83 2,2',3,3',5-Pentachlorobiphenyl	EPA 1668	MLA-010				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	
	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	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	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	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	
	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	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	
	PCB 87 2,2',3,4,5'-Pentachlorobiphenyl	EPA 1668	MLA-010				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	
	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	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	
	PCB 88/121	EPA 8270	MLA-007									Y																						
	PCB 89 2,2',3,4,6'-Pentachlorobiphenyl	EPA 1668	MLA-010				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	
	PCB 9 2,5-Dichlorobiphenyl	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	Y	Y		Y								Y	
	PCB 90 2,2',3,4',5-Pentachlorobiphenyl	EPA 1668	MLA-010				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	
	PCB 91 2,2',3,4',6-Pentachlorobiphenyl	EPA 1668	MLA-010				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							Y		Y					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	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	Y	Y		Y								Y	
	PCB 93 2,2',3,5,6-Pentachlorobiphenyl	EPA 1668	MLA-010				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	
	PCB 94 2,2',3,5,6'-Pentachlorobiphenyl	EPA 1668	MLA-010				Y		Y	Y	Y	Y	Y	Y							Y				Y		Y	Y	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	Water, Non-Potable									
				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	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		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	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y				Y								Y	
	PCB 95/93	EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-007	MLA-007		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	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	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	Y	Y	Y		Y	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y				Y								Y	
	PCB 97/86	EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-007	MLA-007		Y											Y							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	Y	
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y				Y								Y	
	PCB 98/102	EPA 8270	MLA-007									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	Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y		Y							Y		Y					Y				Y								Y	
		SGS AXYS MLA-007	MLA-007		Y											Y							Y											
		SGS AXYS MLA-901	MLA-901	Y																														
	PCB congeners, total	EPA 1668	MLA-010							Y																		Y						
	Sum - Dichlorobiphenyls (BZ-12-+ BZ-13)	EPA 1668	MLA-010											Y							Y												Y	
		SGS AXYS MLA-010	MLA-010											Y							Y												Y	
	Sum - Heptachlorobiphenyls (BZ-171 + BZ-173)	EPA 1668	MLA-010											Y							Y												Y	
		SGS AXYS MLA-010	MLA-010											Y							Y												Y	
	Sum - Heptachlorobiphenyls (BZ-180 + BZ-193)	EPA 1668	MLA-010											Y							Y												Y	
		SGS AXYS MLA-010	MLA-010											Y							Y												Y	
	Sum - Heptachlorobiphenyls (BZ-183 + BZ-185)	EPA 1668	MLA-010											Y							Y												Y	
		SGS AXYS MLA-010	MLA-010											Y							Y												Y	
	Sum - Hexachlorobiphenyls (BZ-128 + BZ-166)	EPA 1668	MLA-010											Y							Y												Y	
		SGS AXYS MLA-010	MLA-010											Y							Y												Y	
	Sum - Hexachlorobiphenyls (BZ-129 + BZ-138 + BZ-160 + BZ-163)	EPA 1668	MLA-010											Y							Y												Y	
		SGS AXYS MLA-010	MLA-010											Y							Y												Y	
	Sum - Hexachlorobiphenyls (BZ-134 + BZ-143)	EPA 1668	MLA-010											Y							Y												Y	
		SGS AXYS MLA-010	MLA-010											Y							Y												Y	
	Sum - Hexachlorobiphenyls (BZ-135 + BZ-151 + BZ-154)	EPA 1668	MLA-010											Y							Y												Y	
		SGS AXYS MLA-010	MLA-010											Y							Y												Y	
	Sum - Hexachlorobiphenyls (BZ-139 + BZ-140)	EPA 1668	MLA-010											Y							Y												Y	
		SGS AXYS MLA-010	MLA-010											Y							Y												Y	
	Sum - Hexachlorobiphenyls (BZ-147 + BZ-149)	EPA 1668	MLA-010											Y							Y												Y	
		SGS AXYS MLA-010	MLA-010											Y							Y												Y	
	Sum - Hexachlorobiphenyls (BZ-153 + BZ-168)	EPA 1668	MLA-010											Y							Y												Y	
		SGS AXYS MLA-010	MLA-010											Y							Y												Y	
	Sum - Hexachlorobiphenyls (BZ-156 + BZ-157)	EPA 1668	MLA-010											Y							Y												Y	
		SGS AXYS MLA-010	MLA-010											Y							Y												Y	
	Sum - Pentachlorobiphenyls (BZ-107 + BZ-124)	EPA 1668	MLA-010											Y							Y												Y	
		SGS AXYS MLA-010	MLA-010											Y							Y												Y	
	Sum - Pentachlorobiphenyls (BZ-108 + BZ-124)	EPA 1668	MLA-010											Y							Y												Y	
		SGS AXYS MLA-010	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	Water, Non-Potable								
				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	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	
	Sum - Pentachlorobiphenyls (BZ-83 + BZ-99)	EPA 1668	MLA-010											Y						Y													Y	
		SGS AXYS MLA-010	MLA-010											Y						Y													Y	
	Sum - Pentachlorobiphenyls (BZ-85 + BZ-116 + BZ-117)	EPA 1668	MLA-010											Y						Y													Y	
		SGS AXYS MLA-010	MLA-010											Y						Y													Y	
	Sum - Pentachlorobiphenyls (BZ-86 + BZ-87 + BZ 97 + BZ-109 + BZ-119 + BZ-125)	EPA 1668	MLA-010											Y						Y													Y	
		SGS AXYS MLA-010	MLA-010											Y						Y													Y	
	Sum - Pentachlorobiphenyls (BZ-86 + BZ-87 + BZ-97 + BZ-108 + BZ-119 +BZ-125)	EPA 1668	MLA-010											Y						Y													Y	
		SGS AXYS MLA-010	MLA-010											Y						Y													Y	
	Sum - Pentachlorobiphenyls (BZ-88 + BZ-91)	EPA 1668	MLA-010											Y						Y													Y	
		SGS AXYS MLA-010	MLA-010											Y						Y													Y	
	Sum - Pentachlorobiphenyls (BZ-90 + BZ-101 + BZ-113)	EPA 1668	MLA-010											Y						Y													Y	
		SGS AXYS MLA-010	MLA-010											Y						Y													Y	
	Sum - Pentachlorobiphenyls (BZ-93 + BZ-95 + BZ-98 + BZ-100 + BZ-102)	EPA 1668	MLA-010											Y						Y													Y	
		SGS AXYS MLA-010	MLA-010											Y						Y													Y	
	Sum - Tetrachlorobiphenyls (BZ-40 + BZ-41 + BZ-71)	EPA 1668	MLA-010											Y						Y													Y	
		SGS AXYS MLA-010	MLA-010											Y						Y													Y	
	Sum - Tetrachlorobiphenyls (BZ-44 + BZ-47 + BZ-65)	EPA 1668	MLA-010											Y						Y													Y	
		SGS AXYS MLA-010	MLA-010											Y						Y													Y	
	Sum - Tetrachlorobiphenyls (BZ-45 + BZ-51)	EPA 1668	MLA-010											Y						Y													Y	
		SGS AXYS MLA-010	MLA-010											Y						Y													Y	
	Sum - Tetrachlorobiphenyls (BZ-49 + BZ-69)	EPA 1668	MLA-010											Y						Y													Y	
		SGS AXYS MLA-010	MLA-010											Y						Y													Y	
	Sum - Tetrachlorobiphenyls (BZ-50 + BZ-53)	EPA 1668	MLA-010											Y						Y													Y	
		SGS AXYS MLA-010	MLA-010											Y						Y													Y	
	Sum - Tetrachlorobiphenyls (BZ-59 + BZ-62 + BZ-75)	EPA 1668	MLA-010											Y						Y													Y	
		SGS AXYS MLA-010	MLA-010											Y						Y													Y	
	Sum - Tetrachlorobiphenyls (BZ-61 + BZ-70 + BZ-74 + BZ-76)	EPA 1668	MLA-010											Y						Y													Y	
		SGS AXYS MLA-010	MLA-010											Y						Y													Y	
	Sum - Trichlorobiphenyls (BZ-18 + BZ-30)	EPA 1668	MLA-010											Y						Y													Y	
		SGS AXYS MLA-010	MLA-010											Y						Y													Y	
	Sum - Trichlorobiphenyls (BZ-20 + BZ-28)	EPA 1668	MLA-010											Y						Y													Y	
		SGS AXYS MLA-010	MLA-010											Y						Y													Y	
	Sum - Trichlorobiphenyls (BZ-21 + BZ-33)	EPA 1668	MLA-010											Y						Y													Y	
		SGS AXYS MLA-010	MLA-010											Y						Y													Y	
	Sum - Trichlorobiphenyls (BZ-26 + BZ-29)	EPA 1668	MLA-010											Y						Y													Y	
		SGS AXYS MLA-010	MLA-010											Y						Y													Y	
	Total Dichlorobiphenyls	EPA 1668	MLA-010											Y						Y													Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y									Y		Y				Y			Y											Y	
		SGS AXYS MLA-007	MLA-007		Y											Y							Y												
	Total Heptachlorobiphenyls	EPA 1668	MLA-010											Y						Y													Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y									Y		Y				Y			Y											Y	
		SGS AXYS MLA-007	MLA-007		Y											Y							Y												
	Total Hexachlorobiphenyls	EPA 1668	MLA-010											Y						Y													Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y									Y		Y				Y			Y											Y	
		SGS AXYS MLA-007	MLA-007		Y											Y							Y												
	Total Monochlorobiphenyls	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	Water, Non-Potable									
				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	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										Y	
	Total Nonachlorobiphenyls	EPA 1668	MLA-010											Y						Y													Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y									Y		Y				Y		Y										Y	
		SGS AXYS MLA-007	MLA-007		Y											Y						Y											
	Total Octachlorobiphenyls	EPA 1668	MLA-010											Y						Y													Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y									Y		Y				Y		Y										Y	
		SGS AXYS MLA-007	MLA-007		Y											Y						Y											
	Total PCBs	EPA 1668	MLA-010											Y						Y													Y	
		SGS AXYS MLA-010	MLA-010											Y						Y													Y	
	Total Pentachlorobiphenyls	EPA 1668	MLA-010											Y						Y													Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y									Y		Y				Y		Y										Y	
		SGS AXYS MLA-007	MLA-007		Y											Y						Y											
	Total Polychlorinated biphenyls	SGS AXYS MLA-007	MLA-007		Y											Y						Y											
	Total Tetrachlorobiphenyls	EPA 1668	MLA-010											Y						Y													Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y									Y		Y				Y		Y										Y	
		SGS AXYS MLA-007	MLA-007		Y											Y						Y											
	Total Trichlorobiphenyls	EPA 1668	MLA-010											Y						Y													Y	
		EPA 8270	MLA-007									Y																						
		SGS AXYS MLA-010	MLA-010	Y	Y									Y		Y				Y		Y										Y	
		SGS AXYS MLA-007	MLA-007		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-HpCDD	EPA 1613	MLA-017									Y		Y											Y									Y	
		EPA 8290	MLA-017				Y		Y	Y	Y		Y	Y			Y		Y	Y	Y				Y				Y	Y				Y	
		SGS AXYS MLA-017	MLA-017	Y	Y		Y							Y		Y	Y				Y		Y		Y									Y	
	1,2,3,4,6,7,8-HpCDF	EPA 1613	MLA-017									Y		Y							Y				Y									Y	
		EPA 8290	MLA-017				Y		Y	Y	Y		Y	Y			Y		Y	Y	Y				Y				Y	Y				Y	
		SGS AXYS MLA-017	MLA-017	Y	Y		Y							Y		Y	Y				Y		Y		Y									Y	
	1,2,3,4,7,8,9-HpCDF	EPA 1613	MLA-017									Y		Y							Y				Y									Y	
		EPA 8290	MLA-017				Y		Y	Y	Y		Y	Y			Y		Y	Y	Y				Y				Y	Y				Y	
		SGS AXYS MLA-017	MLA-017	Y	Y		Y							Y		Y	Y				Y		Y		Y									Y	
	1,2,3,4,7,8-HxCDD	EPA 1613	MLA-017									Y		Y							Y				Y									Y	
		EPA 8290	MLA-017				Y		Y	Y	Y		Y	Y			Y		Y	Y	Y				Y				Y	Y				Y	
		SGS AXYS MLA-017	MLA-017	Y	Y		Y							Y		Y	Y				Y		Y		Y									Y	
	1,2,3,4,7,8-HxCDF	EPA 1613	MLA-017									Y		Y							Y				Y									Y	
		EPA 8290	MLA-017				Y		Y	Y	Y		Y	Y			Y		Y	Y	Y				Y				Y	Y				Y	
		SGS AXYS MLA-017	MLA-017	Y	Y		Y							Y		Y	Y				Y		Y		Y									Y	
	1,2,3,6,7,8-HxCDD	EPA 1613	MLA-017									Y		Y							Y				Y									Y	
		EPA 8290	MLA-017				Y		Y	Y	Y		Y	Y			Y		Y	Y	Y				Y				Y	Y				Y	
		SGS AXYS MLA-017	MLA-017	Y	Y		Y							Y		Y	Y				Y		Y		Y									Y	
	1,2,3,6,7,8-HxCDF	EPA 1613	MLA-017									Y		Y							Y				Y									Y	
		EPA 8290	MLA-017				Y		Y	Y	Y		Y	Y			Y		Y	Y	Y				Y				Y	Y				Y	
		SGS AXYS MLA-017	MLA-017	Y	Y		Y							Y		Y	Y				Y		Y		Y									Y	
	1,2,3,7,8,9-HxCDD	EPA 1613	MLA-017									Y		Y							Y				Y									Y	
		EPA 8290	MLA-017				Y		Y	Y	Y		Y	Y			Y		Y	Y	Y				Y				Y	Y				Y	
		SGS AXYS MLA-017	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	Solids											Tissue							Urine	Water	Water, Non-Potable								
				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 **	CALA	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 **
	1,2,3,7,8,9-HxCDF	EPA 1613	MLA-017									Y		Y							Y					Y		Y	Y	Y	Y			Y	
		EPA 8290	MLA-017				Y		Y	Y	Y		Y	Y			Y		Y	Y	Y					Y			Y	Y				Y	
		SGS AXYS MLA-017	MLA-017	Y	Y		Y							Y		Y	Y				Y			Y		Y								Y	
	1,2,3,7,8-PeCDD	EPA 1613	MLA-017									Y		Y							Y					Y		Y	Y	Y	Y			Y	
		EPA 8290	MLA-017				Y		Y	Y	Y		Y	Y			Y		Y	Y	Y					Y			Y	Y				Y	
		SGS AXYS MLA-017	MLA-017	Y	Y		Y							Y		Y	Y				Y			Y		Y								Y	
	1,2,3,7,8-PeCDF	EPA 1613	MLA-017									Y		Y							Y					Y		Y	Y	Y	Y			Y	
		EPA 8290	MLA-017				Y		Y	Y	Y		Y	Y			Y		Y	Y	Y					Y			Y	Y				Y	
		SGS AXYS MLA-017	MLA-017	Y	Y		Y							Y		Y	Y				Y			Y		Y								Y	
	2,3,4,6,7,8-HxCDF	EPA 1613	MLA-017									Y		Y							Y					Y		Y	Y	Y	Y			Y	
		EPA 8290	MLA-017				Y		Y	Y	Y		Y	Y			Y		Y	Y	Y					Y			Y	Y				Y	
		SGS AXYS MLA-017	MLA-017	Y	Y		Y							Y		Y	Y				Y			Y		Y								Y	
	2,3,4,7,8-PeCDF	EPA 1613	MLA-017									Y		Y							Y					Y		Y	Y	Y	Y			Y	
		EPA 8290	MLA-017				Y		Y	Y	Y		Y	Y			Y		Y	Y	Y					Y			Y	Y				Y	
		SGS AXYS MLA-017	MLA-017	Y	Y		Y							Y		Y	Y				Y			Y		Y								Y	
	2,3,7,8-TCDD	EPA 1613	MLA-017									Y		Y							Y					Y		Y	Y	Y	Y			Y	
		EPA 8290	MLA-017				Y		Y	Y	Y		Y	Y			Y		Y	Y	Y					Y			Y	Y				Y	
		SGS AXYS MLA-017	MLA-017	Y	Y		Y							Y		Y	Y				Y			Y		Y								Y	
	2,3,7,8-TCDF	EPA 1613	MLA-017									Y		Y							Y					Y		Y	Y	Y	Y			Y	
		EPA 8290	MLA-017				Y		Y	Y	Y		Y	Y			Y		Y	Y	Y					Y			Y	Y				Y	
		SGS AXYS MLA-017	MLA-017	Y	Y		Y							Y		Y	Y				Y			Y		Y								Y	
	OCDD	EPA 1613	MLA-017									Y		Y							Y					Y		Y	Y	Y	Y			Y	
		EPA 8290	MLA-017				Y		Y	Y	Y		Y	Y			Y		Y	Y	Y					Y			Y	Y				Y	
		SGS AXYS MLA-017	MLA-017	Y	Y		Y							Y		Y	Y				Y			Y		Y								Y	
	OCDF	EPA 1613	MLA-017									Y		Y							Y					Y		Y	Y	Y	Y			Y	
		EPA 8290	MLA-017				Y		Y	Y	Y		Y	Y			Y		Y	Y	Y					Y			Y	Y				Y	
		SGS AXYS MLA-017	MLA-017	Y	Y		Y							Y		Y	Y				Y			Y		Y								Y	
	Total HpCDD	EPA 1613	MLA-017											Y							Y					Y						Y		Y	
		EPA 8290	MLA-017				Y		Y		Y		Y	Y			Y		Y	Y	Y					Y					Y			Y	
		SGS AXYS MLA-017	MLA-017				Y							Y			Y				Y					Y								Y	
	Total HpCDF	EPA 1613	MLA-017											Y							Y					Y						Y		Y	
		EPA 8290	MLA-017				Y		Y		Y		Y	Y			Y		Y	Y	Y					Y					Y			Y	
		SGS AXYS MLA-017	MLA-017				Y							Y			Y				Y					Y								Y	
	Total HxCDD	EPA 1613	MLA-017											Y							Y					Y						Y		Y	
		EPA 8290	MLA-017				Y		Y		Y		Y	Y			Y		Y	Y	Y					Y					Y			Y	
		SGS AXYS MLA-017	MLA-017				Y							Y			Y				Y					Y								Y	
	Total HxCDF	EPA 1613	MLA-017											Y							Y					Y						Y		Y	
		EPA 8290	MLA-017				Y		Y		Y		Y	Y			Y		Y	Y	Y					Y					Y			Y	
		SGS AXYS MLA-017	MLA-017				Y							Y			Y				Y					Y								Y	
	Total PCDD	EPA 1613	MLA-017											Y							Y													Y	
		EPA 8290	MLA-017											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	
		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	
		SGS AXYS MLA-017	MLA-017											Y							Y													Y	
	Total PeCDD	EPA 1613	MLA-017											Y							Y					Y						Y		Y	
		EPA 8290	MLA-017				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	Water, Non-Potable								
				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	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-017	MLA-017				Y							Y			Y				Y				Y							Y	
	Total PeCDF	EPA 1613	MLA-017											Y							Y				Y						Y	Y	
		EPA 8290	MLA-017				Y		Y		Y		Y	Y			Y		Y	Y	Y				Y				Y				Y	
		SGS AXYS MLA-017	MLA-017				Y							Y			Y				Y				Y							Y	
	Total TCDD	EPA 1613	MLA-017											Y							Y				Y							Y	
		EPA 8290	MLA-017				Y		Y		Y		Y	Y			Y		Y	Y	Y				Y				Y				Y	
		SGS AXYS MLA-017	MLA-017				Y							Y			Y				Y				Y							Y	
	Total TCDF	EPA 1613	MLA-017											Y							Y				Y							Y	
		EPA 8290	MLA-017				Y		Y		Y		Y	Y			Y		Y	Y	Y				Y				Y				Y	
		SGS AXYS MLA-017	MLA-017				Y							Y			Y				Y				Y							Y	
PFAS	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		Y	Y								Y		Y					Y			Y	Y
	6:2 Fluorotelomersulfonate (6:2 FTS)	SGS AXYS MLA-081	MLA-081																													Y	
		SGS AXYS MLA-089	MLA-089											Y																				
		SGS AXYS MLA-110	MLA-110		Y		Y					Y		Y	Y								Y		Y					Y			Y	Y
	8:2 Fluorotelomersulfonate (8:2 FTS)	SGS AXYS MLA-081	MLA-081																													Y	
		SGS AXYS MLA-089	MLA-089											Y																				
		SGS AXYS MLA-110	MLA-110		Y		Y					Y		Y	Y								Y		Y					Y			Y	Y
	N-Ethylperfluorooctanesulfonamide (N-EtFOSA)	SGS AXYS MLA-110	MLA-110		Y							Y											Y							Y				
	N-Ethylperfluorooctanesulfonamidoacetic acid (N-EtFOSAA)	SGS AXYS MLA-110	MLA-110		Y		Y					Y		Y	Y								Y		Y					Y			Y	Y
	N-Ethylperfluorooctanesulfonamidoethanol (N-EtFOSE)	SGS AXYS MLA-110	MLA-110		Y							Y											Y							Y				
	N-Methylperfluorooctanesulfonamide (N-MeFOSA)	SGS AXYS MLA-110	MLA-110		Y							Y											Y							Y				
	N-Methylperfluorooctanesulfonamidoacetic acid (N-MeFOSAA)	SGS AXYS MLA-110	MLA-110		Y		Y					Y		Y	Y								Y		Y					Y			Y	Y
	N-Methylperfluorooctanesulfonamidoethanol (N-MeFOSE)	SGS AXYS MLA-110	MLA-110		Y							Y											Y							Y				
	Perfluorobutanesulfonate (PFBS)	SGS AXYS MLA-060	MLA-060																				Y		Y	Y	Y						Y	
		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								Y		Y	Y				Y			Y	Y
	Perfluorobutanoate (PFBA)	SGS AXYS MLA-060	MLA-060																				Y		Y	Y	Y						Y	
		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								Y		Y	Y				Y			Y	Y
	Perfluorodecanesulfonate (PFDS)	SGS AXYS MLA-110	MLA-110		Y		Y					Y		Y	Y								Y		Y					Y			Y	Y
	Perfluorodecanoate (PFDA)	SGS AXYS MLA-060	MLA-060																				Y		Y	Y	Y						Y	
		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								Y		Y	Y				Y			Y	Y
	Perfluorododecanesulfonate (PFDoS)	SGS AXYS MLA-110	MLA-110		Y							Y											Y							Y				
	Perfluorododecanoate (PFDoA)	SGS AXYS MLA-060	MLA-060																				Y		Y	Y	Y						Y	
		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								Y		Y	Y				Y			Y	Y
	Perfluoroheptanesulfonate (PFHpS)	SGS AXYS MLA-110	MLA-110		Y		Y					Y		Y	Y								Y		Y					Y			Y	Y
	Perfluoroheptanoate (PFHpA)	SGS AXYS MLA-060	MLA-060																				Y		Y	Y	Y						Y	
		SGS AXYS MLA-041	MLA-041		Y		Y	Y	Y					Y																				

Accreditation Scope

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

				Serum	Solids											Tissue						Urine	Water	Water, Non-Potable								
Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	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	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-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								Y		Y	Y				Y			Y	Y
	Perfluorohexanesulfonate (PFHxS)	SGS AXYS MLA-060	MLA-060																				Y		Y	Y	Y						Y	
		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								Y		Y	Y				Y			Y	Y
	Perfluorohexanoate (PFHxA)	SGS AXYS MLA-060	MLA-060																				Y		Y	Y	Y						Y	
		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								Y		Y	Y				Y			Y	Y
	Perfluorononanesulfonate (PFNS)	SGS AXYS MLA-110	MLA-110		Y		Y					Y		Y	Y								Y		Y					Y			Y	Y
	Perfluorononanoate (PFNA)	SGS AXYS MLA-060	MLA-060																				Y		Y	Y	Y						Y	
		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								Y		Y	Y				Y			Y	Y
	Perfluorooctanesulfonamide (PFOSA), a.k.a. FOSA	SGS AXYS MLA-060	MLA-060																				Y		Y	Y	Y						Y	
		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								Y		Y	Y				Y			Y	Y
	Perfluorooctanesulfonate (PFOS)	SGS AXYS MLA-060	MLA-060																				Y		Y	Y	Y						Y	
		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								Y		Y	Y				Y			Y	Y
	Perfluorooctanoate (PFOA)	SGS AXYS MLA-060	MLA-060																				Y		Y	Y	Y						Y	
		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								Y		Y	Y				Y			Y	Y
	Perfluoropentanesulfonate (PFPeS)	SGS AXYS MLA-110	MLA-110		Y		Y					Y		Y	Y								Y		Y					Y			Y	Y
	Perfluoropentanoate (PFPeA)	SGS AXYS MLA-060	MLA-060																				Y		Y	Y	Y						Y	
		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								Y		Y	Y				Y			Y	Y
	Perfluorotetradecanoate (PFTeDA)	SGS AXYS MLA-110	MLA-110		Y		Y	Y				Y		Y									Y		Y	Y				Y			Y	Y
	Perfluorotridecanoate (PFTrDA)	SGS AXYS MLA-110	MLA-110		Y		Y					Y		Y									Y		Y					Y			Y	Y
	Perfluoroundecanoate (PFUnA)	SGS AXYS MLA-060	MLA-060																				Y		Y	Y	Y						Y	
		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								Y		Y	Y				Y			Y	Y
PPCP	1,7-Dimethylxanthine	EPA 1694	MLA-075										Y																	Y			
		SGS AXYS MLA-075	MLA-075		Y																		Y										
	10-hydroxy-amitriptyline	SGS AXYS MLA-075	MLA-075		Y																		Y										

Accreditation Scope

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

					Serum	Solids											Tissue							Urine	Water	Water, Non-Potable								
Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	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	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 **
	2-hydroxy-ibuprofen	SGS AXYS MLA-075	MLA-075		Y																		Y											
	4-Epianhydrochlortetracycline (EACTC)	EPA 1694	MLA-075										Y																			Y		
		SGS AXYS MLA-075	MLA-075		Y																		Y											
	4-Epianhydrotetracycline (EATC)	EPA 1694	MLA-075										Y																			Y		
		SGS AXYS MLA-075	MLA-075		Y																		Y											
	4-Epichlortetracycline (ECTC)	EPA 1694	MLA-075										Y																			Y		
		SGS AXYS MLA-075	MLA-075		Y																		Y											
	4-Epioxytetracycline (EOTC)	EPA 1694	MLA-075										Y																			Y		
		SGS AXYS MLA-075	MLA-075		Y																		Y											
	4-Epitetracycline (ETC)	EPA 1694	MLA-075										Y																			Y		
		SGS AXYS MLA-075	MLA-075		Y																		Y											
	Acetaminophen	EPA 1694	MLA-075										Y																			Y		
		SGS AXYS MLA-075	MLA-075		Y																		Y											
	Albuterol	EPA 1694	MLA-075										Y																			Y		
		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																			Y		
		SGS AXYS MLA-075	MLA-075		Y																		Y											
	Anhydrotetracycline (ATC)	EPA 1694	MLA-075										Y																			Y		
		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																			Y		
		SGS AXYS MLA-075	MLA-075		Y																		Y											
	Benzoylecgonine	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																			Y		
		SGS AXYS MLA-075	MLA-075		Y																		Y											
	Caffeine	EPA 1694	MLA-075										Y																			Y		
		SGS AXYS MLA-075	MLA-075		Y																		Y											
	Carbadox	EPA 1694	MLA-075										Y																			Y		
		SGS AXYS MLA-075	MLA-075		Y																		Y											
	Carbamazepine	EPA 1694	MLA-075										Y																			Y		
		SGS AXYS MLA-075	MLA-075		Y																		Y											
	Cefotaxime	EPA 1694	MLA-075										Y																			Y		
		SGS AXYS MLA-075	MLA-075		Y																		Y											
	Chlortetracycline (CTC)	EPA 1694	MLA-075										Y																			Y		
		SGS AXYS MLA-075	MLA-075		Y																		Y											
	Cimetidine	EPA 1694	MLA-075										Y																			Y		
		SGS AXYS MLA-075	MLA-075		Y																		Y											
	Ciprofloxacin	EPA 1694	MLA-075										Y																			Y		
		SGS AXYS MLA-075	MLA-075		Y																		Y											
	Clarithromycin	EPA 1694	MLA-075										Y																			Y		
		SGS AXYS MLA-075	MLA-075		Y																		Y											
	Clinafloxacin	EPA 1694	MLA-075										Y																			Y		
		SGS AXYS MLA-075	MLA-075		Y																		Y											

Accreditation Scope

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Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	Serum	Solids										Tissue						Urine	Water	Water, Non-Potable								
				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	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 **
	Clonidine	SGS AXYS MLA-075	MLA-075		Y																	Y											
	Cloxacillin	EPA 1694	MLA-075										Y																			Y		
		SGS AXYS MLA-075	MLA-075		Y																	Y											
	Cocaine	SGS AXYS MLA-075	MLA-075		Y																	Y											
	Codeine	EPA 1694	MLA-075										Y																			Y		
		SGS AXYS MLA-075	MLA-075		Y																	Y											
	Cotinine	EPA 1694	MLA-075										Y																			Y		
		SGS AXYS MLA-075	MLA-075		Y																	Y											
	DEET (N,N-diethyl-m-toluamide)	SGS AXYS MLA-075	MLA-075		Y																	Y											
	Dehydronifedipine	EPA 1694	MLA-075										Y																			Y		
		SGS AXYS MLA-075	MLA-075		Y																	Y											
	Demeclocycline	EPA 1694	MLA-075										Y																			Y		
		SGS AXYS MLA-075	MLA-075		Y																	Y											
	Desmethyldiltiazem	SGS AXYS MLA-075	MLA-075		Y																	Y											
	Diazepam	SGS AXYS MLA-075	MLA-075		Y																	Y											
	Digoxigenin	EPA 1694	MLA-075										Y																			Y		
		SGS AXYS MLA-075	MLA-075		Y																	Y											
	Digoxin	EPA 1694	MLA-075										Y																			Y		
		SGS AXYS MLA-075	MLA-075		Y																	Y											
	Diltiazem	EPA 1694	MLA-075										Y																			Y		
		SGS AXYS MLA-075	MLA-075		Y																	Y											
	Diphenhydramine	EPA 1694	MLA-075										Y																			Y		
		SGS AXYS MLA-075	MLA-075		Y																	Y											
	Doxycycline	EPA 1694	MLA-075										Y																			Y		
		SGS AXYS MLA-075	MLA-075		Y																	Y											
	Enalapril	EPA 1694	MLA-075										Y																			Y		
		SGS AXYS MLA-075	MLA-075		Y																	Y											
	Enrofloxacin	EPA 1694	MLA-075										Y																			Y		
		SGS AXYS MLA-075	MLA-075		Y																	Y											
	Erythromycin	SGS AXYS MLA-075	MLA-075		Y																	Y											
	Erythromycin anydrate	EPA 1694	MLA-075										Y																			Y		
	Flumequine	EPA 1694	MLA-075										Y																			Y		
		SGS AXYS MLA-075	MLA-075		Y																	Y											
	Fluocinonide	SGS AXYS MLA-075	MLA-075		Y																	Y											
	Fluoxetine	EPA 1694	MLA-075										Y																			Y		
		SGS AXYS MLA-075	MLA-075		Y																	Y											
	Fluticasone propionate	SGS AXYS MLA-075	MLA-075		Y																	Y											
	Furosemide	SGS AXYS MLA-075	MLA-075		Y																	Y											
	Gemfibrozil	EPA 1694	MLA-075										Y																			Y		
		SGS AXYS MLA-075	MLA-075		Y																	Y											
	Glipizide	SGS AXYS MLA-075	MLA-075		Y																	Y											
	Glyburide	SGS AXYS MLA-075	MLA-075		Y																	Y											
	Hydrochlorothiazide	SGS AXYS MLA-075	MLA-075		Y																	Y											
	Hydrocodone	SGS AXYS MLA-075	MLA-075		Y																	Y											
	Hydrocortisone	SGS AXYS MLA-075	MLA-075		Y																	Y											
	Ibuprofen	EPA 1694	MLA-075										Y																			Y		
		SGS AXYS MLA-075	MLA-075		Y																	Y											
	Isochlortetracycline (ICTC)	EPA 1694	MLA-075										Y																			Y		
		SGS AXYS MLA-075	MLA-075		Y																	Y											
	Lincomycin	EPA 1694	MLA-075										Y																			Y		

Accreditation Scope

SGS AXYS Analytical Services Ltd.
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Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	Serum	Solids											Tissue							Urine	Water	Water, Non-Potable								
				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	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-075	MLA-075		Y																			Y										
	Lomefloxacin	EPA 1694	MLA-075										Y																			Y		
		SGS AXYS MLA-075	MLA-075		Y																			Y										
	Meprobamate	SGS AXYS MLA-075	MLA-075		Y																			Y										
	Metformin	EPA 1694	MLA-075										Y																			Y		
		SGS AXYS MLA-075	MLA-075		Y																			Y										
	Methylprednisolone	SGS AXYS MLA-075	MLA-075		Y																			Y										
	Metoprolol	SGS AXYS MLA-075	MLA-075		Y																			Y										
	Miconazole	EPA 1694	MLA-075										Y																			Y		
		SGS AXYS MLA-075	MLA-075		Y																			Y										
	Minocycline	EPA 1694	MLA-075										Y																			Y		
		SGS AXYS MLA-075	MLA-075		Y																			Y										
	Naproxen	EPA 1694	MLA-075										Y																			Y		
		SGS AXYS MLA-075	MLA-075		Y																			Y										
	Norfloxacin	EPA 1694	MLA-075										Y																			Y		
		SGS AXYS MLA-075	MLA-075		Y																			Y										
	Norfluoxetine	SGS AXYS MLA-075	MLA-075		Y																			Y										
	Norgestimate	EPA 1694	MLA-075										Y																			Y		
		SGS AXYS MLA-075	MLA-075		Y																			Y										
	Norverapamil	SGS AXYS MLA-075	MLA-075		Y																			Y										
	Ofloxacin	EPA 1694	MLA-075										Y																			Y		
		SGS AXYS MLA-075	MLA-075		Y																			Y										
	Ormetoprim	EPA 1694	MLA-075										Y																			Y		
		SGS AXYS MLA-075	MLA-075		Y																			Y										
	Oxacillin	EPA 1694	MLA-075										Y																			Y		
		SGS AXYS MLA-075	MLA-075		Y																			Y										
	Oxolinic acid	EPA 1694	MLA-075										Y																			Y		
		SGS AXYS MLA-075	MLA-075		Y																			Y										
	Oxycodone	EPA 1694	MLA-075										Y																			Y		
		SGS AXYS MLA-075	MLA-075		Y																			Y										
	Oxytetracycline (OTC)	EPA 1694	MLA-075										Y																			Y		
		SGS AXYS MLA-075	MLA-075		Y																			Y										
	Paroxetine	EPA 1694	MLA-075										Y																			Y		
		SGS AXYS MLA-075	MLA-075		Y																			Y										
	Penicillin G	EPA 1694	MLA-075										Y																			Y		
		SGS AXYS MLA-075	MLA-075		Y																			Y										
	Penicillin V	EPA 1694	MLA-075										Y																			Y		
		SGS AXYS MLA-075	MLA-075		Y																			Y										
	Prednisolone	SGS AXYS MLA-075	MLA-075		Y																			Y										
	Prednisone	SGS AXYS MLA-075	MLA-075		Y																			Y										
	Promethazine	SGS AXYS MLA-075	MLA-075		Y																			Y										
	Propoxyphene	SGS AXYS MLA-075	MLA-075		Y																			Y										
	Propranolol	SGS AXYS MLA-075	MLA-075		Y																			Y										
	Ranitidine	EPA 1694	MLA-075										Y																			Y		
		SGS AXYS MLA-075	MLA-075		Y																			Y										
	Roxithromycin	EPA 1694	MLA-075										Y																			Y		
		SGS AXYS MLA-075	MLA-075		Y																			Y										
	Sarafloxacin	EPA 1694	MLA-075										Y																			Y		
		SGS AXYS MLA-075	MLA-075		Y																			Y										
	Sertraline	SGS AXYS MLA-075	MLA-075		Y																			Y										
	Simvastatin	SGS AXYS MLA-075	MLA-075		Y																			Y										
	Sulfachloropyridazine	EPA 1694	MLA-075										Y																			Y		
		SGS AXYS MLA-075	MLA-075		Y																			Y										
	Sulfadiazine	EPA 1694	MLA-075										Y																			Y		
		SGS AXYS MLA-075	MLA-075		Y																			Y										
	Sulfadimethoxine	EPA 1694	MLA-075										Y																			Y		
		SGS AXYS MLA-075	MLA-075		Y																			Y										

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				Serum	Solids											Tissue							Urine	Water	Water, Non-Potable								
Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	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	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 **
	Sulfamerazine	EPA 1694	MLA-075										Y																		Y			
		SGS AXYS MLA-075	MLA-075		Y																		Y											
	Sulfamethazine	EPA 1694	MLA-075										Y																		Y			
		SGS AXYS MLA-075	MLA-075		Y																		Y											
	Sulfamethizole	EPA 1694	MLA-075										Y																		Y			
		SGS AXYS MLA-075	MLA-075		Y																		Y											
	Sulfamethoxazole	EPA 1694	MLA-075										Y																		Y			
		SGS AXYS MLA-075	MLA-075		Y																		Y											
	Sulfanilamide	EPA 1694	MLA-075										Y																		Y			
		SGS AXYS MLA-075	MLA-075		Y																		Y											
	Sulfathiazole	EPA 1694	MLA-075										Y																		Y			
		SGS AXYS MLA-075	MLA-075		Y																		Y											
	Tetracycline (TC)	EPA 1694	MLA-075										Y																		Y			
		SGS AXYS MLA-075	MLA-075		Y																		Y											
	Theophylline	SGS AXYS MLA-075	MLA-075		Y																		Y											
	Thiabendazole	EPA 1694	MLA-075										Y																		Y			
		SGS AXYS MLA-075	MLA-075		Y																		Y											
	Trenbolone	SGS AXYS MLA-075	MLA-075		Y																		Y											
	Trenbolone acetate	SGS AXYS MLA-075	MLA-075		Y																		Y											
	Triamterene	SGS AXYS MLA-075	MLA-075		Y																		Y											
	Triclocarban	EPA 1694	MLA-075										Y																		Y			
		SGS AXYS MLA-075	MLA-075		Y																		Y											
	Triclosan	EPA 1694	MLA-075										Y																		Y			
		SGS AXYS MLA-075	MLA-075		Y																		Y											
	Trimethoprim	EPA 1694	MLA-075										Y																		Y			
		SGS AXYS MLA-075	MLA-075		Y																		Y											
	Tylosin	EPA 1694	MLA-075										Y																		Y			
		SGS AXYS MLA-075	MLA-075		Y																		Y											
	Valsartan	SGS AXYS MLA-075	MLA-075		Y																		Y											
	Verapamil	SGS AXYS MLA-075	MLA-075		Y																		Y											
	Virginiamycin	EPA 1694	MLA-075										Y																		Y			
		SGS AXYS MLA-075	MLA-075		Y																		Y											
	Warfarin	EPA 1694	MLA-075										Y																		Y			
		SGS AXYS MLA-075	MLA-075		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											
	Acetylcarnitine	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-Aminoadipic 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																		

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file ref.: ACC-101 Rev. 40

Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	Serum	Solids											Tissue						Urine	Water	Water, Non-Potable								
				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	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 **
	Decanoylcarnitine	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Decenoylcarnitine	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	deoxycholic acid	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	docosahexaenoic acid (DHA)	SGS AXYS MLM-001	MLM-001													Y																		
	docosatetraenoic acid (adrenic acid)	SGS AXYS MLM-001	MLM-001													Y																		
	Dodecanedioylcarnitine	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Dodecanoylcarnitine	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Dodecenoylcarnitine	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Dopamine	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	eicosapentaenoic acid (EPA)	SGS AXYS MLM-001	MLM-001													Y																		
	Eicosatetraenoic acid (arachidonic acid)	SGS AXYS MLM-001	MLM-001													Y																		
	eicosatrienoic acid (dihomo-γ-linolenic acid)	SGS AXYS MLM-001	MLM-001													Y																		
	Glutaconylcarnitine	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Glutamate	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Glutamine	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Glutarylcarnitine (Hydroxyhexanoylcarnitine)	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Glycine	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	glycochenodeoxycholic acid	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	glycocholic acid	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	glycodeoxycholic acid	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Hexadecadienylcarnitine	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	hexadecanoic acid (palmitic acid)	SGS AXYS MLM-001	MLM-001													Y																		
	Hexadecanoylcarnitine	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	hexadecenoic acid (palmitoleic acid)	SGS AXYS MLM-001	MLM-001													Y																		
	Hexadecenoylcarnitine	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Hexanoylcarnitine (Fumarylcarnitine)	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Hexenoylcarnitine	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Hexose (sum isomers)	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Histamine	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Histidine	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Hydroxyhexadecadienylcarnitine	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Hydroxyhexadecanoylcarnitine	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Hydroxyhexadecenoylcarnitine	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Hydroxylbutyrylcarnitine	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Hydroxyoctadecenoylcarnitine	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Hydroxyproline	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Hydroxypropionylcarnitine	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Hydroxysphingomyeline C14:1	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Hydroxysphingomyeline C16:1	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Hydroxysphingomyeline C22:1	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Hydroxysphingomyeline C22:2	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Hydroxysphingomyeline C24:1	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Hydroxytetradecadienylcarnitine	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Hydroxytetradecenoylcarnitine	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Hydroxyvalerylcarnitine (Methylmalonylcarnitine)	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Isoleucine	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Kynurenine	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Leucine	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	lithocholic acid	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Lysine	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	lysoPhosphatidylcholine acyl C14:0	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	lysoPhosphatidylcholine acyl C16:0	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	lysoPhosphatidylcholine acyl C16:1	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	lysoPhosphatidylcholine acyl C17:0	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	lysoPhosphatidylcholine acyl C18:0	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	lysoPhosphatidylcholine acyl C18:1	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	lysoPhosphatidylcholine acyl C18:2	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	lysoPhosphatidylcholine acyl C20:3	SGS AXYS MLM-001	MLM-001	Y												Y						Y												

Accreditation Scope

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

				Serum	Solids											Tissue							Urine	Water	Water, Non-Potable								
Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	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	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 **
	lysoPhosphatidylcholine acyl C20:4	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	lysoPhosphatidylcholine acyl C24:0	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	lysoPhosphatidylcholine acyl C26:1	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	lysoPhosphatidylcholine acyl C28:0	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	lysoPhosphatidylcholine acyl C28:1	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Methionine	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Methioninesulfoxide	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Methylglutarylcarnitine	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Nitrotyrosine	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Nonaylcarnitine	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	octadecadienoic acid (linoleic acid)	SGS AXYS MLM-001	MLM-001													Y																	
	Octadecadienylcarnitine	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	octadecanoic acid (stearic acid)	SGS AXYS MLM-001	MLM-001													Y																	
	Octadecanoylcarnitine	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	octadecatrienoic acid (γ-linolenic acid)	SGS AXYS MLM-001	MLM-001													Y																	
	Octadecenoylcarnitine	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Octanoylcarnitine	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Ornithine	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Phenylalanine	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Phenylethylamine	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Phosphatidylcholine acyl-alkyl C30:0	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Phosphatidylcholine acyl-alkyl C30:1	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Phosphatidylcholine acyl-alkyl C30:2	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Phosphatidylcholine acyl-alkyl C32:1	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Phosphatidylcholine acyl-alkyl C32:2	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Phosphatidylcholine acyl-alkyl C34:0	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Phosphatidylcholine acyl-alkyl C34:1	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Phosphatidylcholine acyl-alkyl C34:2	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Phosphatidylcholine acyl-alkyl C34:3	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Phosphatidylcholine acyl-alkyl C36:0	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Phosphatidylcholine acyl-alkyl C36:1	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Phosphatidylcholine acyl-alkyl C36:2	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Phosphatidylcholine acyl-alkyl C36:3	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Phosphatidylcholine acyl-alkyl C36:4	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Phosphatidylcholine acyl-alkyl C36:5	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Phosphatidylcholine acyl-alkyl C38:0	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Phosphatidylcholine acyl-alkyl C38:1	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Phosphatidylcholine acyl-alkyl C38:2	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Phosphatidylcholine acyl-alkyl C38:3	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Phosphatidylcholine acyl-alkyl C38:5	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Phosphatidylcholine acyl-alkyl C38:6	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Phosphatidylcholine acyl-alkyl C40:1	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Phosphatidylcholine acyl-alkyl C40:2	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Phosphatidylcholine acyl-alkyl C40:3	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Phosphatidylcholine acyl-alkyl C40:4	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Phosphatidylcholine acyl-alkyl C40:5	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Phosphatidylcholine acyl-alkyl C40:6	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Phosphatidylcholine acyl-alkyl C42:0	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Phosphatidylcholine acyl-alkyl C42:1	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Phosphatidylcholine acyl-alkyl C42:2	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Phosphatidylcholine acyl-alkyl C42:3	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Phosphatidylcholine acyl-alkyl C42:4	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Phosphatidylcholine acyl-alkyl C42:5	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Phosphatidylcholine acyl-alkyl C44:3	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Phosphatidylcholine acyl-alkyl C44:4	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Phosphatidylcholine acyl-alkyl C44:5	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Phosphatidylcholine acyl-alkyl C44:6	SGS AXYS MLM-001	MLM-001	Y												Y						Y											
	Phosphatidylcholine diacyl C24:0	SGS AXYS MLM-001	MLM-001	Y												Y						Y											

Accreditation Scope

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

				Serum	Solids											Tissue							Urine	Water	Water, Non-Potable									
Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	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	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 **
	Phosphatidylcholine diacyl C26:0	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Phosphatidylcholine diacyl C28:1	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Phosphatidylcholine diacyl C30:0	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Phosphatidylcholine diacyl C30:2	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Phosphatidylcholine diacyl C32:0	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Phosphatidylcholine diacyl C32:1	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Phosphatidylcholine diacyl C32:2	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Phosphatidylcholine diacyl C32:3	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Phosphatidylcholine diacyl C34:1	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Phosphatidylcholine diacyl C34:2	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Phosphatidylcholine diacyl C34:3	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Phosphatidylcholine diacyl C34:4	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Phosphatidylcholine diacyl C36:0	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Phosphatidylcholine diacyl C36:1	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Phosphatidylcholine diacyl C36:2	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Phosphatidylcholine diacyl C36:3	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Phosphatidylcholine diacyl C36:4	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Phosphatidylcholine diacyl C36:5	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Phosphatidylcholine diacyl C36:6	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Phosphatidylcholine diacyl C38:0	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Phosphatidylcholine diacyl C38:1	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Phosphatidylcholine diacyl C38:3	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Phosphatidylcholine diacyl C38:4	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Phosphatidylcholine diacyl C38:5	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Phosphatidylcholine diacyl C38:6	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Phosphatidylcholine diacyl C40:1	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Phosphatidylcholine diacyl C40:2	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Phosphatidylcholine diacyl C40:3	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Phosphatidylcholine diacyl C40:4	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Phosphatidylcholine diacyl C40:5	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Phosphatidylcholine diacyl C40:6	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Phosphatidylcholine diacyl C42:0	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Phosphatidylcholine diacyl C42:1	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Phosphatidylcholine diacyl C42:2	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Phosphatidylcholine diacyl C42:4	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Phosphatidylcholine diacyl C42:5	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Phosphatidylcholine diacyl C42:6	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Pimelylcarnitine	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Proline	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Propenoylcarnitine	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Propionylcarnitine	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Putrescine	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Sarcosine	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Serine	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Serotonin	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Spermidine	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Spermine	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Sphingomyeline C16:0	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Sphingomyeline C16:1	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Sphingomyeline C18:0	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Sphingomyeline C18:1	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Sphingomyeline C20:2	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Sphingomyeline C22:3	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Sphingomyeline C24:0	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Sphingomyeline C24:1	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Sphingomyeline C26:0	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Sphingomyeline C26:1	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Symmetric dimethylarginine	SGS AXYS MLM-001	MLM-001	Y												Y						Y												

Accreditation Scope

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

				Serum	Solids											Tissue							Urine	Water	Water, Non-Potable								
Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	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	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 **
	Taurine	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	taurochenodeoxycholic acid	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	taurocholic acid	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	taurodeoxycholic acid	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	taurolithocholic acid	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	tauroursodeoxycholic acid	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Tetradecadienylcarnitine	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	tetradecanoic acid (myristic acid)	SGS AXYS MLM-001	MLM-001													Y																		
	Tetradecanoylcarnitine	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Tetradecenoylcarnitine	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Threonine	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Tiglylcarnitine	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Total dimethylarginine	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Tryptophan	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Tyrosine	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	ursodexoycholic acid	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Valerylcarnitine	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
	Valine	SGS AXYS MLM-001	MLM-001	Y												Y						Y												
TBBPA	Tetrabromobisphenol A	SGS AXYS MLA-079	MLA-079	Y																			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 (PFDoA)	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/furans
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)