
**Toxicology of Tobacco Products:
Sister Chromatid Exchange Genotoxicity**

***Labstat International ULC
Supplemental Analysis Report***



***Prepared for
R.J. Reynolds Tobacco Corporation***

Project Code: M125

Original Date: January 20, 2011
Revision 1 Date: January 2, 2012

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1 Use of Labstat's¹ Analytical Reports²

Labstat International ULC is a recognized centre of analytical excellence related to tobacco and tobacco products. Our clients include major international tobacco manufacturers, various Governments and Government agencies such as the Canadian Federal Department of Health and the Massachusetts Department of Public Health, agricultural interests, university researchers and private research interests. Normally our contractual obligations extend **only** to the provision of data and related reports.

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2 Administrative Information⁴

2.1 Quotation Reference

Quotation Number: T2881R1

Date of Quotation: December 29, 2009

Recipient's Name: Dr. Betsy Bombick

2.2 Client Identification

R.J. Reynolds Tobacco Corporation
950 Reynolds Boulevard
Winston-Salem NC 27102-1487
U.S.A

2.3 Date of Sample Receipt

The samples to be tested for M125 were received on December 16, 2009 via UPS.

2.4 Sample Characteristics

The shipment received on December 16, 2009 consisted of 6 tins for each of 2 products, 25 tins of one product, 8 boxes for each of 2 products, 12 boxes of one product, 16 boxes of one product and one carton of one product. There was no physical damage to cartons, packages, tins or boxes.

2.5 Test Article Identification

The following sample codes have been used to identify the products associated with the results in each of the tables that are part of this report.

Sample ID	Sample Description
1002241	Ariva Wintergreen
1002242	Copenhagen Long Cut
1002243	Fresh Strips
1002244	2S3 Research Moist Smokeless Tobacco
1002245	Camel SNUS Frost
1002246	Mellow Sticks
1002247	Fresh Orbs
1002248	2R4F Kentucky Reference Cigarettes

2.6 Special Instructions

No special instructions, with respect to the selection of the test sample and/or compositing, were received.

2.7 Date of Supplemental Report

Original: January 20, 2011

Revision 1: January 2, 2012

⁴ Provided in accord with International Standard ISO/IEC 17025 "General requirements for the competence of testing and calibration laboratories" Section 5.10

2.8 Revision History

2.8.1 Revision 1

This revision was required due to an inquiry from the client (client CRO # 2011-017-M125 Supplemental SCE).

3 Accreditation

3.1 Scope (refer to [appendix A](#))

Labstat International ULC has been accredited by the Standards Council of Canada to International Standard ISO/IEC 17025 "General requirements for the competence of testing and calibration laboratories" with a scope that includes all of the mandated tobacco-related Health Canada methods (see Tobacco Reporting Regulations dated 26 June 2000, Canada Gazette Part II, Vol. 134, No. 15 Schedules 1, 2 and 3 pages 1780 – 1785). The testing included in this report is within the scope of this accreditation, unless otherwise noted in Section 4.



3.2 International Recognition of Tests

Our accrediting organization, Standards Council of Canada, is one of a number of such member bodies participating in a global mutual recognition agreement (MRA), known as the ILAC (International Laboratory Accreditation Cooperation) Arrangement. The arrangement, effective January 31, 2001, requires acceptance of technical test data from accredited laboratories by member bodies in numerous international economies.

4 Methods

See the 'Methods' section of the sister chromatid exchange assay test report for the M125 project.

5 Results

5.1 Data Files

Individual results and the corresponding sample statistics may be found on the compact disk (CD) that accompanies this report. The data files have been labeled *M125 Supplemental_sce_tpm_dataCF.xls* (sister chromatid exchange assay results for TPM of tobacco brand 1002248) and *M125 Supplemental_sce_wt_dataCF.xls* (sister chromatid exchange assay results for smokeless tobacco products).

5.1.1 Defined Unit Weights for 'Unit of Use' Doses

The as-received weights 'per unit' for each of the smokeless tobacco products were supplied by the client and are listed in the table below. These weights were used to determine the 'units of use' for the tobacco extract used in the assays. The calculations of the 'unit of use'/mL doses can be found on the 'Sample Generation Data' sheet of the *M125 Supplemental_sce_wt_dataCF.xls* data file.

Sample ID	Sample Description	Unit of Use	Weight 'as rec'd' (grams)
1002241	Ariva Wintergreen	1	0.28
1002242	Copenhagen Long Cut	2.5 grams	2.5
1002243	Fresh Strips	1	0.125
1002244	2S3 Research Moist Smokeless Tobacco	2.5 grams	2.5
1002245	Camel SNUS Frost	1 pouch	0.6
1002246	Mellow Sticks	1 stick	0.516
1002247	Fresh Orbs	1	0.225

For the KR 2R4F (1002248) brand, the 'unit of use' was defined by the client as one cigarette. The calculations of the 'cigarette'/mL doses can be found on the 'Smoking Data' sheet of the *M125 Supplemental_sce_tpm_dataCF.xls* data file.

6 'Unit of Use' Genotoxicity Comparisons

6.1 Data Files

Data files containing calculated specific activities (see the defined method in section 6.3 of this report) may be found on the compact disk (CD) that accompanies this report. The data files have been labeled *M125 Supplemental_sce_wt_stats_Unit.xls* (dose-response curve analysis results for smokeless tobacco products on a 'unit of use'/mL dose basis) and *M125 Supplemental_sce_tpm+wt_stats_Unit.xls* (dose-response curve analysis results for smoked and smokeless tobacco products on a 'unit of use' dose basis).

6.2 Methodology

Instructions regarding the analysis of the sister chromatid exchange assay data were received from the client and included the following requirements:

(b) (4)



(b) (4)

6.3 Specific Activity Determinations

Specific activity was determined by fitting the linear model $y = \beta_0 + \beta_1 x$ to the smoked or smokeless tobacco sample dose X and assay response Y (number of sister chromatid exchanges per cell) for each replicate assay by ordinary least squares.

As per instruction 4a in section 6.2, the zero (0) dose results were excluded from model fitting under treatment schedule (ii).

6.4 Comparisons among Smokeless Tobacco Products

6.4.1 Individual Replicate Slopes and Log-Transformed Slope Statistics

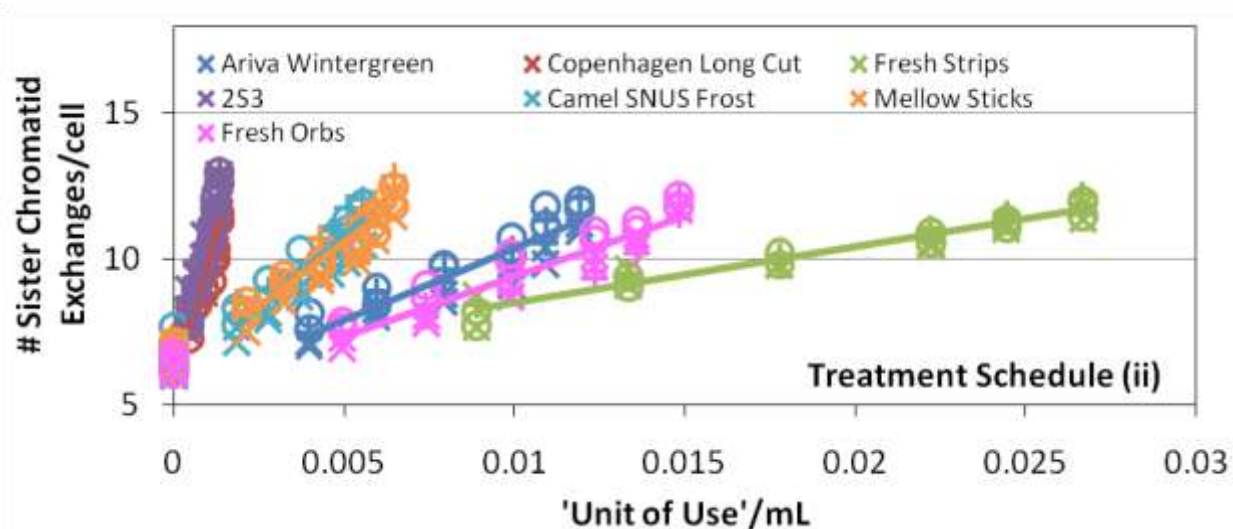
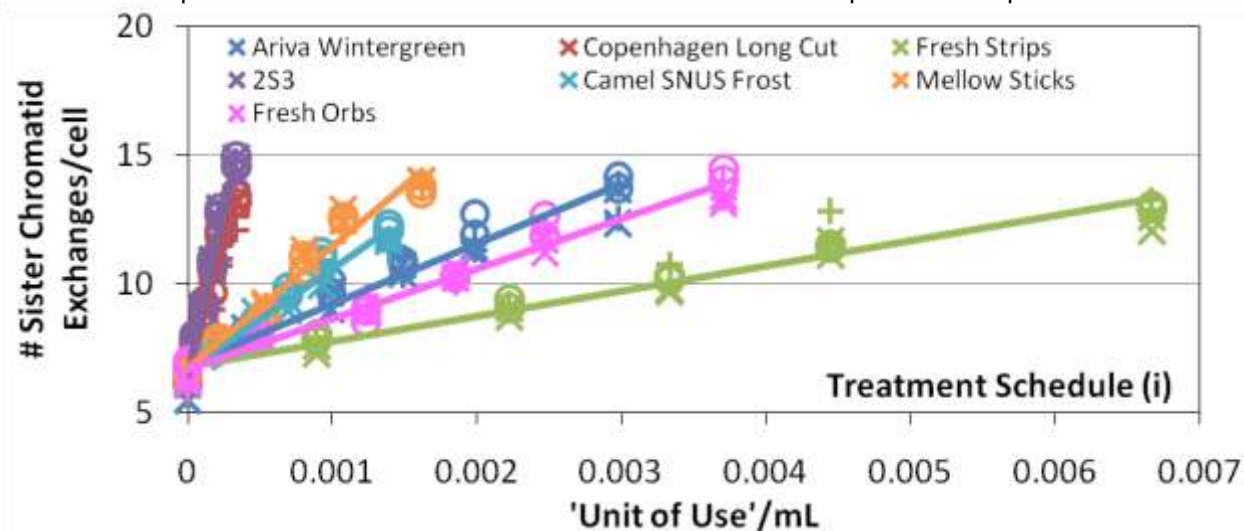
The following results were obtained for the replicate slope estimates and the summary statistics over replicate log-transformed slope estimates for each smokeless tobacco test sample under both schedules.

		Replicate Slope Analysis [(#SCE/cell)/('Unit'/mL)]								
Treatment	Sample	Replicate 1		Replicate 2		Replicate 3		Log[Slope] Statistics		
Schedule	Description	'Unit' Dose (Unit/mL)	slope	'Unit' Dose (Unit/mL)	slope	'Unit' Dose (Unit/mL)	slope	Mean	Std. Err.	95% C.I.
Schedule (i)	Ariva Wintergreen	0 - 0.0030	2262	0 - 0.0030	2300	0 - 0.0030	2449	3.37	0.01	3.32 - 3.41
Schedule (i)	Copenhagen Long Cut	0 - 0.0003	21488	0 - 0.0003	19621	0 - 0.0003	21266	4.32	0.01	4.26 - 4.37
Schedule (i)	Fresh Strips	0 - 0.0067	933	0 - 0.0067	1035	0 - 0.0067	952	2.99	0.01	2.93 - 3.05
Schedule (i)	2S3	0 - 0.0003	25802	0 - 0.0003	24533	0 - 0.0003	25371	4.40	0.01	4.37 - 4.43
Schedule (i)	Camel SNUS Frost	0 - 0.0014	3789	0 - 0.0014	3883	0 - 0.0014	4218	3.60	0.01	3.54 - 3.66
Schedule (i)	Mellow Sticks	0 - 0.0016	4915	0 - 0.0016	4606	0 - 0.0016	4649	3.67	0.01	3.64 - 3.71
Schedule (i)	Fresh Orbs	0 - 0.0037	1838	0 - 0.0037	1985	0 - 0.0037	2038	3.29	0.01	3.23 - 3.35
Schedule (ii)	Ariva Wintergreen	0.0040 - 0.0119	460	0.0040 - 0.0119	507	0.0040 - 0.0119	507	2.69	0.01	2.63 - 2.75
Schedule (ii)	Copenhagen Long Cut	0.0004 - 0.0013	4356	0.0004 - 0.0013	3889	0.0004 - 0.0013	3813	3.60	0.02	3.53 - 3.68
Schedule (ii)	Fresh Strips	0.0089 - 0.0267	180	0.0089 - 0.0267	196	0.0089 - 0.0267	202	2.28	0.02	2.22 - 2.35
Schedule (ii)	2S3	0.0004 - 0.0013	4370	0.0004 - 0.0013	4953	0.0004 - 0.0013	5357	3.69	0.03	3.58 - 3.80
Schedule (ii)	Camel SNUS Frost	0.0019 - 0.0056	909	0.0019 - 0.0056	1019	0.0019 - 0.0056	992	2.99	0.01	2.92 - 3.05
Schedule (ii)	Mellow Sticks	0.0022 - 0.0065	858	0.0022 - 0.0065	1006	0.0022 - 0.0065	782	2.94	0.03	2.81 - 3.08
Schedule (ii)	Fresh Orbs	0.0049 - 0.0148	452	0.0049 - 0.0148	390	0.0049 - 0.0148	409	2.62	0.02	2.54 - 2.70

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6.4.2 Data Plots

Plots of all replicate smokeless tobacco test samples can be found in the file *M125 Supplemental_sce_wt_stats_Unit.xls* on the CD that accompanies this report. Box-and-Whisker plots of the calculated specific activities can also be found on the CD that accompanies this report.



6.4.3 One-Way ANOVA Results

One-way ANOVA comparisons of mean 'unit of use' log-transformed slope estimates among smokeless tobacco test samples yielded the following:

Treatment Schedule	Variation Source	Sum of Squares	d.f.	Mean Square	F Ratio	P value
Treatment Schedule (i)	Among Samples	4.9809	6	0.8302	2029.9	< 0.001
	Within Samples	0.0057	14	0.0004		
	Total	4.9867	20			
Treatment Schedule (ii)	Among Samples	4.7666	6	0.7944	610.98	< 0.001
	Within Samples	0.0182	14	0.0013		
	Total	4.7848	20			

One-way ANOVA analysis indicates significant differences, at $\alpha = 0.05$, among mean [(# SCE/cell)/(‘unit of use’/mL)] log-transformed slope estimates for smokeless tobacco test samples assayed under treatment schedules (i) and (ii).

6.4.4 Contrasts of Interest

(b) (4)

Method Applied for Contrasts

(b) (4)

Contrasts of Interest

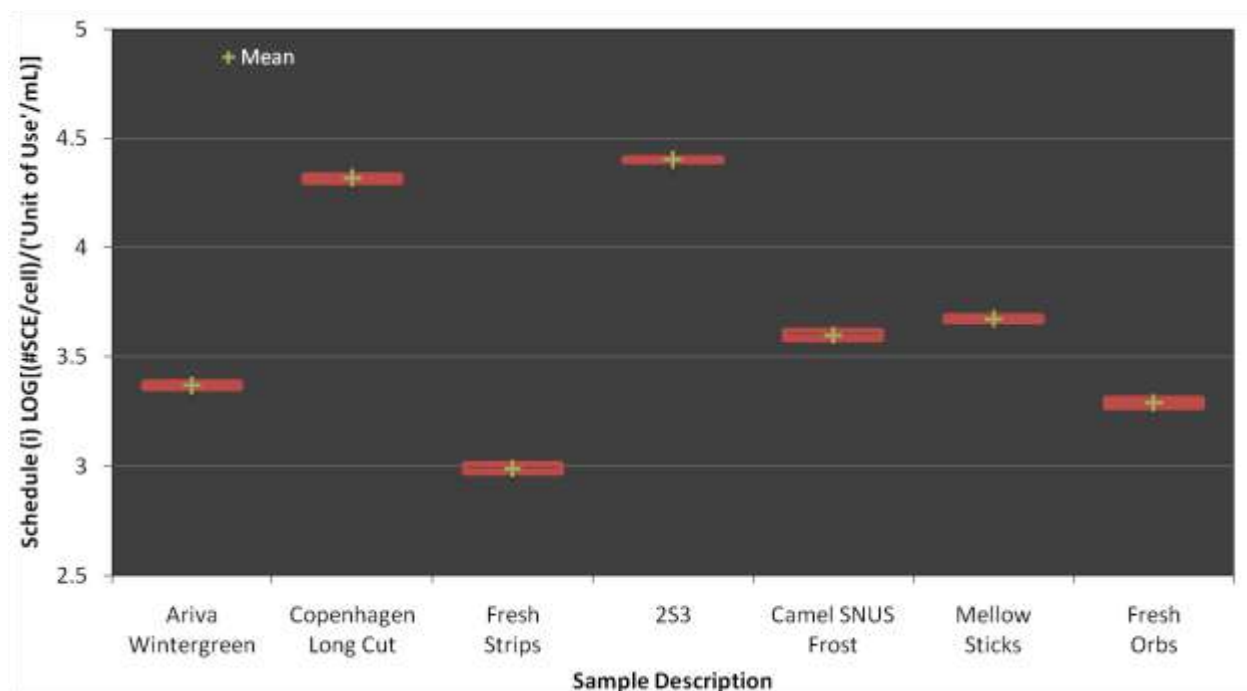
ANOVA-Based Comparison	Treatment Schedule (i)			Treatment Schedule (ii)		
	f-ratio	p-value	significance at $\alpha = 0.05$	f-ratio	p-value	significance at $\alpha = 0.05$
Ariva Wintergreen vs. Copenhagen Long Cut	3304	5.0E-18	significant	960	2.7E-14	significant
Ariva Wintergreen vs. Fresh Strips	531	1.6E-12	significant	191	1.5E-09	significant
Ariva Wintergreen vs. 2S3	3917	1.5E-18	significant	1147	7.8E-15	significant
Ariva Wintergreen vs. Camel SNUS Frost	193	1.4E-09	significant	102	8.5E-08	significant
Ariva Wintergreen vs. Mellow Sticks	343	3.1E-11	significant	73.3	6.2E-07	significant
Ariva Wintergreen vs. Fresh Orbs	22.4	3.2E-04	significant	5.92	0.0289	not significant
Copenhagen Long Cut vs. Fresh Strips	6485	4.5E-20	significant	2008	1.6E-16	significant
Copenhagen Long Cut vs. 2S3	26.1	1.6E-04	significant	8.27	0.0122	not significant
Copenhagen Long Cut vs. Camel SNUS Frost	1901	2.3E-16	significant	437	5.9E-12	significant
Copenhagen Long Cut vs. Mellow Sticks	1519	1.1E-15	significant	503	2.3E-12	significant
Copenhagen Long Cut vs. Fresh Orbs	3870	1.7E-18	significant	1117	9.4E-15	significant
Fresh Strips vs. 2S3	7334	1.9E-20	significant	2274	6.8E-17	significant
Fresh Strips vs. Camel SNUS Frost	1364	2.4E-15	significant	571	9.5E-13	significant
Fresh Strips vs. Mellow Sticks	1727	4.6E-16	significant	501	2.3E-12	significant
Fresh Strips vs. Fresh Orbs	336	3.5E-11	significant	130	1.8E-08	significant
2S3 vs. Camel SNUS Frost	2373	5.0E-17	significant	566	1.0E-12	significant
2S3 vs. Mellow Sticks	1943	2.0E-16	significant	640	4.3E-13	significant
2S3 vs. Fresh Orbs	4531	5.5E-19	significant	1318	3.0E-15	significant
Camel SNUS Frost vs. Mellow Sticks	21.5	3.9E-04	significant	2.31	0.1510	not significant
Camel SNUS Frost vs. Fresh Orbs	346	2.9E-11	significant	157	5.5E-09	significant

	Treatment Schedule (i)			Treatment Schedule (ii)		
ANOVA-Based Comparison	f-ratio	p-value	significance at $\alpha = 0.05$	f-ratio	p-value	significance at $\alpha = 0.05$
Mellow Sticks vs. Fresh Orbs	540	1.4E-12	significant	121	2.9E-08	significant

ANOVA-Based Homogenous Groupings: Treatment Schedule (i)

Client Description	Log-Transformed Slope Statistics		ANOVA-based Homogenous Groups
	Mean	Std. Err.	
Fresh Strips	2.99	0.01	X
Fresh Orbs	3.29	0.01	X
Ariva Wintergreen	3.37	0.01	X
Camel SNUS Frost	3.60	0.01	X
Mellow Sticks	3.67	0.01	X
Copenhagen Long Cut	4.32	0.01	X
2S3	4.40	0.01	X

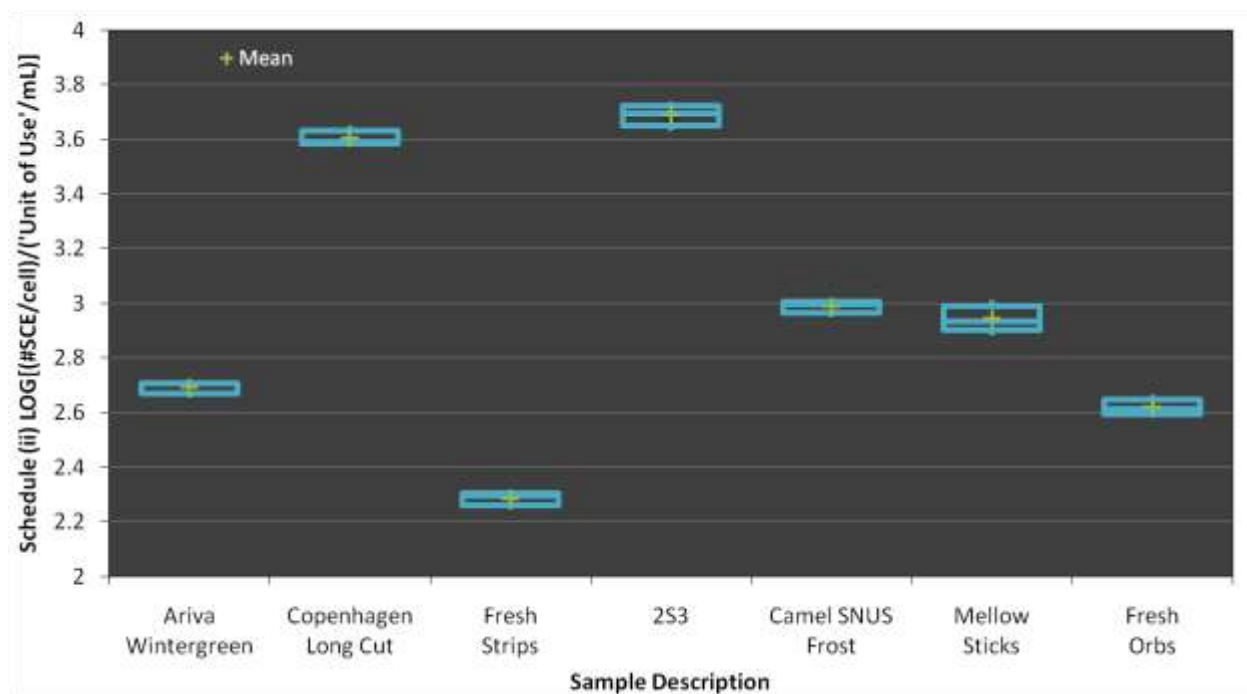
Under treatment schedule (i), ANOVA-based comparison p-values less than the Bonferroni-adjusted $\alpha = 0.05$ indicate that significant differences in mean 'unit of use' log-transformed slope were detected between **every** pair of test samples. Specifically, **Fresh Strips < Fresh Orbs < Ariva Wintergreen < Camel SNUS Frost < Mellow Sticks < Copenhagen Long Cut < 2S3**.



ANOVA-Based Homogenous Groupings: Treatment Schedule (ii)

Client Description	Log-Transformed Slope Statistics		ANOVA-based Homogenous Groups
	Mean	Std. Err.	
Fresh Strips	2.28	0.02	X
Fresh Orbs	2.62	0.02	X
Ariva Wintergreen	2.69	0.01	X
Mellow Sticks	2.94	0.03	X
Camel SNUS Frost	2.99	0.01	X
Copenhagen Long Cut	3.60	0.02	X
2S3	3.69	0.03	X

Under treatment schedule (ii), ANOVA-based comparison p-values less than the Bonferroni-adjusted $\alpha = 0.05$ indicate that significant differences in mean 'unit of use' log-transformed slope were detected between various pairs of test samples. Specifically, {Fresh Strips} < {Fresh Orbs, Ariva Wintergreen} < {Mellow Sticks, Camel SNUS Frost} < {Copenhagen Long Cut, 2S3}.



6.5 Comparisons between Smoked and Smokeless Tobacco Products

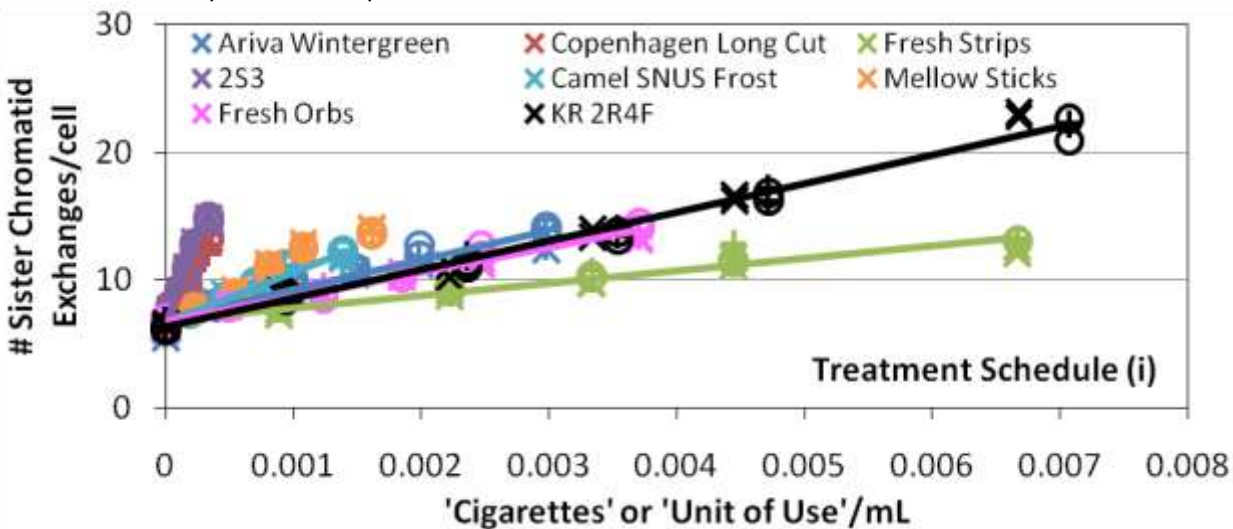
6.5.1 Individual Replicate Slopes and Log-Transformed Slope Statistics

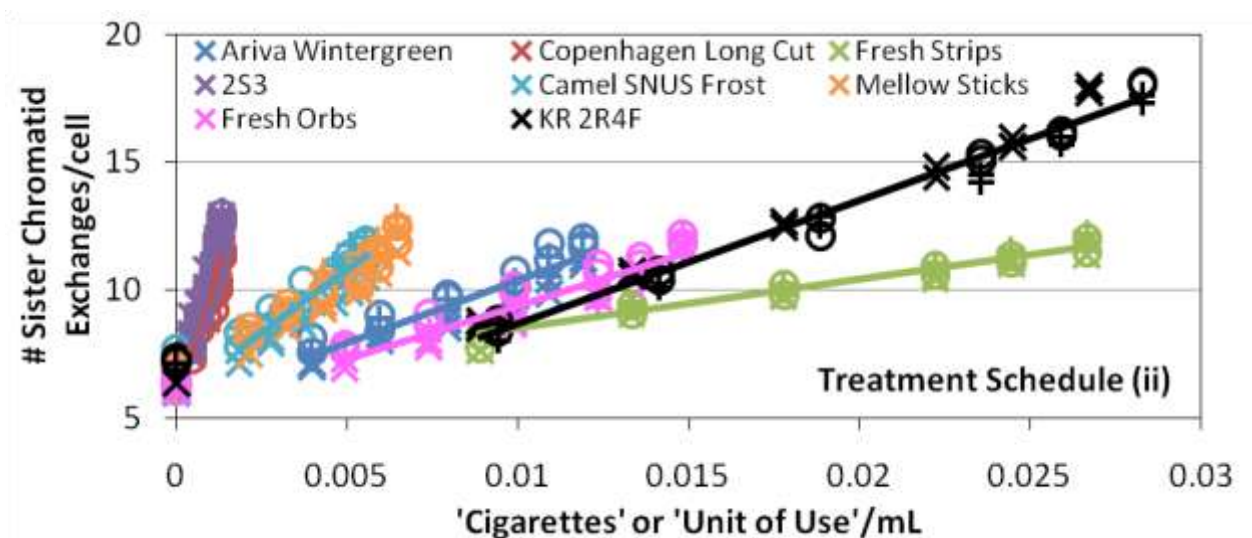
Tables of results were obtained for the individual replicate slope estimates, and the summary statistics, on a 'cigarette' (1002248) and 'unit of use' dose basis, over the three replicate log-transformed slopes for each smoked and smokeless tobacco test sample under both treatment schedules.

		Replicate Slopes [(#SCE/cell)/('Unit of Use'/mL)]								
Treatment	Sample	Replicate 1		Replicate 2		Replicate 3		Log[Slope] Statistics		
Schedule	Description	'Unit' Dose (unit/mL)	slope	'Unit' Dose (unit/mL)	slope	'Unit' Dose (unit/mL)	slope	Mean	Std. Err.	95% C.I.
Schedule (i)	Ariva Wintergreen	0 - 0.0030	2262	0 - 0.0030	2300	0 - 0.0030	2449	3.37	0.01	3.32 to 3.41
Schedule (i)	Copenhagen Long Cut	0 - 0.0003	21488	0 - 0.0003	19621	0 - 0.0003	21266	4.32	0.01	4.26 to 4.37
Schedule (i)	Fresh Strips	0 - 0.0067	933	0 - 0.0067	1035	0 - 0.0067	952	2.99	0.01	2.93 to 3.05
Schedule (i)	2S3	0 - 0.0003	25802	0 - 0.0003	24533	0 - 0.0003	25371	4.40	0.01	4.37 to 4.43
Schedule (i)	Camel SNUS Frost	0 - 0.0014	3789	0 - 0.0014	3883	0 - 0.0014	4218	3.60	0.01	3.54 to 3.66
Schedule (i)	Mellow Sticks	0 - 0.0016	4915	0 - 0.0016	4606	0 - 0.0016	4649	3.67	0.01	3.64 to 3.71
Schedule (i)	Fresh Orbs	0 - 0.0037	1838	0 - 0.0037	1985	0 - 0.0037	2038	3.29	0.01	3.23 to 3.35
Schedule (i)	KR 2R4F	0 - 0.0067	2408	0 - 0.0071	2147	0 - 0.0071	2168	3.35	0.02	3.28 to 3.42
Schedule (ii)	Ariva Wintergreen	0.0040 - 0.0119	460	0.0040 - 0.0119	507	0.0040 - 0.0119	507	2.69	0.01	2.63 to 2.75
Schedule (ii)	Copenhagen Long Cut	0.0004 - 0.0013	4356	0.0004 - 0.0013	3889	0.0004 - 0.0013	3813	3.60	0.02	3.53 to 3.68
Schedule (ii)	Fresh Strips	0.0089 - 0.0267	180	0.0089 - 0.0267	196	0.0089 - 0.0267	202	2.28	0.02	2.22 to 2.35
Schedule (ii)	2S3	0.0004 - 0.0013	4370	0.0004 - 0.0013	4953	0.0004 - 0.0013	5357	3.69	0.03	3.58 to 3.80
Schedule (ii)	Camel SNUS Frost	0.0019 - 0.0056	909	0.0019 - 0.0056	1019	0.0019 - 0.0056	992	2.99	0.01	2.92 to 3.05
Schedule (ii)	Mellow Sticks	0.0022 - 0.0065	858	0.0022 - 0.0065	1006	0.0022 - 0.0065	782	2.94	0.03	2.81 to 3.08
Schedule (ii)	Fresh Orbs	0.0049 - 0.0148	452	0.0049 - 0.0148	390	0.0049 - 0.0148	409	2.62	0.02	2.54 to 2.70
Schedule (ii)	KR 2R4F	0.0089 - 0.0267	493	0.0094 - 0.0283	468	0.0094 - 0.0283	492	2.69	0.01	2.65 to 2.72

6.5.2 Data Plots

Plots of all replicate smoked and smokeless tobacco test samples expressed on a 'Unit of Use' dose basis can be found in the file *M125 Supplemental_sce_tpm+wt_stats_Unit.xls* on the CD that accompanies this report. Box-and-Whisker plots of the calculated specific activities can also be found on the CD that accompanies this report.





6.5.3 One-Way ANOVA Results

One-way ANOVA comparisons of mean 'cigarettes' and 'unit of use' log-transformed slope estimates among one smoked and 7 smokeless tobacco test sample yielded the following:

Treatment Schedule	Variation Source	Sum of Squares	d.f.	Mean Square	F Ratio	P value
Treatment Schedule (i)	Among Samples	5.2375	7	0.7482	1652.39	< 0.001
	Within Samples	0.0072	16	0.0005		
	Total	5.2448	23			
Treatment Schedule (ii)	Among Samples	4.9855	7	0.7122	614.93	< 0.001
	Within Samples	0.0185	16	0.0012		
	Total	5.0040	23			

One-way ANOVA analysis indicates significant differences, at $\alpha = 0.05$, among mean 'unit of use' log-transformed slope estimates for smoked and smokeless tobacco samples assayed under both treatment schedules (i) and (ii).

6.5.4 Contrasts of Interest

(b) (4)

Method Applied for Contrasts

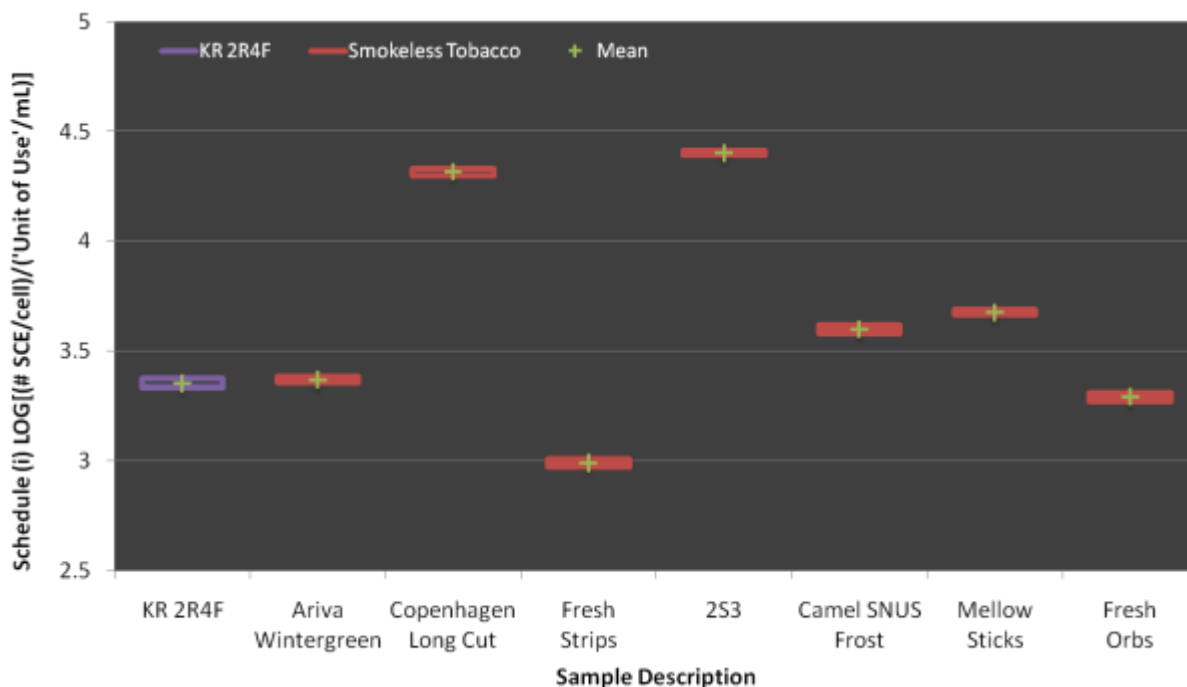
(b) (4)

Contrasts of Interest

	Treatment Schedule (i)			Treatment Schedule (ii)		
ANOVA-Based Comparison	f-ratio	p-value	significance at $\alpha = 0.05$	f-ratio	p-value	significance at $\alpha = 0.05$
Ariva Wintergreen vs. KR 2R4F	1.14	0.3009	not significant	0.05	0.8326	not significant
Copenhagen Long Cut vs. KR 2R4F	3102	9.5E-20	significant	1092	3.7E-16	significant
Fresh Strips vs. KR 2R4F	434	5.1E-13	significant	208	1.4E-10	significant
2S3 vs. KR 2R4F	3666	2.5E-20	significant	1303	9.3E-17	significant
Camel SNUS Frost vs. KR 2R4F	203	1.6E-10	significant	119	8.2E-09	significant
Mellow Sticks vs. KR 2R4F	348	2.8E-12	significant	86.2	7.6E-08	significant
Fresh Orbs vs. KR 2R4F	11.72	0.0035	significant	5.59	0.0311	not significant

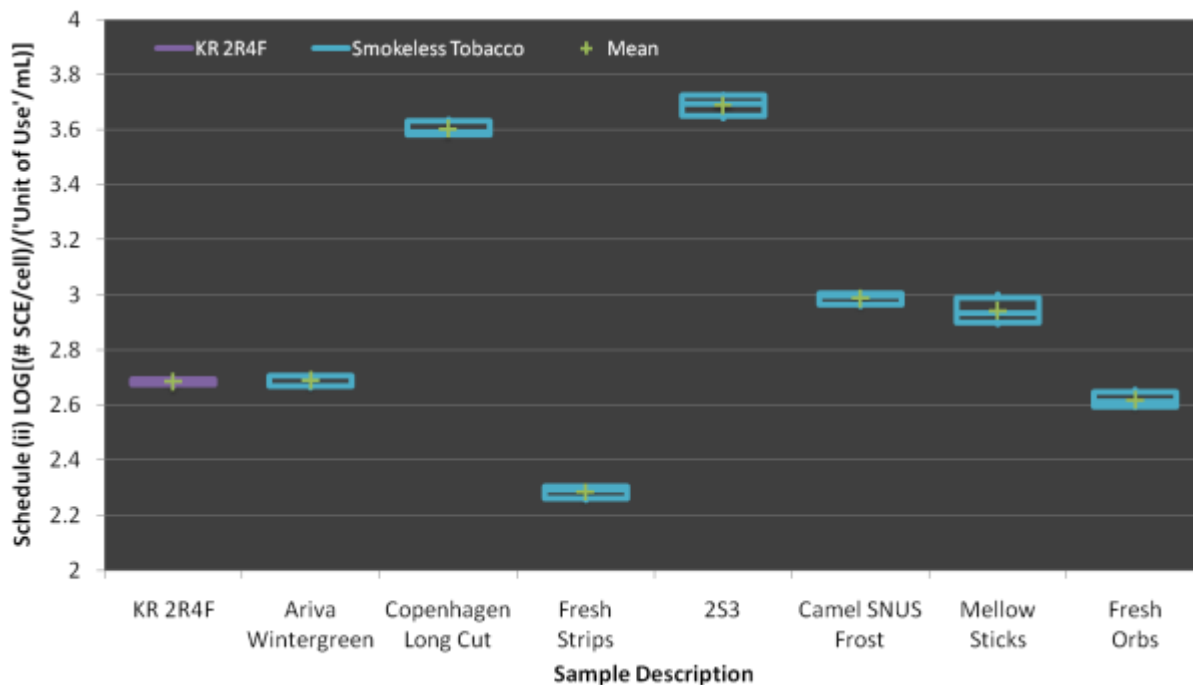
ANOVA-Based Comparison Results: Treatment Schedule (i)

Under treatment schedule (i), ANOVA-based comparison p-values less than the Bonferroni-adjusted $\alpha = 0.05$ indicate that significant differences in mean log-transformed specific activity slope were detected between the TPM of **KR 2R4F** and the following smokeless tobacco extracts on a 'unit of use' dose basis: **KR 2R4F > {Fresh Strips, Fresh Orbs}** and **KR 2R4F < {Copenhagen Long Cut, 2S3, Camel SNUS Frost, Mellow Sticks}**.



ANOVA-Based Comparison Results: Treatment Schedule (ii)

Under treatment schedule (ii), ANOVA-based comparison p-values less than the Bonferroni-adjusted $\alpha = 0.05$ indicate that significant differences in mean log-transformed specific activity slope were detected between the TPM of **KR 2R4F** and the following smokeless tobacco extracts on a 'unit of use' dose basis: **KR 2R4F > {Fresh Strips}** and **KR 2R4F < {Copenhagen Long Cut, 2S3, Camel SNUS Frost, Mellow Sticks}**.



7 Attribution

7.1 Original

This report has been prepared by me and is certified, to the best of my knowledge, to be a true and accurate description of the statistical methods used to arrive at the findings that accompany this report.

Dated: January 20, 2011

Wendy Wagstaff

Wendy Wagstaff
Senior Statistician
Labstat International ULC

7.2 *Revision 1*

This report has been prepared by me and is certified, to the best of my knowledge, to be a true and accurate description of the statistical methods used to arrive at the findings that accompany this report.

Dated: January 2, 2012

A handwritten signature in black ink that reads "Wendy Wagstaff".

Wendy Wagstaff
Senior Statistician
Labstat International ULC

Appendix A

Scope of Accreditation



Standards Council of Canada
Conseil canadien des normes

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SCOPE OF ACCREDITATION

LABSTAT INTERNATIONAL ULC
262 Manitou Drive, Unit 5
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Accredited Laboratory No. 368
(Conforms with requirements of CAN-P-4E (ISO/IEC 17025:2005))

CONTACT: Mr. Lucian Hirtie
TEL: (519) 748-5409
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CLIENTS SERVED: All interested parties

FIELDS OF TESTING: Biological, Chemical/Physical

ISSUED ON: 2008-10-06

VALID TO: 2012-01-22

Remarque: La présente portée d'accréditation existe également en français, sous la forme d'un document distinct.

Note: This scope of accreditation is also available in French as a separately issued document.

ANIMAL AND PLANTS (AGRICULTURE)

Agricultural products: (except food and chemicals)

Tobacco

AOAC 966.02	Moisture in Tobacco
ASTM E2187	Standard Test Method for Measuring the Ignition Strength of Cigarettes
ISO 10315	Cigarettes – Determination of Nicotine in Smoke Condensates Gas-Chromatographic Method
ISO 10362-1	Cigarettes – Determination of Water in Smoke Condensates – Part 1:

The approved and most recent version of this document can be viewed on the SCC website at <http://pcaican.scc.ca/SpecialSearch/SLSearchForm.do>

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	Gas-Chromatographic Method
ISO 15592-2	Fine-cut Tobacco and smoking articles made from it – Methods of sampling, conditioning and analysis – Part 2: Atmosphere for conditioning and testing
ISO 15592-3	Fine-cut Tobacco and smoking articles made from it – Methods of sampling, conditioning and analysis – Part 3: Determination of total particulate matter of smoking articles using a routine analytical smoking machine, preparation for the determination of water and nicotine, and calculation of nicotine-free dry particulate matter
ISO 3308	Routine Analytical Cigarette-Smoking Machine– Definitions and Standard Conditions
ISO 3402	Tobacco and Tobacco Products – Atmosphere for Conditioning and Testing
ISO 4387	Cigarettes – Determination of Total and Nicotine-Free Dry Particulate Matter Using a Routine Analytical Smoking Machine
ISO 6565	Tobacco and Tobacco Products – Draw Resistance of Cigarettes and Pressure Drop of Filter Rods–Standard Conditions and Measurement
ISO 8454	Cigarettes – Determination of Carbon Monoxide in the Vapour Phase of Cigarette Smoke – NDIR method
TMS-118	Determination of Volatile Nitrosamines in Mainstream Tobacco Smoke
TMS-120	Determination of Selected Polynuclear Aromatic Hydrocarbons (PAHs) in Mainstream Tobacco Smoke
TMS-124	Determination of Vinyl Chloride, 1,3-Butadiene, Isoprene, Acrylonitrile, Benzene, Toluene, Styrene and Acetamide in Mainstream Tobacco Smoke (Expanded List)
TMS-127	Determination of Selected Polynuclear Aromatic Hydrocarbons (PAHs) And Aza-Arenes in the Particulate Phase of Mainstream Tobacco Smoke
TMS-128	Determination of Aromatic Amines in Mainstream Tobacco smoke (Expanded list: Aniline, o-Toluidine, m-Toluidine, p-Toluidine, o-Anisidine, 1- and 2-Aminonaphthalene and 3- and 4-Aminobiphenyl)
TMS-132	Determination of Gas Phase and Particulate Phase Free Radicals in Mainstream Tobacco Smoke
TMS-133	Determination of Selected Heterocyclic Aromatic Amines (HAAs) in Mainstream Tobacco Smoke
TMS-135	Determination of Tobacco Specific Nitrosamines in Mainstream Tobacco Smoke by Liquid Chromatography–Tandem Mass Spectrometry
TMS-137	Determination of Acetamide and Acrylamide in Mainstream Tobacco Smoke
TSS-219	Determination of Selected Polynuclear Aromatic Hydrocarbons (PAHs) in Sidestream Tobacco Smoke
TSS-222	Determination of Sidestream Tobacco Smoke pH
TWT-303	Determination of Carbonyls in Tobacco Samples
TWT-320	Determination of 1- and 2- Aminonaphthalene and 3- and 4-Aminobiphenyl in Tobacco Samples
TWT-321	

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	Determination Of Nicotine Alkaloids And Reducing Sugars In Tobacco Samples
TWT-324	Determination of Nicotine in Tobacco Samples (CDC method)
TWT-332	Determination of Volatile Nitrosamines in Tobacco Samples
TWT-333	Determination of Tobacco Specific Nitrosamines in Tobacco Samples by Liquid Chromatography–Tandem Mass Spectrometry
TWT-334	Determination of Chloride in Tobacco Samples
TWT-335	Determination of Selected Polycyclic Aromatic Hydrocarbons (PAHs) in Tobacco Samples
TWT-336	Determination of Acrylamide in Tobacco Samples by Liquid Chromatography – Tandem Mass Spectrometry
TWT-337	Determination of 1,3–Butadiene and Benzene in Tobacco Samples

(Health Canada Tobacco Reporting Regulations Official Methods)

T-101	Determination of Ammonia in Mainstream Tobacco Smoke
T-102	Determination of 1– and 2– Aminonaphthalene and 3– and 4– Aminobiphenyl in Mainstream Tobacco Smoke
T-103	Determination of Benzo[a]pyrene in Mainstream Tobacco Smoke
T-104	Determination of Selected Carbonyls in Mainstream Tobacco Smoke
T-105	Determination of Eugenol in Mainstream Tobacco Smoke
T-106	Determination of Filter Efficiency in Mainstream Tobacco Smoke
T-107	Determination of Hydrogen Cyanide in Mainstream Tobacco Smoke
T-108	Determination of Mercury in Mainstream Tobacco Smoke
T-109	Determination of Ni, Pb, Cd, Cr, As and Se in Mainstream Tobacco Smoke
T-110	Determination of Oxides of Nitrogen in Mainstream Tobacco Smoke
T-111	Determination of Nitrosamines in Mainstream Tobacco Smoke
T-112	Determination of Pyridine, Quinoline and Styrene in Mainstream Tobacco Smoke
T-113	Determination of Mainstream Tobacco Smoke pH
T-114	Determination of Phenolic Compounds in Mainstream Tobacco Smoke
T-115	Determination of Tar, Nicotine and Carbon Monoxide in Mainstream Tobacco Smoke
T-116	Determination of 1,3– Butadiene, Isoprene, Acrylonitrile, Benzene and Toluene in Mainstream Tobacco Smoke
T-201	Determination of Ammonia in Sidestream Tobacco Smoke
T-202	Determination of 1– and 2– Aminonaphthalene and 3– and 4– Aminobiphenyl in Sidestream Tobacco Smoke
T-203	Determination of Benzo[a]pyrene in Sidestream Tobacco Smoke
T-203A	Determination of Benzo[a]pyrene in Sidestream Tobacco Smoke (GC/MS)
T-204	Determination of Selected Carbonyls in Sidestream Tobacco Smoke
T-205	Determination of Hydrogen Cyanide in Sidestream Tobacco Smoke
T-206	Determination of Mercury in Sidestream Tobacco Smoke
T-207	Determination of Toxic Trace Metals in Sidestream Smoke

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T-208	Determination of Oxides of Nitrogen in Sidestream Tobacco Smoke
T-209	Determination of Nitrosamines in Sidestream Tobacco Smoke
T-210	Determination of Pyridine and Quinoline in Sidestream Tobacco Smoke
T-211	Determination of Phenolic Compounds in Sidestream Tobacco Smoke
T-212	Determination of "Tar" and Nicotine in Sidestream Tobacco Smoke
T-213	Determination of 1,3 Butadiene, Isoprene, Acrylonitrile, Benzene, Toluene and Styrene in Sidestream Tobacco Smoke
T-214	Determination of Carbon Monoxide (CO) in Sidestream Tobacco Smoke
T-301	Determination of Alkaloids in Whole Tobacco
T-302	Determination of Ammonia in Whole Tobacco
T-304	Determination of Humectants in Whole Tobacco
T-306	Determination of Ni, Pb, Cd, Cr, As, Se and Hg in Whole Tobacco
T-307	Determination of Benzo[a]pyrene in Whole Tobacco
T-308	Determination of Nitrate from Whole Tobacco
T-309	Determination of Nitrosamines in Whole Tobacco
T-310	Determination of Whole Tobacco pH
T-311	Determination of Triacetin in Whole Tobacco
T-312	Determination of Sodium Propionate in Whole Tobacco
T-313	Determination of Sorbic Acid in Whole Tobacco
T-314	Determination of Eugenol in Whole Tobacco
T-401	Preparation of Cigarettes from Packaged Leaf Tobacco for Testing
T-402	Preparation of Cigarettes, Cigarette Tobacco, Cigars, Kreteks, Bidis, Packaged Leaf Tobacco, Pipe Tobacco and Smokeless Tobacco for testing

(Microbiology Tests)

T-501	Bacterial Reverse Mutation Assay for Mainstream Tobacco Smoke
T-502	Neutral Red Uptake Assay for Mainstream Tobacco Smoke
T-503	In Vitro Micronucleus Assay for Mainstream Tobacco Smoke
TBA-504	<i>In vitro</i> Sister Chromatid Exchange (SCE) Assay for Mainstream Tobacco Smoke

(Other: Measures of Exposure)

TME-001	Determination of Nicotine, Cotinine and Caffeine in Physiological Fluid Samples
TME-002	Determination of Creatinine in Urine
TME-003	Determination of 3-Hydroxycotinine in Physiological Fluid Samples
TME-004	<i>Salmonella Typhimurium</i> Reverse Mutation Assay: Microsuspension Method For Testing Urine Mutagenicity
TME-005	Determination of Nicotine and its Major Metabolites in Urine by Liquid Chromatography – Tandem Mass Spectrometry

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TME-006	Determination of S-Phenylmercapturic Acid (S-PMA) in Urine by Liquid Chromatography – Tandem Mass Spectrometry
TME-007	Determination of 8-Hydroxy-2'-Deoxyguanosine (8-OHdG) in Urine by Liquid Chromatography – Tandem Mass Spectrometry
TME-008	Determination of 1-Hydroxypyrene (1-HOP) in Urine by Liquid Chromatography – Tandem Mass Spectrometry
TME-009	Determination of 4-(Methyl-Nitrosamino)-1-(3-Pyridyl)-1-Butanol (NNAL) and its Glucuronides in Urine by Liquid Chromatography – Tandem Mass Spectrometry
TME-010	Determination of 1,3-Butadiene Urinary Metabolites by Liquid Chromatography – Tandem Mass Spectrometry
TME-011	Determination of 3-Hydroxypropylmercapturic Acid (3-HPMA) in Urine by Liquid Chromatography – Tandem Mass Spectrometry
TME-012	Determination of Selected Arylamines in Urine by Gas Chromatography – Mass Spectrometry (GC-MS)

Notes:

AOAC: Association of Official Analytical Chemists

ASTM: American Society for Testing and Materials

CAN-P-4E (ISO/IEC 17025): General Requirements for the Competence of Testing and Calibration Laboratories (ISO/IEC 17025-2005)

CDC: Centers for Disease Control and Prevention

ISO: International Organization for Standardization

T: Health Canada Tobacco Reporting Regulations Official Methods

TBA: Test Method, Biological Activity

TME: Test Method, Measures of Exposure

TMS: Test method, Mainstream Smoke

TSS: Test method, Sidestream Smoke

TWT: Test method, Whole Tobacco

P. Paladino, P. Eng., Director, Conformity Assessment

Date: 2008-10-06

Number of Scope Listings: 93
SCC 1003-15/420

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Appendix B

“Raw” Data and Analysis Results (See Enclosed CD)

Use of Labstat's¹ Analytical Reports²

Labstat International ULC is a recognized centre of analytical excellence related to tobacco and tobacco products. Our clients include major international tobacco manufacturers, various Governments and Government agencies such as the Canadian Federal Department of Health and the Massachusetts Department of Public Health, agricultural interests, university researchers and private research interests. Normally our contractual obligations extend **only** to the provision of data and related reports.

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³. Unless superseded by a specific contractual obligation or other written agreement.

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Sample ID	Sample Description
1002248	2R4F Kentucky Reference Cigarettes

LABSTAT INTERNATIONAL ULC

262 Manitou Drive, Kitchener, Ontario, Canada N2C 1L3
 Phone (519) 748-5409 FAX (519) 748-1654

Project: M125

Period: February 1 - 5, 2010

Smoking Data[†] for *In Vitro* Sister Chromatid Exchange Assay**'Unit of Use' Data (cigarettes/mL media) for *In Vitro* SCE Assay**

Set Number	Run Number	Sample ID	Replicate Number	Smoking Date	Cigarettes Smoked	Puff Count (per cig)	MS TPM (mg/cig) ¹	Nicotine (mg/cig)	Smoking Machine	Treatment Schedule (i)						Treatment Schedule (ii)						
										1	2	3	4	5	6	1	2	3	4	5	6	7
1	2	1002248	1	01-Feb-10	20	9.3	11.2	0.735	Borgwaldt Rotary	0	0.0009	0.0022	0.0033	0.0045	0.0067	0	0.0089	0.0134	0.0178	0.0223	0.0245	0.0267
2	2	1002248	2	04-Feb-10	20	8.8	10.6	0.760	Borgwaldt Rotary	0	0.0009	0.0024	0.0035	0.0047	0.0071	0	0.0094	0.0141	0.0189	0.0236	0.0259	0.0283
3	2	1002248	3	05-Feb-10	20	9.1	10.6	0.716	Borgwaldt Rotary	0	0.0009	0.0024	0.0035	0.0047	0.0071	0	0.0094	0.0141	0.0189	0.0236	0.0259	0.0283

Treatment Schedule	TPM (µg/mL media)						
	1	2	3	4	5	6	7
Schedule (i)	0	10	25	37.5	50	75	
Schedule (ii)	0	100	150	200	250	275	300

[†] Samples generated under 'FTC' smoking conditions:

35mL puff volume; 60 second interval; 2 second duration; no vent blocking.

¹ Samples extracted in DMSO to give a final concentration of 10.0 mg/mL.

***In Vitro* Sister Chromatid Exchange Assay of CHO cells with (+) and without (-) S9 Metabolic Activation
(Observations per flask)**

Set Number	Run Number	Sample ID	Replicate Number	Assay Date	Treatment Schedule	'Unit of Use' (cigs/mL)	Treatment Time (h)	Metabolic Activation	Cell Counts (Flask 1)			Cell Counts (Flask 2)			Sister Chromatid Exchanges per Cell/Chromosome					
									# of Cells	# of SCE	Number of chromosomes	# of Cells	# of SCE	Number of chromosomes	SCE per Cell			SCE per Chromosome		
															Flask 1	Flask 2	Average	Flask 1	Flask 2	Average
1	2	1002248	1	09-Mar-10	Schedule (i)	0	30	-S9	25	164	511	25	158	516	6.56	6.32	6.44	0.321	0.306	0.314
1	2	1002248	1	09-Mar-10	Schedule (i)	0.001	30	-S9	25	222	520	25	228	518	8.88	9.12	9.00	0.427	0.440	0.434
1	2	1002248	1	09-Mar-10	Schedule (i)	0.002	30	-S9	25	255	509	25	277	508	10.20	11.08	10.64	0.501	0.545	0.523
1	2	1002248	1	09-Mar-10	Schedule (i)	0.003	30	-S9	25	348	514	25	334	508	13.9	13.4	13.6	0.677	0.657	0.667
1	2	1002248	1	09-Mar-10	Schedule (i)	0.004	30	-S9	25	415	517	25	406	512	16.6	16.2	16.4	0.803	0.793	0.798
1	2	1002248	1	09-Mar-10	Schedule (i)	0.007	30	-S9	25	577	510	25	569	526	23.1	22.8	22.9	1.13	1.08	1.11
2	2	1002248	2	16-Mar-10	Schedule (i)	0	30	-S9	25	173	509	25	159	518	6.92	6.36	6.64	0.340	0.307	0.323
2	2	1002248	2	16-Mar-10	Schedule (i)	0.001	30	-S9	25	232	511	25	222	511	9.28	8.88	9.08	0.454	0.434	0.444
2	2	1002248	2	16-Mar-10	Schedule (i)	0.002	30	-S9	25	292	514	25	301	514	11.68	12.04	11.86	0.568	0.586	0.577
2	2	1002248	2	16-Mar-10	Schedule (i)	0.004	30	-S9	25	336	517	25	351	517	13.4	14.0	13.7	0.650	0.679	0.664
2	2	1002248	2	16-Mar-10	Schedule (i)	0.005	30	-S9	25	405	510	25	429	501	16.2	17.2	16.7	0.794	0.856	0.825
2	2	1002248	2	16-Mar-10	Schedule (i)	0.007	30	-S9	25	552	510	25	556	502	22.1	22.2	22.2	1.08	1.11	1.09
3	2	1002248	3	23-Mar-10	Schedule (i)	0	30	-S9	25	157	523	25	153	492	6.28	6.12	6.20	0.300	0.311	0.306
3	2	1002248	3	23-Mar-10	Schedule (i)	0.001	30	-S9	25	224	524	25	211	508	8.96	8.44	8.70	0.427	0.415	0.421
3	2	1002248	3	23-Mar-10	Schedule (i)	0.002	30	-S9	25	284	525	25	274	508	11.36	10.96	11.16	0.541	0.539	0.540
3	2	1002248	3	23-Mar-10	Schedule (i)	0.004	30	-S9	25	344	523	25	329	513	13.8	13.2	13.5	0.658	0.641	0.650
3	2	1002248	3	23-Mar-10	Schedule (i)	0.005	30	-S9	25	420	524	25	406	512	16.8	16.2	16.5	0.802	0.793	0.797
3	2	1002248	3	23-Mar-10	Schedule (i)	0.007	30	-S9	25	566	525	25	522	506	22.6	20.9	21.8	1.08	1.03	1.05
1	2	1002248	1	11-Mar-10	Schedule (ii)	0	3	+S9	25	159	516	25	159	497	6.36	6.36	6.36	0.308	0.320	0.314
1	2	1002248	1	11-Mar-10	Schedule (ii)	0.009	3	+S9	25	219	506	25	213	509	8.76	8.52	8.64	0.433	0.418	0.426
1	2	1002248	1	11-Mar-10	Schedule (ii)	0.013	3	+S9	25	268	514	25	263	507	10.7	10.5	10.6	0.521	0.519	0.520
1	2	1002248	1	11-Mar-10	Schedule (ii)	0.018	3	+S9	25	311	507	25	316	492	12.4	12.6	12.5	0.613	0.642	0.628
1	2	1002248	1	11-Mar-10	Schedule (ii)	0.022	3	+S9	25	360	510	25	370	500	14.4	14.8	14.6	0.706	0.740	0.723
1	2	1002248	1	11-Mar-10	Schedule (ii)	0.024	3	+S9	25	390	509	25	399	500	15.6	16.0	15.8	0.766	0.798	0.782
1	2	1002248	1	11-Mar-10	Schedule (ii)	0.027	3	+S9	25	443	522	25	449	493	17.7	18.0	17.8	0.849	0.911	0.880
2	2	1002248	2	18-Mar-10	Schedule (ii)	0	3	+S9	25	172	491	25	178	511	6.88	7.12	7.00	0.350	0.348	0.349
2	2	1002248	2	18-Mar-10	Schedule (ii)	0.009	3	+S9	25	200	503	25	216	511	8.00	8.64	8.32	0.398	0.423	0.410
2	2	1002248	2	18-Mar-10	Schedule (ii)	0.014	3	+S9	25	252	515	25	268	510	10.1	10.7	10.4	0.489	0.525	0.507
2	2	1002248	2	18-Mar-10	Schedule (ii)	0.019	3	+S9	25	322	508	25	313	507	12.9	12.5	12.7	0.634	0.617	0.626
2	2	1002248	2	18-Mar-10	Schedule (ii)	0.024	3	+S9	25	355	510	25	362	509	14.2	14.5	14.3	0.696	0.711	0.704
2	2	1002248	2	18-Mar-10	Schedule (ii)	0.026	3	+S9	25	392	503	25	399	514	15.7	16.0	15.8	0.779	0.776	0.778
2	2	1002248	2	18-Mar-10	Schedule (ii)	0.028	3	+S9	25	433	519	25	440	519	17.3	17.6	17.5	0.834	0.848	0.841
3	2	1002248	3	24-Mar-10	Schedule (ii)	0	3	+S9	25	180	506	25	184	503	7.20	7.36	7.28	0.356	0.366	0.361
3	2	1002248	3	24-Mar-10	Schedule (ii)	0.009	3	+S9	25	220	504	25	209	497	8.80	8.36	8.58	0.437	0.421	0.429
3	2	1002248	3	24-Mar-10	Schedule (ii)	0.014	3	+S9	25	260	500	25	268	496	10.4	10.7	10.6	0.520	0.540	0.530
3	2	1002248	3	24-Mar-10	Schedule (ii)	0.019	3	+S9	25	320	513	25	303	494	12.8	12.1	12.5	0.624	0.613	0.619
3	2	1002248	3	24-Mar-10	Schedule (ii)	0.024	3	+S9	25	377	513	25	383	491	15.1	15.3	15.2	0.735	0.780	0.757
3	2	1002248	3	24-Mar-10	Schedule (ii)	0.026	3	+S9	25	405	521	25	401	491	16.2	16.0	16.1	0.777	0.817	0.797
3	2	1002248	3	24-Mar-10	Schedule (ii)	0.028	3	+S9	25	453	519	25	451	501	18.1	18.0	18.1	0.873	0.900	0.887

Samples Generated Under 'FTC' Smoking Conditions 35mL puff volume; 60 second interval; 2 second duration; 0% vent blocking.

***In Vitro* Sister Chromatid Exchange Assay of CHO cells with (+) and without (-) S9 Metabolic Activation**
(Cell Scoring per flask)

Set Number	Run Number	Sample ID	Replicate Number	Assay Date	Treatment Schedule	'Unit of Use' (cigs/mL)	Treatment Time (h)	Metabolic Activation	Flask 1						Flask 2					
									Metaphases Scored					AGT	Metaphases Scored					AGT
									M1	M1+	M2	M2+	PRI	(hours)	M1	M1+	M2	M2+	PRI	(hours)
1	2	1002248	1	09-Mar-10	Schedule (i)	0	30	-S9	1	4	83	12	2.11	14.22	1	1	85	13	2.12	14.15
1	2	1002248	1	09-Mar-10	Schedule (i)	0.001	30	-S9	4	7	79	10	2.06	14.56	7	1	80	12	2.05	14.63
1	2	1002248	1	09-Mar-10	Schedule (i)	0.002	30	-S9	6	9	78	7	2.01	14.93	10	1	79	10	2.00	15.00
1	2	1002248	1	09-Mar-10	Schedule (i)	0.003	30	-S9	13	6	74	7	1.94	15.46	14	1	79	6	1.92	15.63
1	2	1002248	1	09-Mar-10	Schedule (i)	0.004	30	-S9	17	8	71	4	1.87	16.04	20	1	74	5	1.85	16.22
1	2	1002248	1	09-Mar-10	Schedule (i)	0.007	30	-S9	26	5	66	3	1.77	16.95	27	6	65	2	1.75	17.14
2	2	1002248	2	16-Mar-10	Schedule (i)	0	30	-S9	2	1	81	16	2.14	14.02	2	0	84	14	2.12	14.15
2	2	1002248	2	16-Mar-10	Schedule (i)	0.001	30	-S9	5	2	80	13	2.08	14.42	3	2	83	12	2.09	14.35
2	2	1002248	2	16-Mar-10	Schedule (i)	0.002	30	-S9	7	4	79	10	2.03	14.78	8	2	80	10	2.02	14.85
2	2	1002248	2	16-Mar-10	Schedule (i)	0.004	30	-S9	9	8	76	7	1.98	15.15	10	5	78	7	1.97	15.23
2	2	1002248	2	16-Mar-10	Schedule (i)	0.005	30	-S9	13	9	75	3	1.90	15.79	14	6	77	3	1.89	15.87
2	2	1002248	2	16-Mar-10	Schedule (i)	0.007	30	-S9	26	7	65	2	1.76	17.05	27	3	69	1	1.74	17.24
3	2	1002248	3	23-Mar-10	Schedule (i)	0	30	-S9	2	5	80	13	2.11	14.22	2	0	84	14	2.12	14.15
3	2	1002248	3	23-Mar-10	Schedule (i)	0.001	30	-S9	2	4	86	8	2.06	14.56	3	2	84	11	2.08	14.42
3	2	1002248	3	23-Mar-10	Schedule (i)	0.002	30	-S9	5	4	85	6	2.01	14.93	8	4	78	10	2.02	14.85
3	2	1002248	3	23-Mar-10	Schedule (i)	0.004	30	-S9	7	6	84	3	1.96	15.31	11	2	80	7	1.96	15.31
3	2	1002248	3	23-Mar-10	Schedule (i)	0.005	30	-S9	12	6	81	1	1.89	15.87	16	8	73	3	1.87	16.04
3	2	1002248	3	23-Mar-10	Schedule (i)	0.007	30	-S9	24	3	73	0	1.76	17.05	22	9	67	2	1.80	16.67
1	2	1002248	1	11-Mar-10	Schedule (ii)	0	3	+S9	4	1	82	13	2.09	14.35	1	0	84	15	2.14	14.02
1	2	1002248	1	11-Mar-10	Schedule (ii)	0.009	3	+S9	6	3	81	10	2.04	14.71	4	3	82	11	2.07	14.49
1	2	1002248	1	11-Mar-10	Schedule (ii)	0.013	3	+S9	5	2	88	5	2.00	15.00	10	3	78	9	1.99	15.08
1	2	1002248	1	11-Mar-10	Schedule (ii)	0.018	3	+S9	10	2	83	5	1.95	15.38	13	7	73	7	1.94	15.46
1	2	1002248	1	11-Mar-10	Schedule (ii)	0.022	3	+S9	15	2	78	5	1.90	15.79	17	6	72	5	1.88	15.96
1	2	1002248	1	11-Mar-10	Schedule (ii)	0.024	3	+S9	19	5	70	6	1.87	16.04	20	6	69	5	1.85	16.22
1	2	1002248	1	11-Mar-10	Schedule (ii)	0.027	3	+S9	22	2	73	3	1.81	16.57	24	7	67	2	1.78	16.85
2	2	1002248	2	18-Mar-10	Schedule (ii)	0	3	+S9	2	0	86	12	2.10	14.29	2	1	82	15	2.13	14.08
2	2	1002248	2	18-Mar-10	Schedule (ii)	0.009	3	+S9	4	2	84	10	2.06	14.56	4	1	84	11	2.07	14.49
2	2	1002248	2	18-Mar-10	Schedule (ii)	0.014	3	+S9	7	3	80	10	2.03	14.78	6	3	84	7	2.01	14.93
2	2	1002248	2	18-Mar-10	Schedule (ii)	0.019	3	+S9	12	7	74	7	1.95	15.38	11	4	78	7	1.96	15.31
2	2	1002248	2	18-Mar-10	Schedule (ii)	0.024	3	+S9	15	9	71	5	1.90	15.79	13	3	79	5	1.92	15.63
2	2	1002248	2	18-Mar-10	Schedule (ii)	0.026	3	+S9	19	6	72	3	1.84	16.30	18	4	74	4	1.86	16.13
2	2	1002248	2	18-Mar-10	Schedule (ii)	0.028	3	+S9	24	9	65	2	1.78	16.85	22	3	74	1	1.79	16.76
3	2	1002248	3	24-Mar-10	Schedule (ii)	0	3	+S9	3	0	81	16	2.13	14.08	2	0	82	16	2.14	14.02
3	2	1002248	3	24-Mar-10	Schedule (ii)	0.009	3	+S9	5	2	79	14	2.09	14.35	5	0	86	9	2.04	14.71
3	2	1002248	3	24-Mar-10	Schedule (ii)	0.014	3	+S9	10	0	75	15	2.05	14.63	8	3	80	9	2.01	14.93
3	2	1002248	3	24-Mar-10	Schedule (ii)	0.019	3	+S9	11	1	78	10	1.99	15.08	11	3	80	6	1.95	15.38
3	2	1002248	3	24-Mar-10	Schedule (ii)	0.024	3	+S9	16	1	73	10	1.94	15.46	14	6	75	5	1.91	15.71
3	2	1002248	3	24-Mar-10	Schedule (ii)	0.026	3	+S9	21	1	70	8	1.87	16.04	20	5	72	3	1.83	16.39
3	2	1002248	3	24-Mar-10	Schedule (ii)	0.028	3	+S9	24	0	73	3	1.79	16.76	21	4	74	1	1.80	16.67

Samples Generated Under 'FTC' Smoking Conditions: 35mL puff volume; 60 second interval; 2 second duration; 0% vent blocking.

Cell Scoring Data

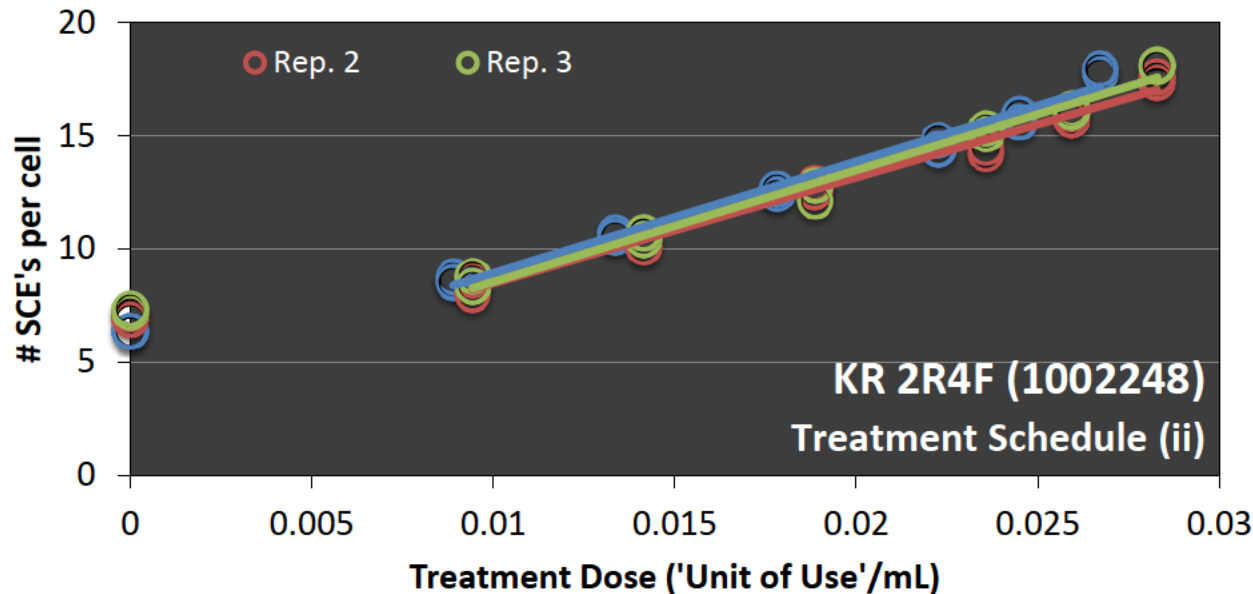
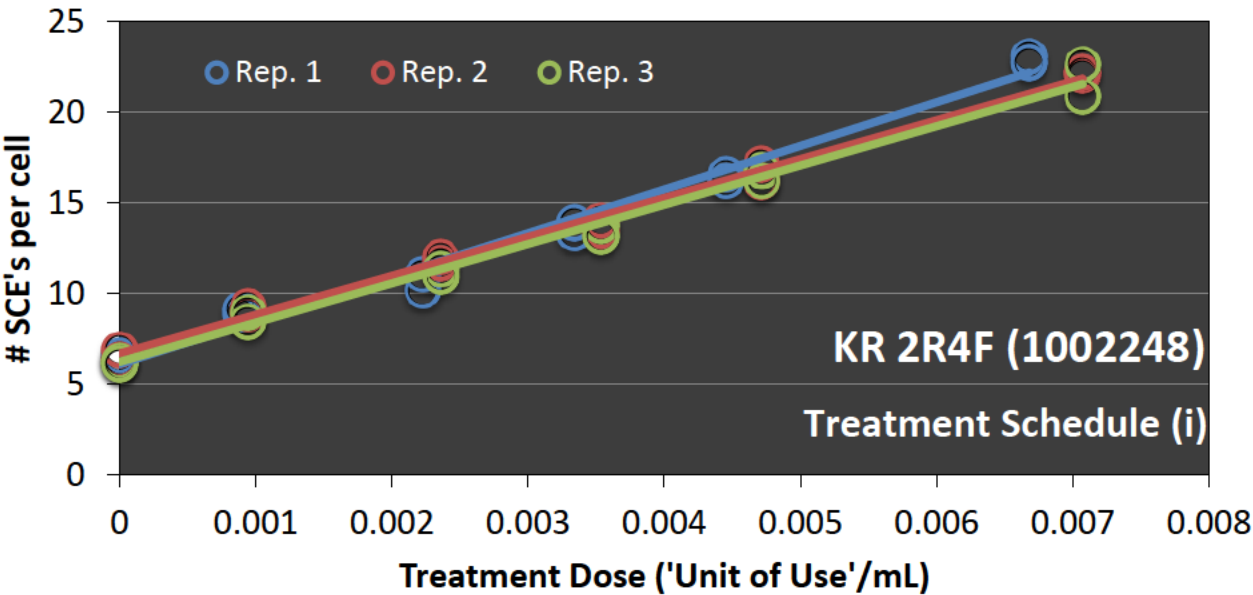
Revision: 0

SST-457-10

Labstat International ULC

Slope Analysis of the Linear Portion of the Dose-Response Curve
[Number of Sister Chromatid Exchanges per Cell / ('Unit of Use'/mL)]

			(Number of SCE's/Cell) / ('Unit of Use'/mL)													
Treatment Schedule	Sample ID	Sample Description	Replicate 1			Replicate 2			Replicate 3			Statistics for Replicate			T-test Analysis	
			Dose Range	slope	LOG	Dose Range	slope	LOG	Dose Range	slope	LOG	LOG[Slope] Estimates			(H ₀ : mean[Slope] = 0)	
			('Unit'/mL)		[slope]	('Unit'/mL)		[slope]	('Unit'/mL)		[slope]	Mean	Std. Err.	95% C.I.	p-value	significance
Schedule (i)	1002248	KR 2R4F	0 - 0.007	2408	3.38	0 - 0.007	2147	3.33	0 - 0.007	2168	3.34	3.35	0.02	3.28 to 3.42	0.001	significant
Schedule (ii)	1002248	KR 2R4F	0.009 - 0.027	493	2.69	0.009 - 0.028	468	2.67	0.009 - 0.028	492	2.69	2.69	0.01	2.65 to 2.72	0.000	significant



Sample ID	Sample Description
1002241	Ariva Wintergreen
1002242	Copenhagen Long Cut
1002243	Fresh Strips
1002244	2S3 Research Moist Smokeless Tobaccc
1002245	Camel SNUS Frost
1002246	Mellow Sticks
1002247	Fresh Orbs
1002248	2R4F Kentucky Reference Cigarettes

Slope Analysis of the Linear Portion of the Dose-Response Curve
[Number of Sister Chromatid Exchanges per Cell / ('Unit of Use'/mL)]

			(Number of Sister Chromatid Exchanges/Cell) / ('Unit of Use'/mL)													
Treatment Schedule	Sample ID	Sample Description	Replicate 1			Replicate 2			Replicate 3			Statistics for Replicate			T-test Analysis	
			Dose Range	slope	LOG	Dose Range	slope	LOG	Dose Range	slope	LOG	LOG[Slope] Estimates			(H ₀ : mean[Slope] = 0)	
			('Unit'/mL)		[slope]	('Unit'/mL)		[slope]	('Unit'/mL)		[slope]	Mean	Std. Err.	95% C.I.	p-value	significance
Schedule (i)	1002241	Ariva Wintergreen	0 - 0.003	2262	3.35	0 - 0.003	2300	3.36	0 - 0.003	2449	3.39	3.37	0.01	3.32 to 3.41	0.001	significant
Schedule (i)	1002242	Copenhagen Long Cut	0 - 0.0003	21488	4.33	0 - 0.0003	19621	4.29	0 - 0.0003	21266	4.33	4.32	0.01	4.26 to 4.37	0.001	significant
Schedule (i)	1002243	Fresh Strips	0 - 0.0067	933	2.97	0 - 0.0067	1035	3.01	0 - 0.0067	952	2.98	2.99	0.01	2.93 to 3.05	0.001	significant
Schedule (i)	1002244	2S3	0 - 0.0003	25802	4.41	0 - 0.0003	24533	4.39	0 - 0.0003	25371	4.40	4.40	0.01	4.37 to 4.43	0.000	significant
Schedule (i)	1002245	Camel SNUS Frost	0 - 0.0014	3789	3.58	0 - 0.0014	3883	3.59	0 - 0.0014	4218	3.63	3.60	0.01	3.54 to 3.66	0.001	significant
Schedule (i)	1002246	Mellow Sticks	0 - 0.0016	4915	3.69	0 - 0.0016	4606	3.66	0 - 0.0016	4649	3.67	3.67	0.01	3.64 to 3.71	0.000	significant
Schedule (i)	1002247	Fresh Orbs	0 - 0.0037	1838	3.26	0 - 0.0037	1985	3.30	0 - 0.0037	2038	3.31	3.29	0.01	3.23 to 3.35	0.001	significant
Schedule (i)	1002248	KR 2R4F	0 - 0.0067	2408	3.38	0 - 0.0071	2147	3.33	0 - 0.0071	2168	3.34	3.35	0.02	3.28 to 3.42	0.001	significant
Schedule (ii)	1002241	Ariva Wintergreen	0.004 - 0.0119	460	2.66	0.004 - 0.0119	507	2.71	0.004 - 0.0119	507	2.71	2.69	0.01	2.63 to 2.75	0.001	significant
Schedule (ii)	1002242	Copenhagen Long Cut	0.0004 - 0.0013	4356	3.64	0.0004 - 0.0013	3889	3.59	0.0004 - 0.0013	3813	3.58	3.60	0.02	3.53 to 3.68	0.002	significant
Schedule (ii)	1002243	Fresh Strips	0.0089 - 0.0267	180	2.25	0.0089 - 0.0267	196	2.29	0.0089 - 0.0267	202	2.31	2.28	0.02	2.22 to 2.35	0.001	significant
Schedule (ii)	1002244	2S3	0.0004 - 0.0013	4370	3.64	0.0004 - 0.0013	4953	3.69	0.0004 - 0.0013	5357	3.73	3.69	0.03	3.58 to 3.8	0.003	significant
Schedule (ii)	1002245	Camel SNUS Frost	0.0019 - 0.0056	909	2.96	0.0019 - 0.0056	1019	3.01	0.0019 - 0.0056	992	3.00	2.99	0.01	2.92 to 3.05	0.001	significant
Schedule (ii)	1002246	Mellow Sticks	0.0022 - 0.0065	858	2.93	0.0022 - 0.0065	1006	3.00	0.0022 - 0.0065	782	2.89	2.94	0.03	2.81 to 3.08	0.006	significant
Schedule (ii)	1002247	Fresh Orbs	0.0049 - 0.0148	452	2.66	0.0049 - 0.0148	390	2.59	0.0049 - 0.0148	409	2.61	2.62	0.02	2.54 to 2.7	0.002	significant
Schedule (ii)	1002248	KR 2R4F	0.0089 - 0.0267	493	2.69	0.0094 - 0.0283	468	2.67	0.0094 - 0.0283	492	2.69	2.69	0.01	2.65 to 2.72	0.000	significant

KR 2R4F sample dose basis: 'cigarettes'/mL.

Dose basis for all other samples: 'Unit of Use'/mL.

**One-Way ANOVA of Mean 'Unit of Use'
LOG[Slope] Estimates Among Test Samples**

Schedule (i)

Source	Sum of Squares	Df	Mean Square	F-Ratio	P-Value
Among Samples	5.2375	7	0.7482	1652.39	0.000
Within Samples	0.0072	16	0.0005		
Total (Corr.)	5.2448	23			

Schedule (ii)

Source	Sum of Squares	Df	Mean Square	F-Ratio	P-Value
Among Samples	4.9855	7	0.7122	614.93	0.000
Within Samples	0.0185	16	0.0012		
Total (Corr.)	5.0040	23			

One-way ANOVA analysis indicates significant differences (at $\alpha = 0.05$) among mean 'Unit of Use' log-transformed specific activity slope estimates for test samples under both Treatment Schedules (i) and (ii).

Ratio (Max ÷ Min) of Standard Deviations of log-transformed 'Unit of Use' Slope Estimates and Corresponding Method of Comparison

Treatment Schedule	Std. Dev. Ratio (Max ÷ Min)	Method of Comparison
Schedule (i)	2.5	ANOVA (equal variance)
Schedule (ii)	4.3	ANOVA (equal variance)

ANOVA-Based Comparisons of Average 'Unit of Use' LOG[Slope] for Contrasts of Interest using Bonferroni-adjusted p-values

ANOVA-Based Comparison	Schedule (i)			Schedule (ii)		
	f-ratio	p-value	significance at $\alpha = 0.05$	f-ratio	p-value	significance at $\alpha = 0.05$
Ariva Wintergreen vs. KR 2R4F	1.14	0.3009	not significant	0.05	0.8326	not significant
Copenhagen Long Cut vs. KR 2R4F	3102	9.5E-20	significant	1092	3.7E-16	significant
Fresh Strips vs. KR 2R4F	434	5.1E-13	significant	208	1.4E-10	significant
2S3 vs. KR 2R4F	3666	2.5E-20	significant	1303	9.3E-17	significant
Camel SNUS Frost vs. KR 2R4F	203	1.6E-10	significant	119	8.2E-09	significant
Mellow Sticks vs. KR 2R4F	348	2.8E-12	significant	86.2	7.6E-08	significant
Fresh Orbs vs. KR 2R4F	11.72	0.0035	significant	5.59	0.0311	not significant

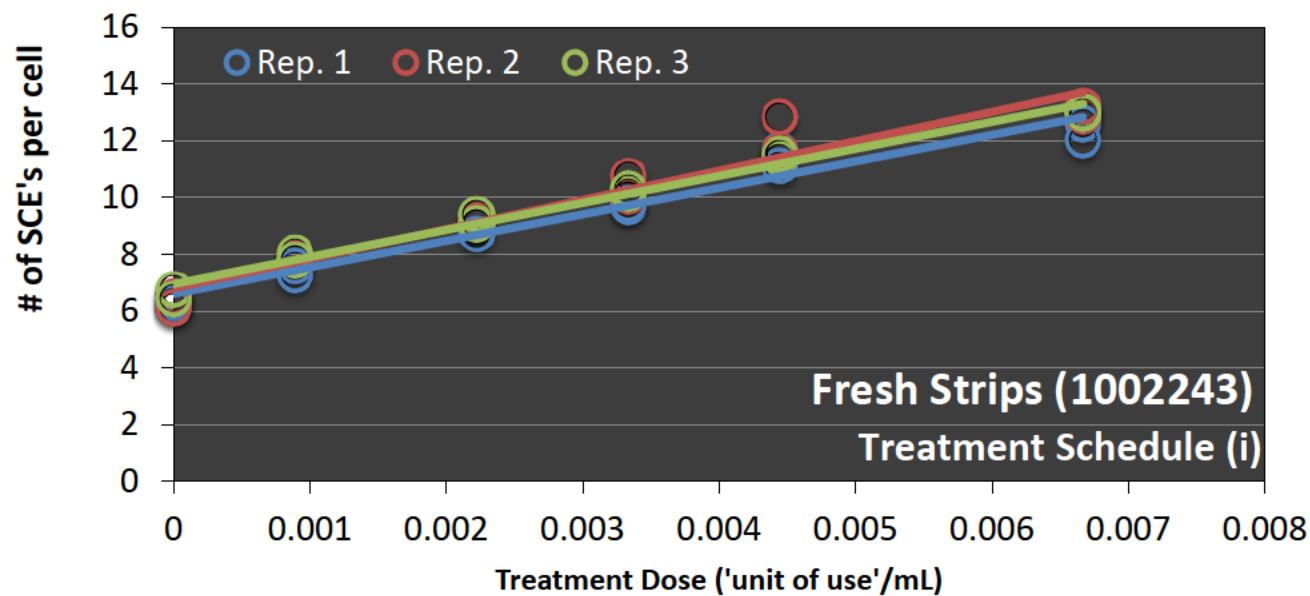
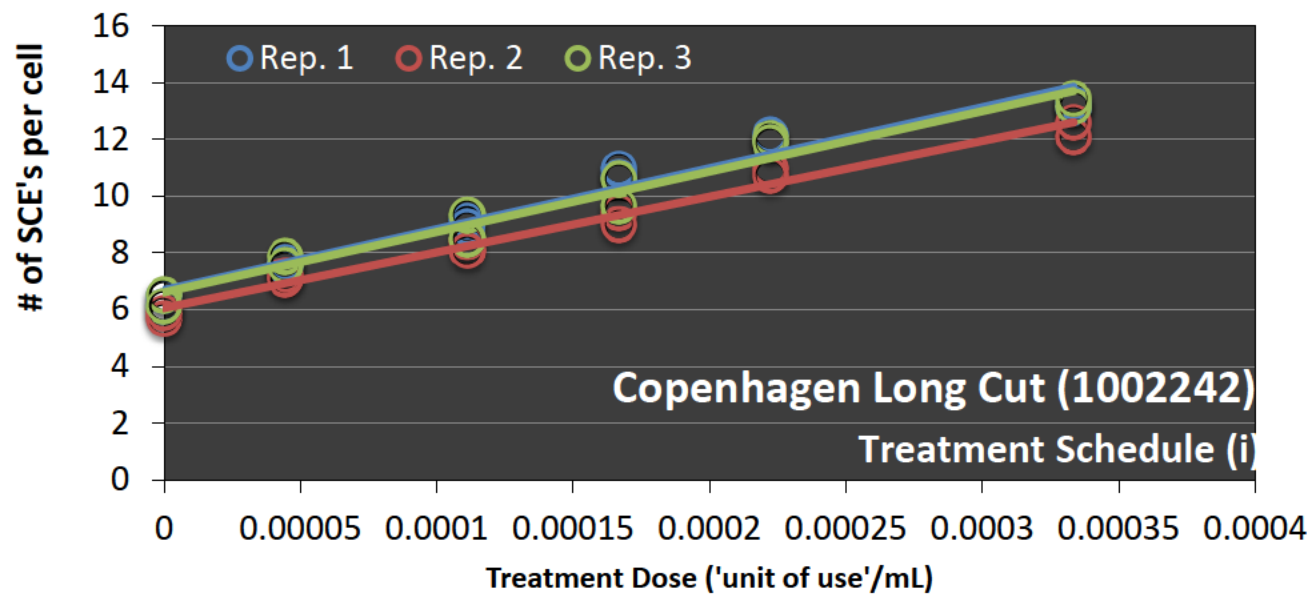
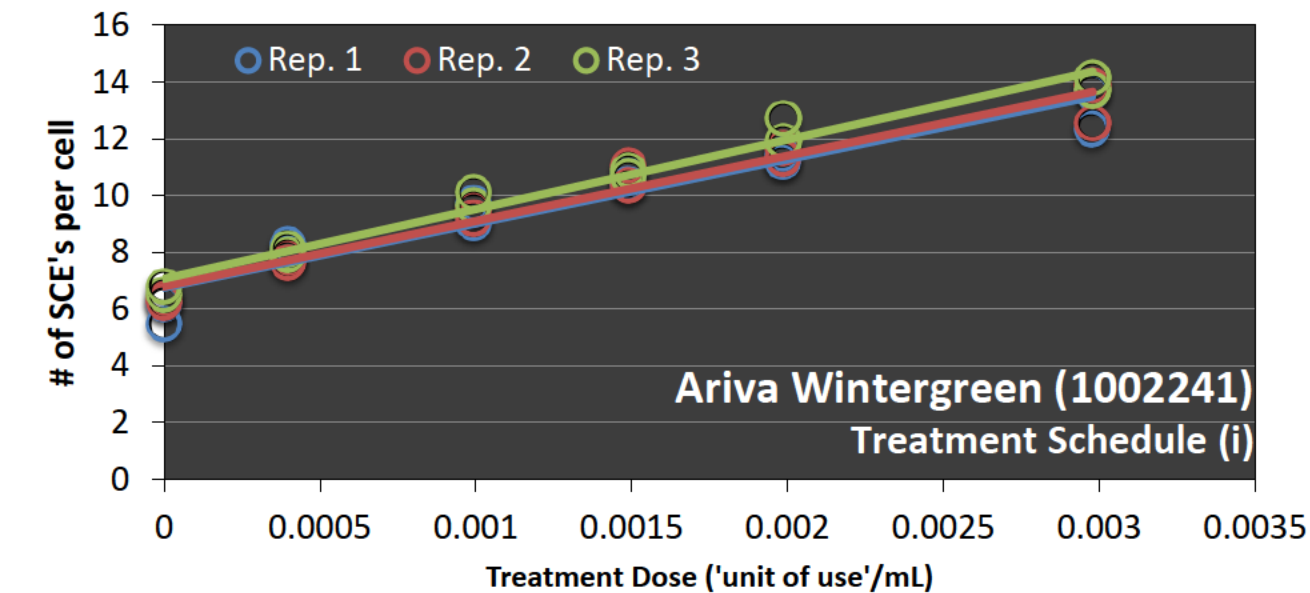
ANOVA-based comparison p-values less than the Bonferroni-adjusted $\alpha = 0.05$ indicate that significant differences were detected between the mean 'cigarettes/mL' log-transformed slope of the KR 2R4F (1002284) smoked tobacco samples and the mean 'unit of use' log-transformed slope of the following smokeless tobacco samples under Treatment Schedules (i) and (ii):

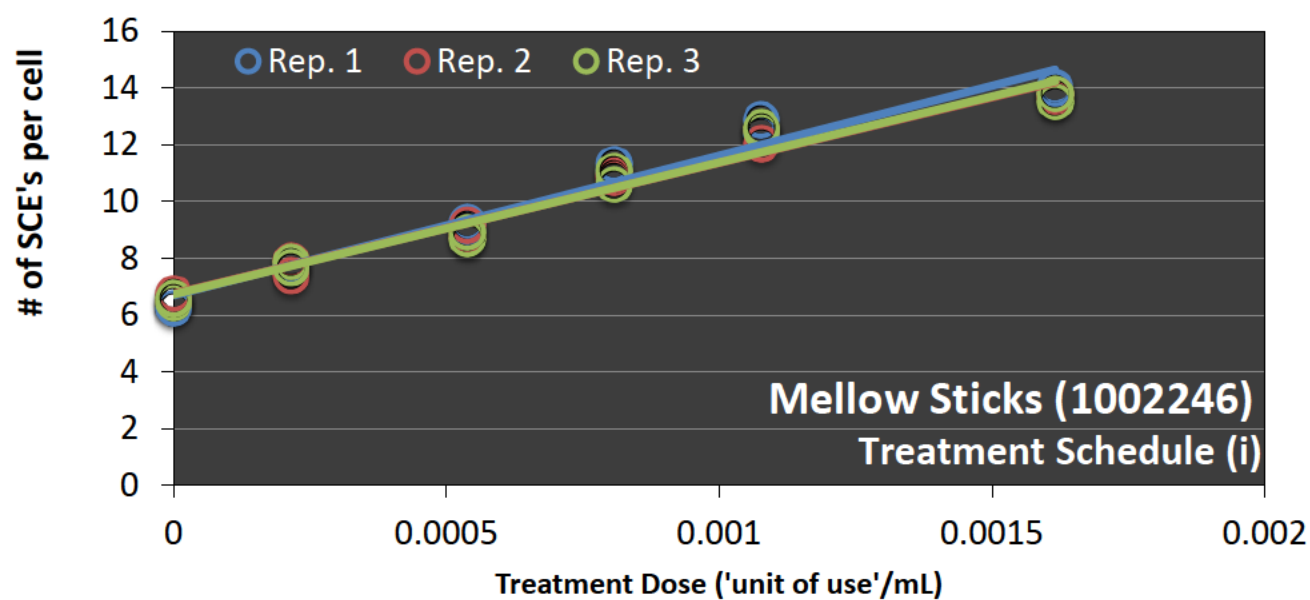
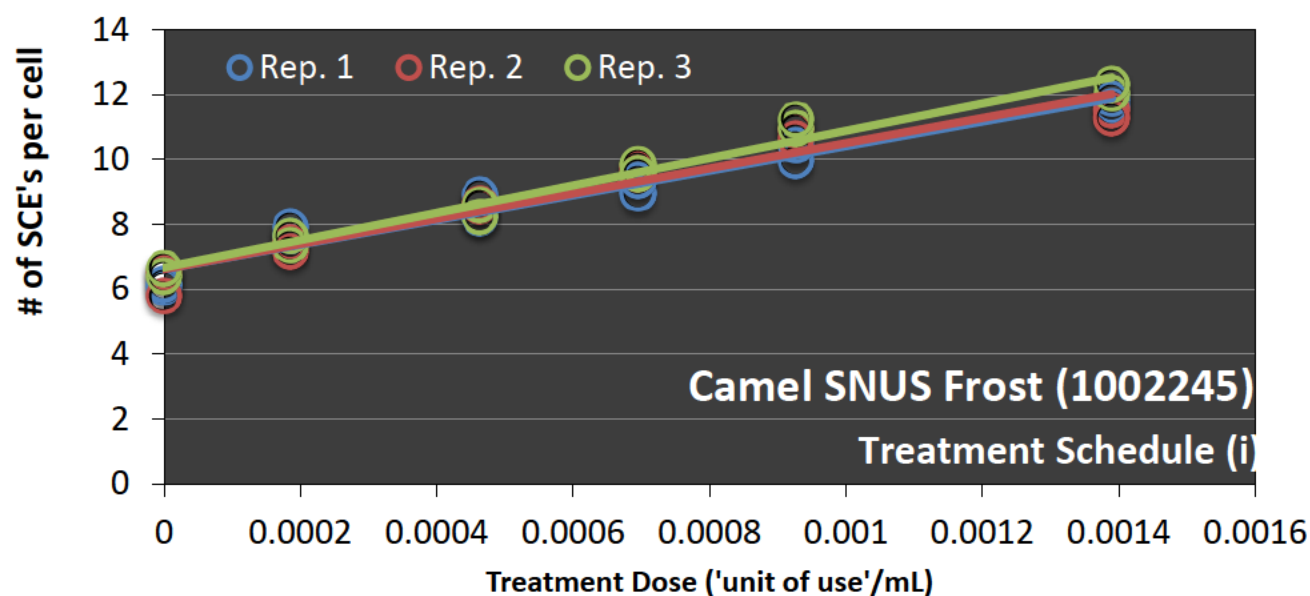
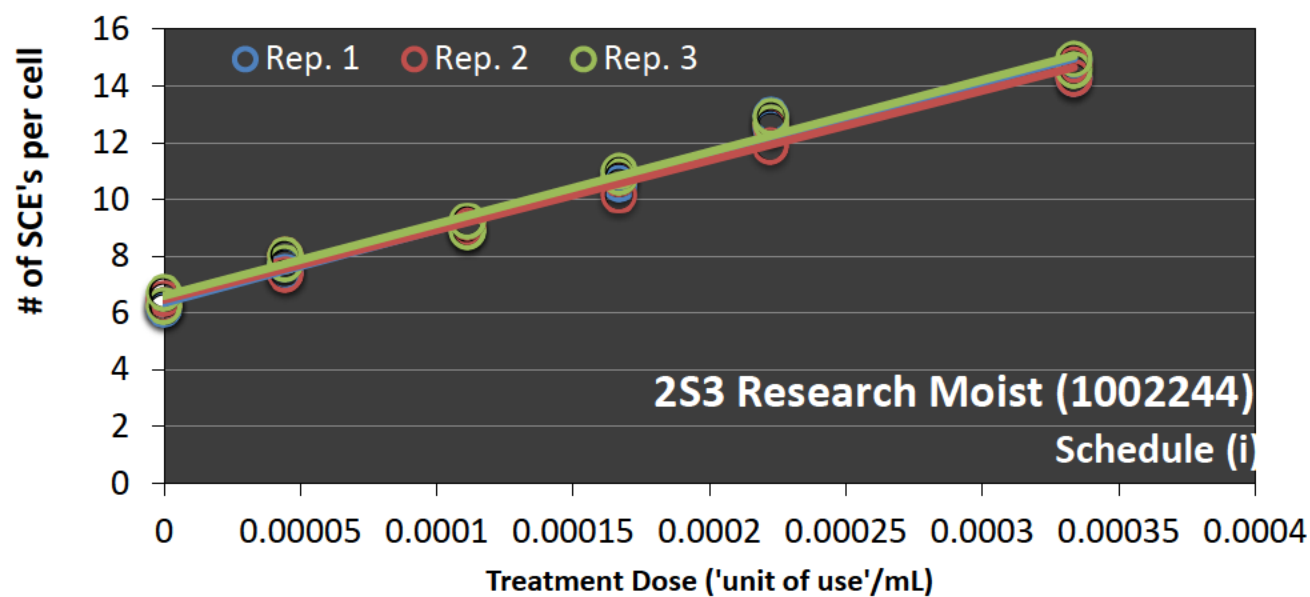
Treatment Schedule (i)

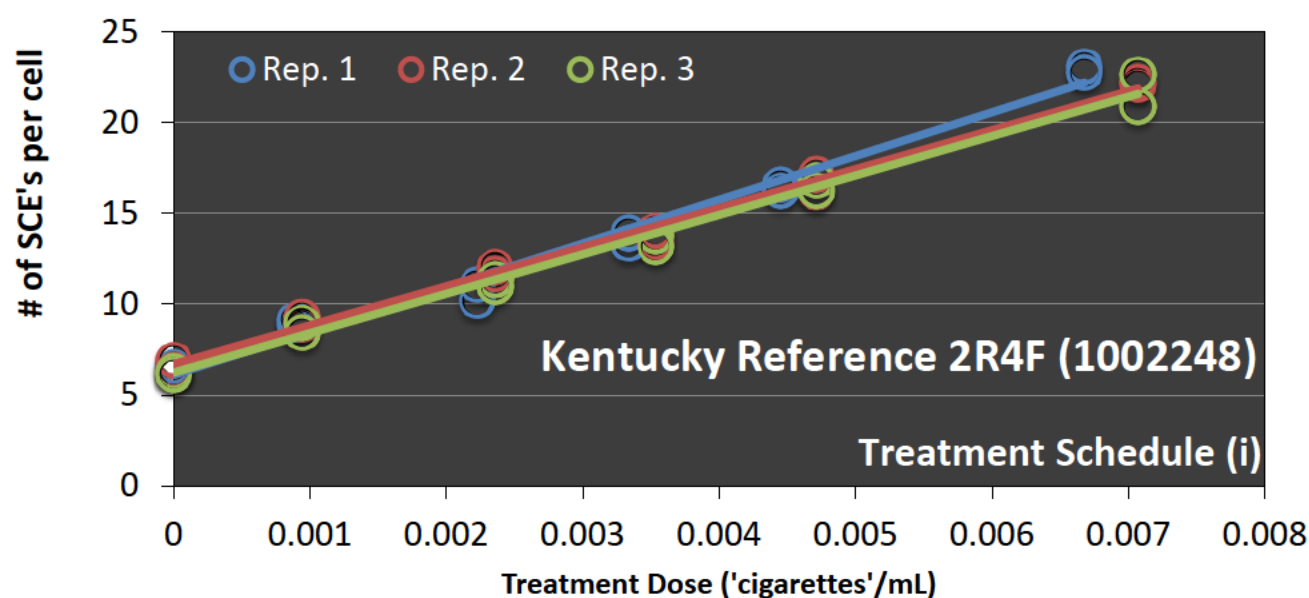
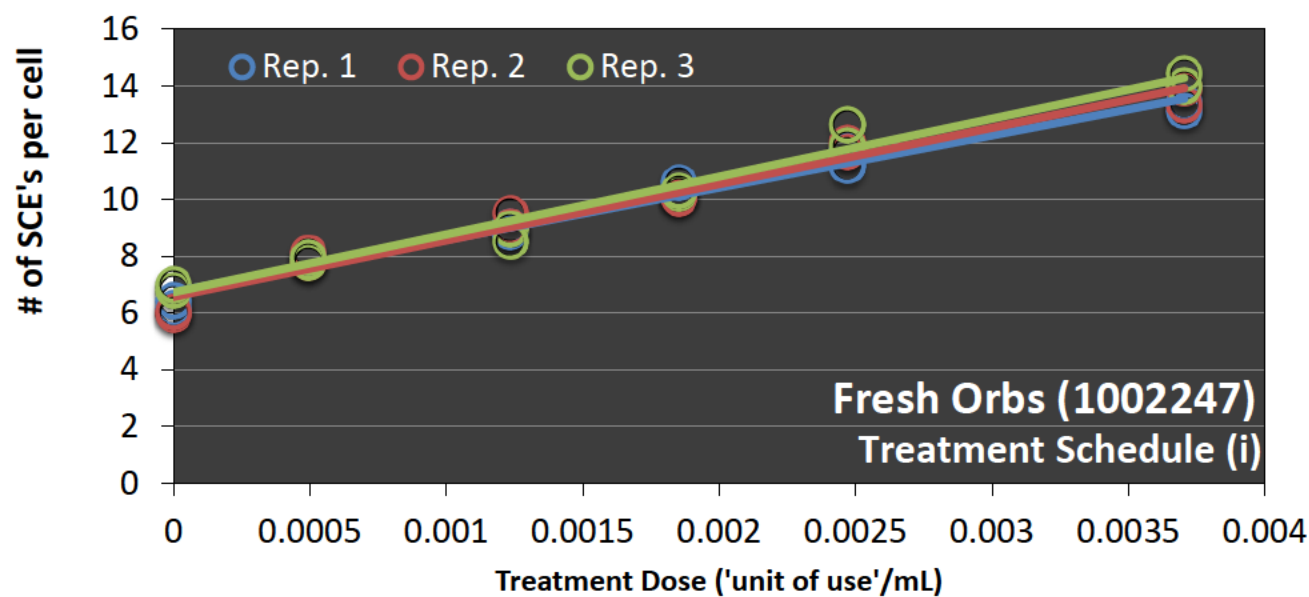
{Copenhagen Long Cut (1002242), Fresh Strips (1002243), 2S3 (1002244), Camel SNUS Frost (1002245), Mellow Sticks (1002246), Fresh Orbs (1002247)}

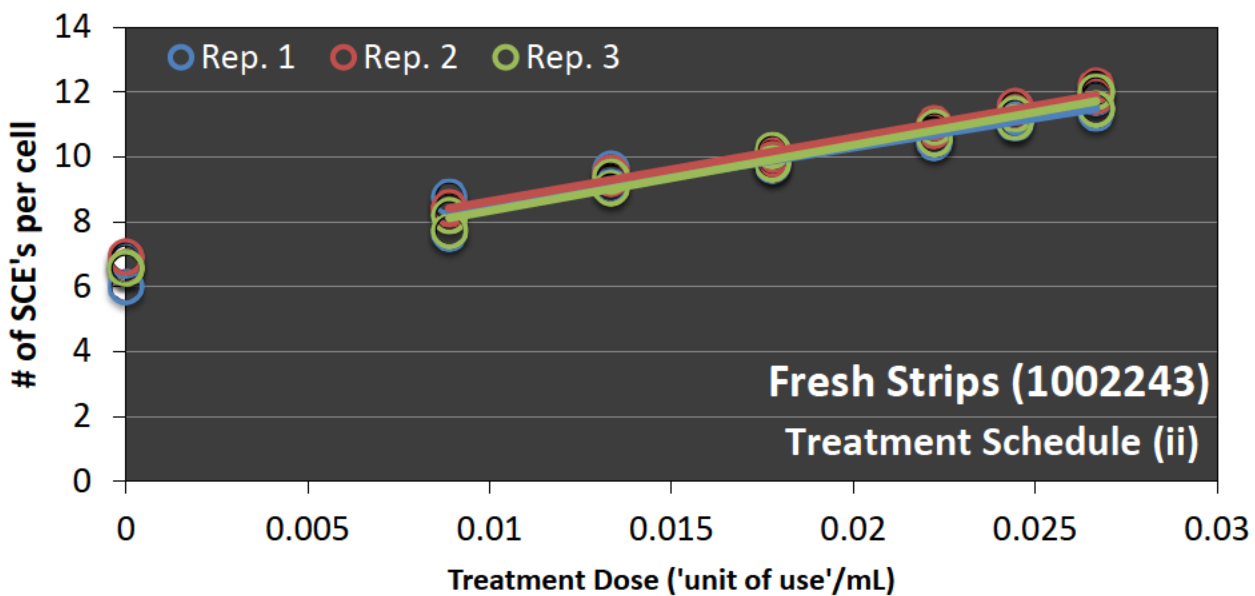
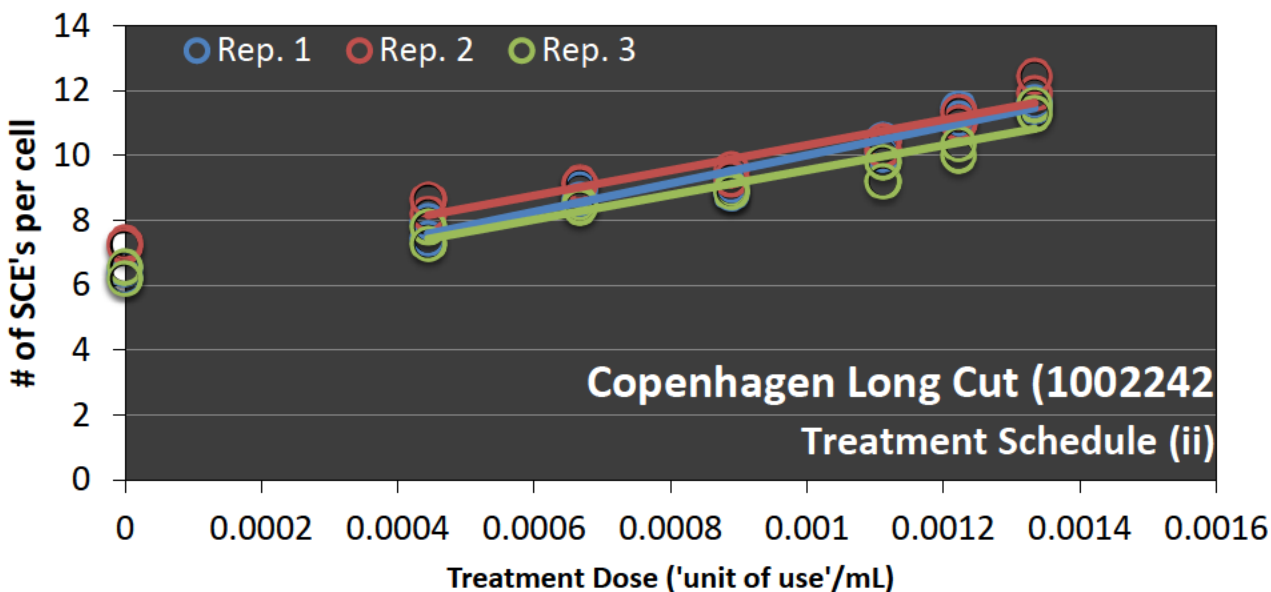
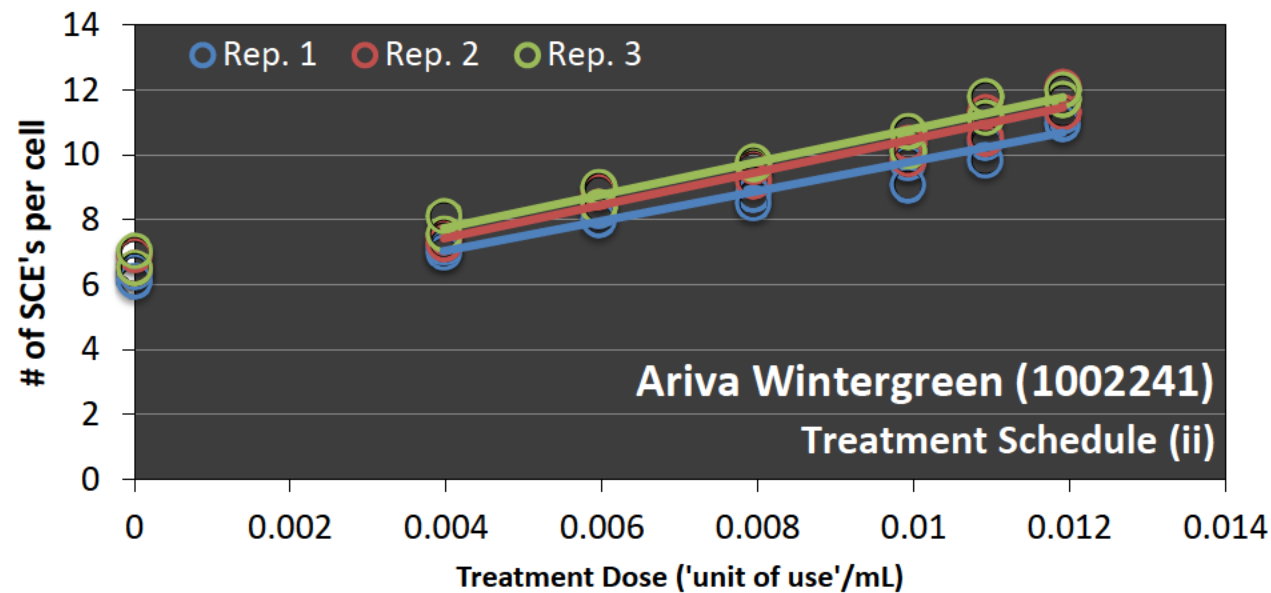
Treatment Schedule (ii)

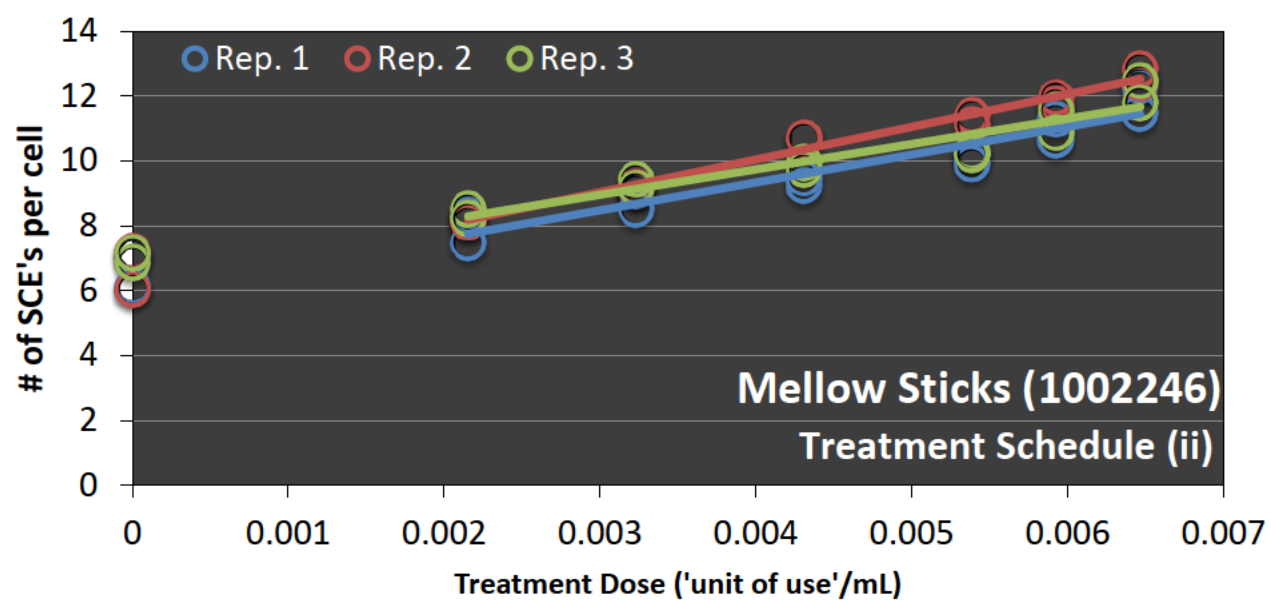
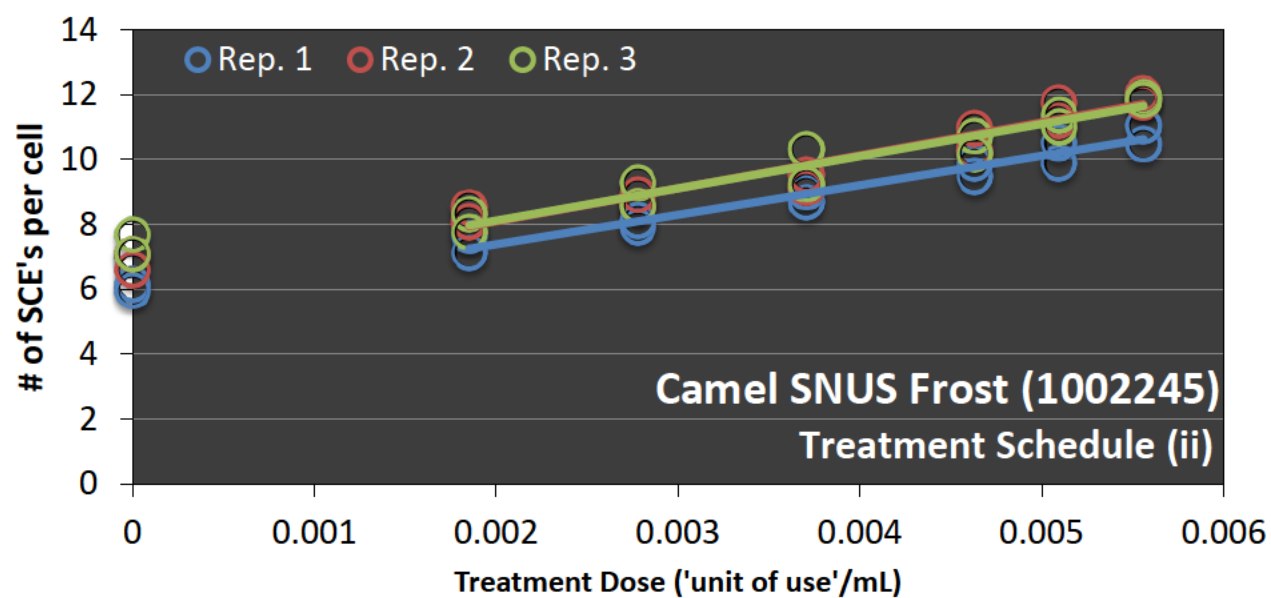
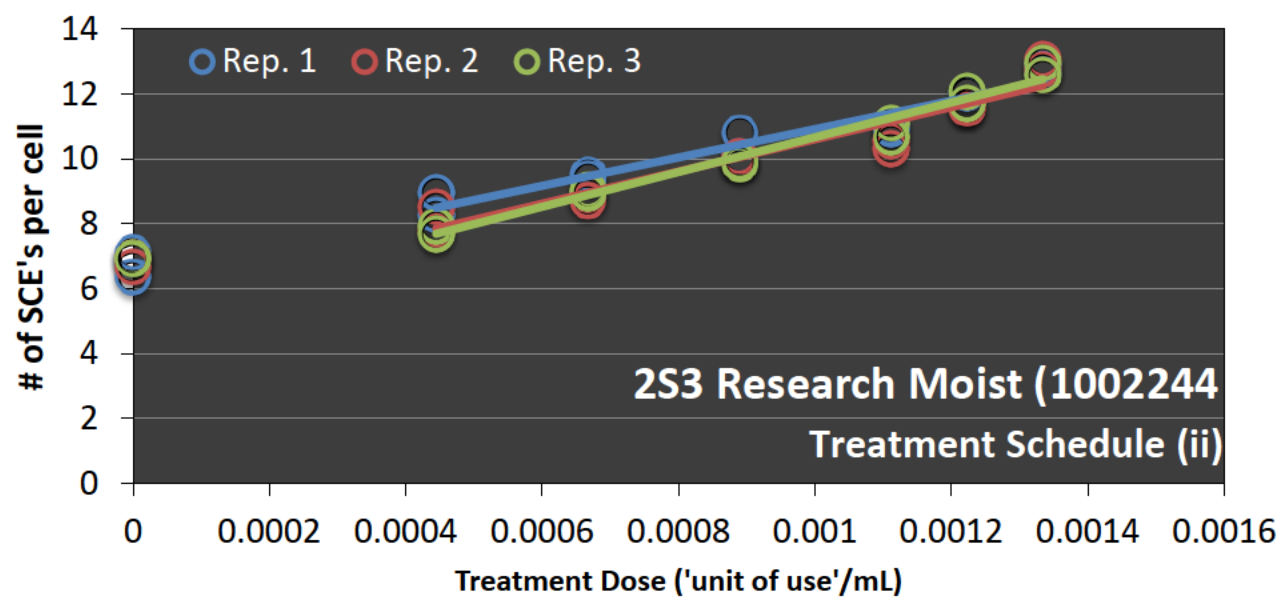
{Copenhagen Long Cut (1002242), Fresh Strips (1002243), 2S3 (1002244), Camel SNUS Frost (1002245), Mellow Sticks (1002246)}

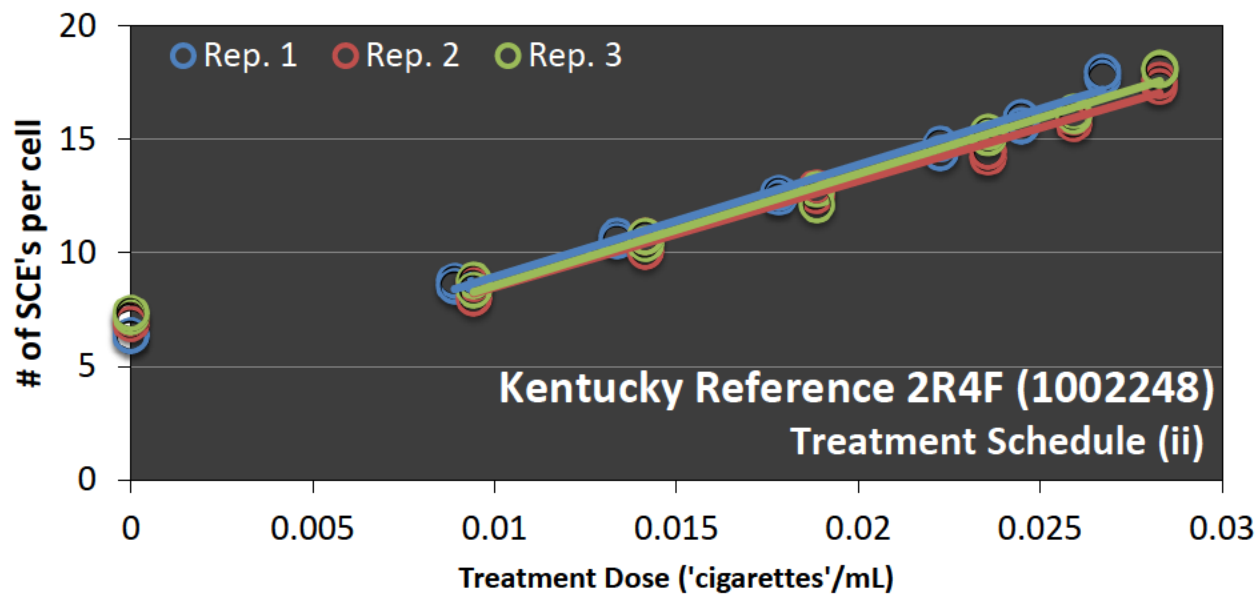
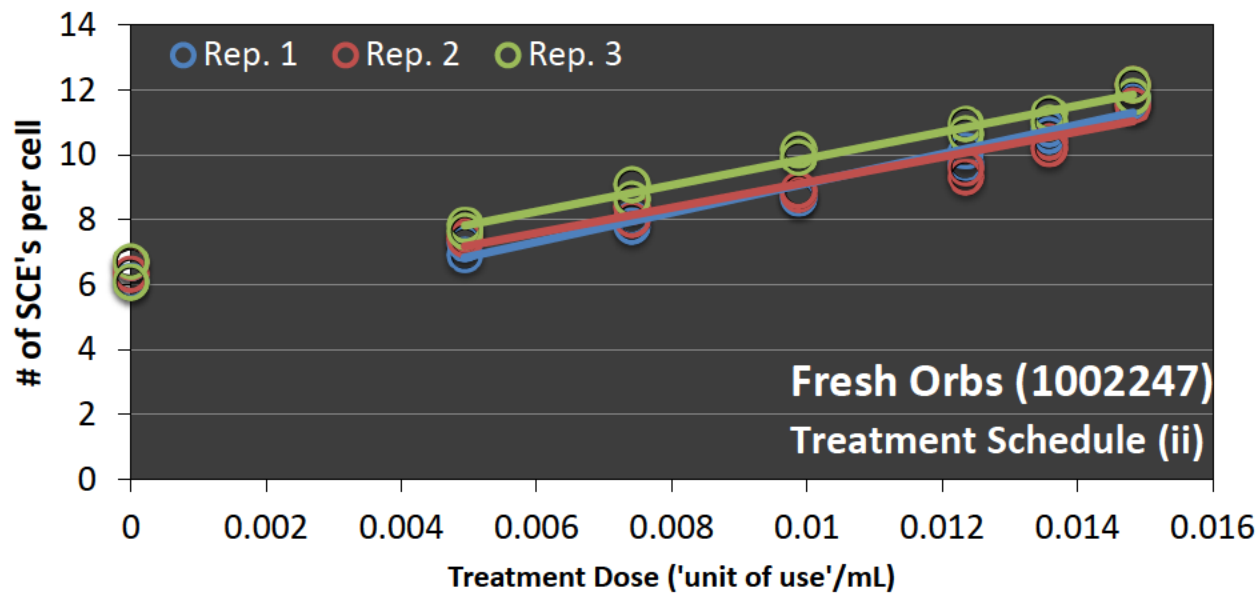


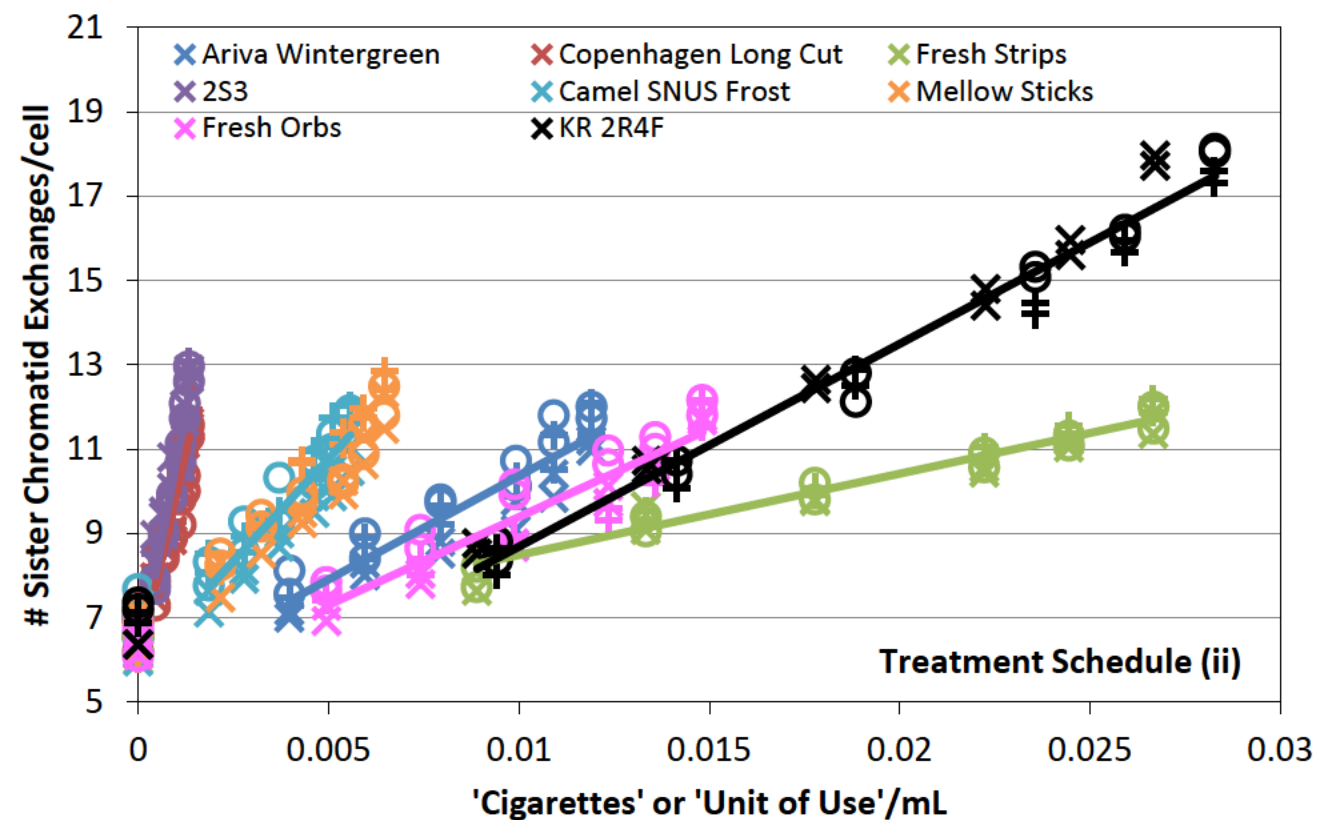
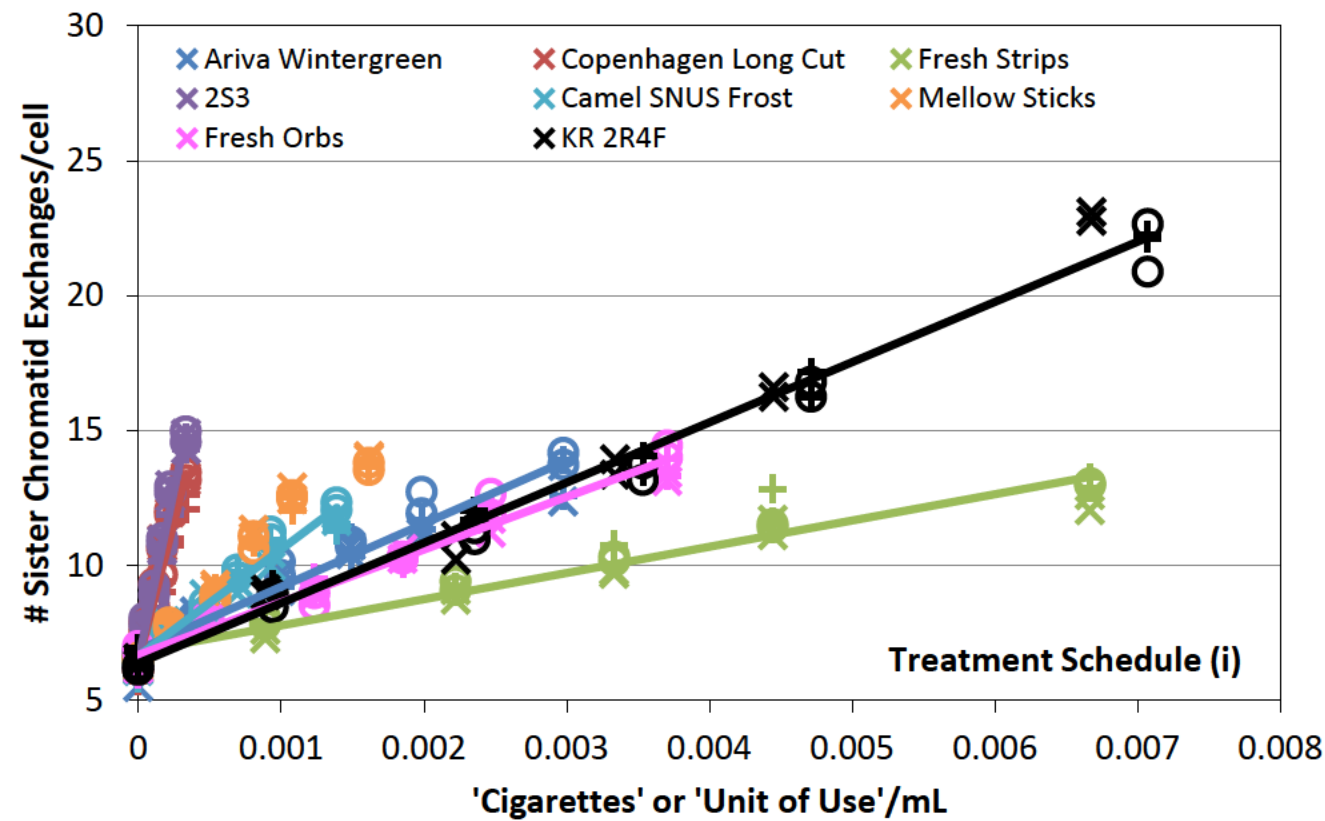












Sample ID	Sample Description
1002241	Ariva Wintergreen
1002242	Copenhagen Long Cut
1002243	Fresh Strips
1002244	2S3 Research Moist Smokeless Tobacco
1002245	Camel SNUS Frost
1002246	Mellow Sticks
1002247	Fresh Orbs

LABSTAT INTERNATIONAL ULC

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Project: M125

Period: February 3 - 25, 2010

Sample Generation and Dosing Data for *In Vitro* Sister Chromatid Exchange Assay Analysis

Assay Analysis											Units of Use/mL media												
Set-Run	Sample	Replicate	Extraction	Tobacco	Volume	mg Tobacco	Moisture	Units of Use			Schedule (i)						Schedule (ii)						
Number	ID	Number	Date	Weight (g)	(mL) ¹	per mL	(%)	Unit	Weight (g)	Units/mL	1	2	3	4	5	6	1	2	3	4	5	6	7
1-4	1002241	1	02-Feb-10	2.5003	22.5	111.124	3.53	1	0.28	0.397	0	0.0004	0.0010	0.0015	0.0020	0.0030	0	0.0040	0.0060	0.0079	0.0099	0.0109	0.0119
2-1	1002241	2	09-Feb-10	2.5017	22.5	111.187		1	0.28	0.397	0	0.0004	0.0010	0.0015	0.0020	0.0030	0	0.0040	0.0060	0.0079	0.0099	0.0109	0.0119
3-2	1002241	3	10-Feb-10	2.5019	22.5	111.196		1	0.28	0.397	0	0.0004	0.0010	0.0015	0.0020	0.0030	0	0.0040	0.0060	0.0079	0.0099	0.0109	0.0119
1-3	1002242	1	02-Feb-10	2.5000	22.5	111.111	49.4	2.5 grams	2.5	0.044	0	0.0000	0.0001	0.0002	0.0002	0.0003	0	0.0004	0.0007	0.0009	0.0011	0.0012	0.0013
2-2	1002242	2	09-Feb-10	2.5006	22.5	111.138		2.5 grams	2.5	0.044	0	0.0000	0.0001	0.0002	0.0002	0.0003	0	0.0004	0.0007	0.0009	0.0011	0.0012	0.0013
3-1	1002242	3	10-Feb-10	2.5005	22.5	111.133		2.5 grams	2.5	0.044	0	0.0000	0.0001	0.0002	0.0002	0.0003	0	0.0004	0.0007	0.0009	0.0011	0.0012	0.0013
1-2	1002243	1	02-Feb-10	2.5002	22.5	111.120	9.53	1	0.125	0.889	0	0.0009	0.0022	0.0033	0.0044	0.0067	0	0.0089	0.0133	0.0178	0.0222	0.0244	0.0267
2-3	1002243	2	09-Feb-10	2.5003	22.5	111.124		1	0.125	0.889	0	0.0009	0.0022	0.0033	0.0044	0.0067	0	0.0089	0.0133	0.0178	0.0222	0.0244	0.0267
3-3	1002243	3	10-Feb-10	2.5008	22.5	111.147		1	0.125	0.889	0	0.0009	0.0022	0.0033	0.0044	0.0067	0	0.0089	0.0133	0.0178	0.0222	0.0245	0.0267
4-1	1002244	1	16-Feb-10	2.5016	22.5	111.182	53.8	2.5 grams	2.5	0.044	0	0.0000	0.0001	0.0002	0.0002	0.0003	0	0.0004	0.0007	0.0009	0.0011	0.0012	0.0013
5-2	1002244	2	17-Feb-10	2.5008	22.5	111.147		2.5 grams	2.5	0.044	0	0.0000	0.0001	0.0002	0.0002	0.0003	0	0.0004	0.0007	0.0009	0.0011	0.0012	0.0013
6-3	1002244	3	18-Feb-10	2.5016	22.5	111.182		2.5 grams	2.5	0.044	0	0.0000	0.0001	0.0002	0.0002	0.0003	0	0.0004	0.0007	0.0009	0.0011	0.0012	0.0013
4-3	1002245	1	16-Feb-10	2.5013	22.5	111.169	29.7	1 pouch	0.6	0.185	0	0.0002	0.0005	0.0007	0.0009	0.0014	0	0.0019	0.0028	0.0037	0.0046	0.0051	0.0056
5-3	1002245	2	17-Feb-10	2.5004	22.5	111.129		1 pouch	0.6	0.185	0	0.0002	0.0005	0.0007	0.0009	0.0014	0	0.0019	0.0028	0.0037	0.0046	0.0051	0.0056
6-2	1002245	3	18-Feb-10	2.5015	22.5	111.178		1 pouch	0.6	0.185	0	0.0002	0.0005	0.0007	0.0009	0.0014	0	0.0019	0.0028	0.0037	0.0046	0.0051	0.0056
4-2	1002246	1	16-Feb-10	2.5010	22.5	111.156	7.72	1 stick	0.516	0.215	0	0.0002	0.0005	0.0008	0.0011	0.0016	0	0.0022	0.0032	0.0043	0.0054	0.0059	0.0065
5-1	1002246	2	17-Feb-10	2.5017	22.5	111.187		1 stick	0.516	0.215	0	0.0002	0.0005	0.0008	0.0011	0.0016	0	0.0022	0.0032	0.0043	0.0054	0.0059	0.0065
6-1	1002246	3	18-Feb-10	2.5018	22.5	111.191		1 stick	0.516	0.215	0	0.0002	0.0005	0.0008	0.0011	0.0016	0	0.0022	0.0032	0.0043	0.0054	0.0059	0.0065
7-1	1002247	1	22-Feb-10	2.5006	22.5	111.138	4.65	1	0.225	0.494	0	0.0005	0.0012	0.0019	0.0025	0.0037	0	0.0049	0.0074	0.0099	0.0123	0.0136	0.0148
8-1	1002247	2	23-Feb-10	2.5012	22.5	111.164		1	0.225	0.494	0	0.0005	0.0012	0.0019	0.0025	0.0037	0	0.0049	0.0074	0.0099	0.0124	0.0136	0.0148
9-1	1002247	3	24-Feb-10	2.5012	22.5	111.164		1	0.225	0.494	0	0.0005	0.0012	0.0019	0.0025	0.0037	0	0.0049	0.0074	0.0099	0.0124	0.0136	0.0148

Treatment Schedule	Tobacco Extract in Solvent (µL/mL media)						
	1	2	3	4	5	6	7
Schedule (i)	0	1	2.5	3.75	5	7.5	
Schedule (ii)	0	10	15	20	25	27.5	30

1. Samples extracted in appropriate solvent control to give a final concentration of 111.1 mg/mL

**In Vitro Sister Chromatid Exchange Assay of CHO cells with (+) and without (-) S9 Metabolic Activation
(Observations per flask)**

Set Number	Run Number	Sample ID	Replicate Number	Assay Date	Treatment Schedule	WT (µL/mL)	Unit of Use (Units/mL)	Treatment Time (h)	Metabolic Activation	Cell Counts (Flask 1)			Cell Counts (Flask 2)			Sister Chromatid Exchanges per Cell/Chromosome					
										# of Cells	# of SCE	Number of chromosomes	# of Cells	# of SCE	Number of chromosomes	SCE per Cell			SCE per Chromosome		
																Flask 1	Flask 2	Average	Flask 1	Flask 2	Average
1	4	1002241	1	04-Feb-10	Schedule (i)	0	0	30	-S9	25	155	514	25	137	506	6.20	5.48	5.84	0.302	0.271	0.286
1	4	1002241	1	04-Feb-10	Schedule (i)	1	0.0004	30	-S9	25	207	504	25	199	512	8.28	7.96	8.12	0.411	0.389	0.400
1	4	1002241	1	04-Feb-10	Schedule (i)	2.5	0.0010	30	-S9	25	243	511	25	226	512	9.72	9.04	9.38	0.476	0.441	0.458
1	4	1002241	1	04-Feb-10	Schedule (i)	3.75	0.0015	30	-S9	25	268	514	25	260	502	10.7	10.4	10.6	0.521	0.518	0.520
1	4	1002241	1	04-Feb-10	Schedule (i)	5	0.0020	30	-S9	25	280	520	25	286	518	11.2	11.4	11.3	0.538	0.552	0.545
1	4	1002241	1	04-Feb-10	Schedule (i)	7.5	0.0030	30	-S9	25	342	505	25	309	508	13.7	12.4	13.0	0.68	0.61	0.64
2	1	1002241	2	11-Feb-10	Schedule (i)	0	0	30	-S9	25	159	524	25	156	505	6.36	6.24	6.30	0.303	0.309	0.306
2	1	1002241	2	11-Feb-10	Schedule (i)	1	0.0004	30	-S9	25	196	519	25	191	515	7.84	7.64	7.74	0.378	0.371	0.374
2	1	1002241	2	11-Feb-10	Schedule (i)	2.5	0.0010	30	-S9	25	238	510	25	230	514	9.52	9.20	9.36	0.467	0.447	0.457
2	1	1002241	2	11-Feb-10	Schedule (i)	3.75	0.0015	30	-S9	25	276	515	25	259	512	11.0	10.4	10.7	0.536	0.506	0.521
2	1	1002241	2	11-Feb-10	Schedule (i)	5	0.0020	30	-S9	25	292	509	25	283	520	11.7	11.3	11.5	0.574	0.544	0.559
2	1	1002241	2	11-Feb-10	Schedule (i)	7.5	0.0030	30	-S9	25	347	503	25	314	501	13.9	12.6	13.2	0.69	0.63	0.66
3	2	1002241	3	23-Feb-10	Schedule (i)	0	0	30	-S9	25	163	512	25	170	498	6.52	6.80	6.66	0.318	0.341	0.330
3	2	1002241	3	23-Feb-10	Schedule (i)	1	0.0004	30	-S9	25	198	527	25	203	503	7.92	8.12	8.02	0.376	0.404	0.390
3	2	1002241	3	23-Feb-10	Schedule (i)	2.5	0.0010	30	-S9	25	241	522	25	253	503	9.64	10.12	9.88	0.462	0.503	0.482
3	2	1002241	3	23-Feb-10	Schedule (i)	3.75	0.0015	30	-S9	25	272	523	25	267	508	10.9	10.7	10.8	0.520	0.526	0.523
3	2	1002241	3	23-Feb-10	Schedule (i)	5	0.0020	30	-S9	25	298	519	25	318	506	11.9	12.7	12.3	0.574	0.628	0.601
3	2	1002241	3	23-Feb-10	Schedule (i)	7.5	0.0030	30	-S9	25	343	520	25	354	505	13.7	14.2	13.9	0.66	0.70	0.68
1	3	1002242	1	04-Feb-10	Schedule (i)	0	0	30	-S9	25	162	519	25	153	525	6.48	6.12	6.30	0.312	0.291	0.302
1	3	1002242	1	04-Feb-10	Schedule (i)	1	0.0000	30	-S9	25	188	505	25	191	523	7.52	7.64	7.58	0.372	0.365	0.369
1	3	1002242	1	04-Feb-10	Schedule (i)	2.5	0.0001	30	-S9	25	228	515	25	223	526	9.12	8.92	9.02	0.443	0.424	0.433
1	3	1002242	1	04-Feb-10	Schedule (i)	3.75	0.0002	30	-S9	25	274	510	25	267	525	11.0	10.7	10.8	0.537	0.509	0.523
1	3	1002242	1	04-Feb-10	Schedule (i)	5	0.0002	30	-S9	25	304	501	25	299	521	12.2	12.0	12.1	0.607	0.574	0.590
1	3	1002242	1	04-Feb-10	Schedule (i)	7.5	0.0003	30	-S9	25	328	505	25	332	525	13.1	13.3	13.2	0.65	0.63	0.64
2	2	1002242	2	11-Feb-10	Schedule (i)	0	0	30	-S9	25	142	509	25	147	514	5.68	5.88	5.78	0.279	0.286	0.282
2	2	1002242	2	11-Feb-10	Schedule (i)	1	0.0000	30	-S9	25	180	517	25	177	510	7.20	7.08	7.14	0.348	0.347	0.348
2	2	1002242	2	11-Feb-10	Schedule (i)	2.5	0.0001	30	-S9	25	210	513	25	202	507	8.40	8.08	8.24	0.409	0.398	0.404
2	2	1002242	2	11-Feb-10	Schedule (i)	3.75	0.0002	30	-S9	25	235	514	25	225	504	9.4	9.0	9.2	0.457	0.446	0.452
2	2	1002242	2	11-Feb-10	Schedule (i)	5	0.0002	30	-S9	25	274	506	25	268	501	11.0	10.7	10.8	0.542	0.535	0.538
2	2	1002242	2	11-Feb-10	Schedule (i)	7.5	0.0003	30	-S9	25	302	518	25	315	513	12.1	12.6	12.3	0.58	0.61	0.60
3	1	1002242	3	23-Feb-10	Schedule (i)	0	0	30	-S9	25	163	508	25	153	512	6.52	6.12	6.32	0.321	0.299	0.310
3	1	1002242	3	23-Feb-10	Schedule (i)	1	0.0000	30	-S9	25	197	513	25	189	514	7.88	7.56	7.72	0.384	0.368	0.376
3	1	1002242	3	23-Feb-10	Schedule (i)	2.5	0.0001	30	-S9	25	233	512	25	212	498	9.32	8.48	8.90	0.455	0.426	0.440
3	1	1002242	3	23-Feb-10	Schedule (i)	3.75	0.0002	30	-S9	25	265	517	25	241	501	10.6	9.6	10.1	0.513	0.481	0.497
3	1	1002242	3	23-Feb-10	Schedule (i)	5	0.0002	30	-S9	25	301	505	25	297	530	12.0	11.9	12.0	0.596	0.560	0.578
3	1	1002242	3	23-Feb-10	Schedule (i)	7.5	0.0003	30	-S9	25	329	509	25	336	505	13.2	13.4	13.3	0.65	0.67	0.66
1	2	1002243	1	04-Feb-10	Schedule (i)	0	0	30	-S9	25	154	522	25	158	510	6.16	6.32	6.24	0.295	0.310	0.302
1	2	1002243	1	04-Feb-10	Schedule (i)	1	0.0009	30	-S9	25	190	510	25	182	493	7.60	7.28	7.44	0.373	0.369	0.371
1	2	1002243	1	04-Feb-10	Schedule (i)	2.5	0.0022	30	-S9	25	227	515	25	218	513	9.08	8.72	8.90	0.441	0.425	0.433
1	2	1002243	1	04-Feb-10	Schedule (i)	3.75	0.0033	30	-S9	25	242	502	25	245	512	9.7	9.8	9.7	0.482	0.479	0.480
1	2	1002243	1	04-Feb-10	Schedule (i)	5	0.0044	30	-S9	25	292	527	25	278	507	11.7	11.1	11.4	0.554	0.548	0.551
1	2	1002243	1	04-Feb-10	Schedule (i)	7.5	0.0067	30	-S9	25	315	505	25	301	501	12.6	12.0	12.3	0.62	0.60	0.61
2	3	1002243	2	11-Feb-10	Schedule (i)	0	0	30	-S9	25	153	512	25	163	507	6.12	6.52	6.32	0.299	0.321	0.310
2	3	1002243	2	11-Feb-10	Schedule (i)	1	0.0009	30	-S9	25	198	515	25	196	513	7.92	7.84	7.88	0.384	0.382	0.383
2	3	1002243	2	11-Feb-10	Schedule (i)	2.5	0.0022	30	-S9	25	230	513	25	227	524	9.20	9.08	9.14	0.448	0.433	0.441
2	3	1002243	2	11-Feb-10	Schedule (i)	3.75	0.0033	30	-S9	25	251	517	25	269	510	10.0	10.8	10.4	0.485	0.527	0.506
2	3	1002243	2	11-Feb-10	Schedule (i)	5	0.0044	30	-S9	25	291	521	25	321	513	11.6	12.8	12.2	0.559	0.626	0.592
2	3	1002243	2	11-Feb-10	Schedule (i)	7.5	0.0067	30	-S9	25	322	511	25	331	508	12.9	13.2	13.1	0.63	0.65	0.64

**In Vitro Sister Chromatid Exchange Assay of CHO cells with (+) and without (-) S9 Metabolic Activation
(Observations per flask)**

Set Number	Run Number	Sample ID	Replicate Number	Assay Date	Treatment Schedule	WT (μL/mL)	Unit of Use (Units/mL)	Treatment Time (h)	Metabolic Activation	Cell Counts (Flask 1)			Cell Counts (Flask 2)			Sister Chromatid Exchanges per Cell/Chromosome					
										# of Cells	# of SCE	Number of chromosomes	# of Cells	# of SCE	Number of chromosomes	SCE per Cell			SCE per Chromosome		
																Flask 1	Flask 2	Average	Flask 1	Flask 2	Average
3	3	1002243	3	23-Feb-10	Schedule (i)	0	0	30	-S9	25	169	534	25	161	517	6.76	6.44	6.60	0.316	0.311	0.314
3	3	1002243	3	23-Feb-10	Schedule (i)	1	0.0009	30	-S9	25	201	513	25	195	516	8.04	7.80	7.92	0.392	0.378	0.385
3	3	1002243	3	23-Feb-10	Schedule (i)	2.5	0.0022	30	-S9	25	227	508	25	235	516	9.08	9.40	9.24	0.447	0.455	0.451
3	3	1002243	3	23-Feb-10	Schedule (i)	3.75	0.0033	30	-S9	25	254	513	25	258	520	10.2	10.3	10.2	0.495	0.496	0.496
3	3	1002243	3	23-Feb-10	Schedule (i)	5	0.0044	30	-S9	25	285	507	25	288	520	11.4	11.5	11.5	0.562	0.554	0.558
3	3	1002243	3	23-Feb-10	Schedule (i)	7.5	0.0067	30	-S9	25	326	515	25	324	524	13.0	13.0	13.0	0.63	0.62	0.63
4	1	1002244	1	02-Mar-10	Schedule (i)	0	0	30	-S9	25	157	523	25	154	515	6.28	6.16	6.22	0.300	0.299	0.300
4	1	1002244	1	02-Mar-10	Schedule (i)	1	0.0000	30	-S9	25	193	523	25	186	516	7.72	7.44	7.58	0.369	0.360	0.365
4	1	1002244	1	02-Mar-10	Schedule (i)	2.5	0.0001	30	-S9	25	226	524	25	223	515	9.04	8.92	8.98	0.431	0.433	0.432
4	1	1002244	1	02-Mar-10	Schedule (i)	3.75	0.0002	30	-S9	25	273	525	25	264	514	10.9	10.6	10.7	0.520	0.514	0.517
4	1	1002244	1	02-Mar-10	Schedule (i)	5	0.0002	30	-S9	25	324	525	25	313	512	13.0	12.5	12.7	0.617	0.611	0.614
4	1	1002244	1	02-Mar-10	Schedule (i)	7.5	0.0003	30	-S9	25	372	526	25	357	500	14.9	14.3	14.6	0.71	0.71	0.71
5	2	1002244	2	09-Mar-10	Schedule (i)	0	0	30	-S9	25	157	496	25	163	524	6.28	6.52	6.40	0.317	0.311	0.314
5	2	1002244	2	09-Mar-10	Schedule (i)	1	0.0000	30	-S9	25	201	499	25	184	525	8.04	7.36	7.70	0.403	0.350	0.377
5	2	1002244	2	09-Mar-10	Schedule (i)	2.5	0.0001	30	-S9	25	228	496	25	225	526	9.12	9.00	9.06	0.460	0.428	0.444
5	2	1002244	2	09-Mar-10	Schedule (i)	3.75	0.0002	30	-S9	25	254	504	25	269	526	10.2	10.8	10.5	0.504	0.511	0.508
5	2	1002244	2	09-Mar-10	Schedule (i)	5	0.0002	30	-S9	25	297	496	25	316	523	11.9	12.6	12.3	0.599	0.604	0.601
5	2	1002244	2	09-Mar-10	Schedule (i)	7.5	0.0003	30	-S9	25	357	498	25	369	524	14.3	14.8	14.5	0.72	0.70	0.71
6	3	1002244	3	16-Mar-10	Schedule (i)	0	0	30	-S9	25	156	497	25	168	523	6.24	6.72	6.48	0.314	0.321	0.318
6	3	1002244	3	16-Mar-10	Schedule (i)	1	0.0000	30	-S9	25	194	495	25	201	524	7.76	8.04	7.90	0.392	0.384	0.388
6	3	1002244	3	16-Mar-10	Schedule (i)	2.5	0.0001	30	-S9	25	222	501	25	231	526	8.88	9.24	9.06	0.443	0.439	0.441
6	3	1002244	3	16-Mar-10	Schedule (i)	3.75	0.0002	30	-S9	25	270	494	25	275	527	10.8	11.0	10.9	0.547	0.522	0.534
6	3	1002244	3	16-Mar-10	Schedule (i)	5	0.0002	30	-S9	25	317	490	25	323	523	12.7	12.9	12.8	0.647	0.618	0.632
6	3	1002244	3	16-Mar-10	Schedule (i)	7.5	0.0003	30	-S9	25	364	511	25	374	524	14.6	15.0	14.8	0.71	0.71	0.71
4	3	1002245	1	02-Mar-10	Schedule (i)	0	0	30	-S9	25	152	506	25	154	496	6.08	6.16	6.12	0.300	0.310	0.305
4	3	1002245	1	02-Mar-10	Schedule (i)	1	0.0002	30	-S9	25	191	503	25	198	503	7.64	7.92	7.78	0.380	0.394	0.387
4	3	1002245	1	02-Mar-10	Schedule (i)	2.5	0.0005	30	-S9	25	205	500	25	223	495	8.20	8.92	8.56	0.410	0.451	0.430
4	3	1002245	1	02-Mar-10	Schedule (i)	3.75	0.0007	30	-S9	25	224	508	25	234	508	9.0	9.4	9.2	0.441	0.461	0.451
4	3	1002245	1	02-Mar-10	Schedule (i)	5	0.0009	30	-S9	25	249	505	25	261	509	10.0	10.4	10.2	0.493	0.513	0.503
4	3	1002245	1	02-Mar-10	Schedule (i)	7.5	0.0014	30	-S9	25	291	515	25	297	509	11.6	11.9	11.8	0.57	0.58	0.57
5	3	1002245	2	09-Mar-10	Schedule (i)	0	0	30	-S9	25	145	518	25	163	504	5.80	6.52	6.16	0.280	0.323	0.302
5	3	1002245	2	09-Mar-10	Schedule (i)	1	0.0002	30	-S9	25	179	513	25	186	507	7.16	7.44	7.30	0.349	0.367	0.358
5	3	1002245	2	09-Mar-10	Schedule (i)	2.5	0.0005	30	-S9	25	214	517	25	216	514	8.56	8.64	8.60	0.414	0.420	0.417
5	3	1002245	2	09-Mar-10	Schedule (i)	3.75	0.0007	30	-S9	25	244	519	25	239	504	9.8	9.6	9.7	0.470	0.474	0.472
5	3	1002245	2	09-Mar-10	Schedule (i)	5	0.0009	30	-S9	25	273	517	25	266	506	10.9	10.6	10.8	0.528	0.526	0.527
5	3	1002245	2	09-Mar-10	Schedule (i)	7.5	0.0014	30	-S9	25	288	517	25	282	514	11.5	11.3	11.4	0.56	0.55	0.55
6	2	1002245	3	16-Mar-10	Schedule (i)	0	0	30	-S9	25	160	523	25	166	490	6.40	6.64	6.52	0.306	0.339	0.322
6	2	1002245	3	16-Mar-10	Schedule (i)	1	0.0002	30	-S9	25	184	523	25	191	495	7.36	7.64	7.50	0.352	0.386	0.369
6	2	1002245	3	16-Mar-10	Schedule (i)	2.5	0.0005	30	-S9	25	215	526	25	206	511	8.60	8.24	8.42	0.409	0.403	0.406
6	2	1002245	3	16-Mar-10	Schedule (i)	3.75	0.0007	30	-S9	25	246	526	25	239	496	9.8	9.6	9.7	0.468	0.482	0.475
6	2	1002245	3	16-Mar-10	Schedule (i)	5	0.0009	30	-S9	25	274	527	25	281	496	11.0	11.2	11.1	0.520	0.567	0.543
6	2	1002245	3	16-Mar-10	Schedule (i)	7.5	0.0014	30	-S9	25	301	525	25	308	515	12.0	12.3	12.2	0.57	0.60	0.59
4	2	1002246	1	02-Mar-10	Schedule (i)	0	0	30	-S9	25	162	507	25	156	517	6.48	6.24	6.36	0.320	0.302	0.311
4	2	1002246	1	02-Mar-10	Schedule (i)	1	0.0002	30	-S9	25	193	509	25	193	527	7.72	7.72	7.72	0.379	0.366	0.373
4	2	1002246	1	02-Mar-10	Schedule (i)	2.5	0.0005	30	-S9	25	228	491	25	232	519	9.12	9.28	9.20	0.464	0.447	0.456
4	2	1002246	1	02-Mar-10	Schedule (i)	3.75	0.0008	30	-S9	25	276	507	25	283	525	11.0	11.3	11.2	0.544	0.539	0.542
4	2	1002246	1	02-Mar-10	Schedule (i)	5	0.0011	30	-S9	25	311	498	25	322	519	12.4	12.9	12.7	0.624	0.620	0.622
4	2	1002246	1	02-Mar-10	Schedule (i)	7.5	0.0016	30	-S9	25	351	500	25	349	511	14.0	14.0	14.0	0.70	0.68	0.69

**In Vitro Sister Chromatid Exchange Assay of CHO cells with (+) and without (-) S9 Metabolic Activation
(Observations per flask)**

Set Number	Run Number	Sample ID	Replicate Number	Assay Date	Treatment Schedule	WT (µL/mL)	Unit of Use (Units/mL)	Treatment Time (h)	Metabolic Activation	Cell Counts (Flask 1)			Cell Counts (Flask 2)			Sister Chromatid Exchanges per Cell/Chromosome					
										# of Cells	# of SCE	Number of chromosomes	# of Cells	# of SCE	Number of chromosomes	SCE per Cell			SCE per Chromosome		
																Flask 1	Flask 2	Average	Flask 1	Flask 2	Average
5	1	1002246	2	09-Mar-10	Schedule (i)	0	0	30	-S9	25	162	525	25	169	515	6.48	6.76	6.62	0.309	0.328	0.318
5	1	1002246	2	09-Mar-10	Schedule (i)	1	0.0002	30	-S9	25	198	526	25	185	512	7.92	7.40	7.66	0.376	0.361	0.369
5	1	1002246	2	09-Mar-10	Schedule (i)	2.5	0.0005	30	-S9	25	219	525	25	229	524	8.76	9.16	8.96	0.417	0.437	0.427
5	1	1002246	2	09-Mar-10	Schedule (i)	3.75	0.0008	30	-S9	25	271	526	25	274	512	10.8	11.0	10.9	0.515	0.535	0.525
5	1	1002246	2	09-Mar-10	Schedule (i)	5	0.0011	30	-S9	25	313	524	25	301	523	12.5	12.0	12.3	0.597	0.576	0.586
5	1	1002246	2	09-Mar-10	Schedule (i)	7.5	0.0016	30	-S9	25	342	526	25	344	530	13.7	13.8	13.7	0.65	0.65	0.65
6	1	1002246	3	16-Mar-10	Schedule (i)	0	0	30	-S9	25	161	494	25	165	522	6.44	6.60	6.52	0.326	0.316	0.321
6	1	1002246	3	16-Mar-10	Schedule (i)	1	0.0002	30	-S9	25	197	486	25	192	508	7.88	7.68	7.78	0.405	0.378	0.392
6	1	1002246	3	16-Mar-10	Schedule (i)	2.5	0.0005	30	-S9	25	217	503	25	223	524	8.68	8.92	8.80	0.431	0.426	0.428
6	1	1002246	3	16-Mar-10	Schedule (i)	3.75	0.0008	30	-S9	25	265	505	25	277	527	10.6	11.1	10.8	0.525	0.526	0.525
6	1	1002246	3	16-Mar-10	Schedule (i)	5	0.0011	30	-S9	25	312	500	25	315	511	12.5	12.6	12.5	0.624	0.616	0.620
6	1	1002246	3	16-Mar-10	Schedule (i)	7.5	0.0016	30	-S9	25	338	501	25	345	529	13.5	13.8	13.7	0.67	0.65	0.66
7	1	1002247	1	23-Mar-10	Schedule (i)	0	0	30	-S9	25	154	512	25	161	524	6.16	6.44	6.30	0.301	0.307	0.304
7	1	1002247	1	23-Mar-10	Schedule (i)	1	0.0005	30	-S9	25	200	510	25	198	522	8.00	7.92	7.96	0.392	0.379	0.386
7	1	1002247	1	23-Mar-10	Schedule (i)	2.5	0.0012	30	-S9	25	222	508	25	226	525	8.88	9.04	8.96	0.437	0.430	0.434
7	1	1002247	1	23-Mar-10	Schedule (i)	3.75	0.0019	30	-S9	25	256	510	25	265	524	10.2	10.6	10.4	0.502	0.506	0.504
7	1	1002247	1	23-Mar-10	Schedule (i)	5	0.0025	30	-S9	25	280	511	25	293	523	11.2	11.7	11.5	0.548	0.560	0.554
7	1	1002247	1	23-Mar-10	Schedule (i)	7.5	0.0037	30	-S9	25	328	510	25	335	523	13.1	13.4	13.3	0.64	0.64	0.64
8	1	1002247	2	25-Mar-10	Schedule (i)	0	0	30	-S9	25	149	507	25	151	489	5.96	6.04	6.00	0.294	0.309	0.301
8	1	1002247	2	25-Mar-10	Schedule (i)	1	0.0005	30	-S9	25	203	517	25	195	493	8.12	7.80	7.96	0.393	0.396	0.394
8	1	1002247	2	25-Mar-10	Schedule (i)	2.5	0.0012	30	-S9	25	226	514	25	238	490	9.04	9.52	9.28	0.440	0.486	0.463
8	1	1002247	2	25-Mar-10	Schedule (i)	3.75	0.0019	30	-S9	25	253	513	25	251	497	10.1	10.0	10.1	0.493	0.505	0.499
8	1	1002247	2	25-Mar-10	Schedule (i)	5	0.0025	30	-S9	25	292	505	25	300	497	11.7	12.0	11.8	0.578	0.604	0.591
8	1	1002247	2	25-Mar-10	Schedule (i)	7.5	0.0037	30	-S9	25	333	517	25	348	517	13.3	13.9	13.6	0.64	0.67	0.66
9	1	1002247	3	30-Mar-10	Schedule (i)	0	0	30	-S9	25	170	523	25	175	501	6.80	7.00	6.90	0.325	0.349	0.337
9	1	1002247	3	30-Mar-10	Schedule (i)	1	0.0005	30	-S9	25	195	524	25	199	503	7.80	7.96	7.88	0.372	0.396	0.384
9	1	1002247	3	30-Mar-10	Schedule (i)	2.5	0.0012	30	-S9	25	224	524	25	213	507	8.96	8.52	8.74	0.427	0.420	0.424
9	1	1002247	3	30-Mar-10	Schedule (i)	3.75	0.0019	30	-S9	25	256	523	25	258	508	10.2	10.3	10.3	0.489	0.508	0.499
9	1	1002247	3	30-Mar-10	Schedule (i)	5	0.0025	30	-S9	25	297	526	25	316	515	11.9	12.6	12.3	0.565	0.614	0.589
9	1	1002247	3	30-Mar-10	Schedule (i)	7.5	0.0037	30	-S9	25	350	524	25	361	508	14.0	14.4	14.2	0.67	0.71	0.69
1	4	1002241	1	09-Feb-10	Schedule (ii)	0	0	3	+S9	25	153	517	25	160	521	6.12	6.40	6.26	0.296	0.307	0.302
1	4	1002241	1	09-Feb-10	Schedule (ii)	10	0.0040	3	+S9	25	175	509	25	179	523	7.00	7.16	7.08	0.344	0.342	0.343
1	4	1002241	1	09-Feb-10	Schedule (ii)	15	0.0060	3	+S9	25	207	513	25	200	524	8.3	8.0	8.1	0.404	0.382	0.393
1	4	1002241	1	09-Feb-10	Schedule (ii)	20	0.0079	3	+S9	25	220	515	25	213	523	8.8	8.5	8.7	0.427	0.407	0.417
1	4	1002241	1	09-Feb-10	Schedule (ii)	25	0.0099	3	+S9	25	244	510	25	227	523	9.8	9.1	9.4	0.478	0.434	0.456
1	4	1002241	1	09-Feb-10	Schedule (ii)	27.5	0.0109	3	+S9	25	260	507	25	246	525	10.4	9.8	10.1	0.513	0.469	0.491
1	4	1002241	1	09-Feb-10	Schedule (ii)	30	0.0119	3	+S9	25	280	506	25	274	526	11.2	11.0	11.1	0.553	0.521	0.537
2	1	1002241	2	17-Feb-10	Schedule (ii)	0	0	3	+S9	25	173	523	25	163	517	6.92	6.52	6.72	0.331	0.315	0.323
2	1	1002241	2	17-Feb-10	Schedule (ii)	10	0.0040	3	+S9	25	187	515	25	182	511	7.48	7.28	7.38	0.363	0.356	0.360
2	1	1002241	2	17-Feb-10	Schedule (ii)	15	0.0060	3	+S9	25	222	518	25	210	504	8.9	8.4	8.6	0.429	0.417	0.423
2	1	1002241	2	17-Feb-10	Schedule (ii)	20	0.0079	3	+S9	25	241	515	25	230	527	9.6	9.2	9.4	0.468	0.436	0.452
2	1	1002241	2	17-Feb-10	Schedule (ii)	25	0.0099	3	+S9	25	259	513	25	247	503	10.4	9.9	10.1	0.505	0.491	0.498
2	1	1002241	2	17-Feb-10	Schedule (ii)	27.5	0.0109	3	+S9	25	283	510	25	263	518	11.3	10.5	10.9	0.555	0.508	0.531
2	1	1002241	2	17-Feb-10	Schedule (ii)	30	0.0119	3	+S9	25	302	515	25	283	514	12.1	11.3	11.7	0.586	0.551	0.568
3	2	1002241	3	25-Feb-10	Schedule (ii)	0	0	3	+S9	25	163	505	25	176	512	6.52	7.04	6.78	0.323	0.344	0.333
3	2	1002241	3	25-Feb-10	Schedule (ii)	10	0.0040	3	+S9	25	189	520	25	203	512	7.56	8.12	7.84	0.363	0.396	0.380
3	2	1002241	3	25-Feb-10	Schedule (ii)	15	0.0060	3	+S9	25	210	519	25	225	510	8.4	9.0	8.7	0.405	0.441	0.423
3	2	1002241	3	25-Feb-10	Schedule (ii)	20	0.0079	3	+S9	25	243	513	25	245	513	9.7	9.8	9.8	0.474	0.478	0.476
3	2	1002241	3	25-Feb-10	Schedule (ii)	25	0.0099	3	+S9	25	253	522	25	268	512	10.1	10.7	10.4	0.485	0.523	0.504
3	2	1002241	3	25-Feb-10	Schedule (ii)	27.5	0.0109	3	+S9	25	279	512	25	295	511	11.2	11.8	11.5	0.545	0.577	0.561
3	2	1002241	3	25-Feb-10	Schedule (ii)	30	0.0119	3	+S9	25	293	517	25	300	509	11.7	12.0	11.9	0.567	0.589	0.578

***In Vitro* Sister Chromatid Exchange Assay of CHO cells with (+) and without (-) S9 Metabolic Activation
(Observations per flask)**

Set Number	Run Number	Sample ID	Replicate Number	Assay Date	Treatment Schedule	WT (μL/mL)	Unit of Use (Units/mL)	Treatment Time (h)	Metabolic Activation	Cell Counts (Flask 1)			Cell Counts (Flask 2)			Sister Chromatid Exchanges per Cell/Chromosome					
										# of Cells	# of SCE	Number of chromosomes	# of Cells	# of SCE	Number of chromosomes	SCE per Cell			SCE per Chromosome		
																Flask 1	Flask 2	Average	Flask 1	Flask 2	Average
1	3	1002242	1	09-Feb-10	Schedule (ii)	0	0	3	+S9	25	156	516	25	163	510	6.24	6.52	6.38	0.302	0.320	0.311
1	3	1002242	1	09-Feb-10	Schedule (ii)	10	0.0004	3	+S9	25	199	510	25	186	514	7.96	7.44	7.70	0.390	0.362	0.376
1	3	1002242	1	09-Feb-10	Schedule (ii)	15	0.0007	3	+S9	25	216	498	25	224	513	8.6	9.0	8.8	0.434	0.437	0.435
1	3	1002242	1	09-Feb-10	Schedule (ii)	20	0.0009	3	+S9	25	221	494	25	227	516	8.8	9.1	9.0	0.447	0.440	0.444
1	3	1002242	1	09-Feb-10	Schedule (ii)	25	0.0011	3	+S9	25	262	513	25	251	525	10.5	10.0	10.3	0.511	0.478	0.494
1	3	1002242	1	09-Feb-10	Schedule (ii)	27.5	0.0012	3	+S9	25	286	520	25	278	518	11.4	11.1	11.3	0.550	0.537	0.543
1	3	1002242	1	09-Feb-10	Schedule (ii)	30	0.0013	3	+S9	25	291	517	25	288	515	11.6	11.5	11.6	0.563	0.559	0.561
2	2	1002242	2	17-Feb-10	Schedule (ii)	0	0	3	+S9	25	183	513	25	180	517	7.32	7.20	7.26	0.357	0.348	0.352
2	2	1002242	2	17-Feb-10	Schedule (ii)	10	0.0004	3	+S9	25	205	519	25	216	513	8.20	8.64	8.42	0.395	0.421	0.408
2	2	1002242	2	17-Feb-10	Schedule (ii)	15	0.0007	3	+S9	25	229	511	25	228	518	9.2	9.1	9.1	0.448	0.440	0.444
2	2	1002242	2	17-Feb-10	Schedule (ii)	20	0.0009	3	+S9	25	239	509	25	232	509	9.6	9.3	9.4	0.470	0.456	0.463
2	2	1002242	2	17-Feb-10	Schedule (ii)	25	0.0011	3	+S9	25	254	517	25	261	506	10.2	10.4	10.3	0.491	0.516	0.504
2	2	1002242	2	17-Feb-10	Schedule (ii)	27.5	0.0012	3	+S9	25	275	511	25	283	515	11.0	11.3	11.2	0.538	0.550	0.544
2	2	1002242	2	17-Feb-10	Schedule (ii)	30	0.0013	3	+S9	25	298	507	25	311	508	11.9	12.4	12.2	0.588	0.612	0.600
3	1	1002242	3	25-Feb-10	Schedule (ii)	0	0	3	+S9	25	164	508	25	155	504	6.56	6.20	6.38	0.323	0.308	0.315
3	1	1002242	3	25-Feb-10	Schedule (ii)	10	0.0004	3	+S9	25	195	496	25	182	514	7.80	7.28	7.54	0.393	0.354	0.374
3	1	1002242	3	25-Feb-10	Schedule (ii)	15	0.0007	3	+S9	25	213	510	25	210	502	8.5	8.4	8.5	0.418	0.418	0.418
3	1	1002242	3	25-Feb-10	Schedule (ii)	20	0.0009	3	+S9	25	224	500	25	222	507	9.0	8.9	8.9	0.448	0.438	0.443
3	1	1002242	3	25-Feb-10	Schedule (ii)	25	0.0011	3	+S9	25	230	514	25	245	520	9.2	9.8	9.5	0.447	0.471	0.459
3	1	1002242	3	25-Feb-10	Schedule (ii)	27.5	0.0012	3	+S9	25	250	500	25	259	509	10.0	10.4	10.2	0.500	0.509	0.504
3	1	1002242	3	25-Feb-10	Schedule (ii)	30	0.0013	3	+S9	25	289	496	25	282	505	11.6	11.3	11.4	0.583	0.558	0.571
1	2	1002243	1	09-Feb-10	Schedule (ii)	0	0	3	+S9	25	150	508	25	171	513	6.00	6.84	6.42	0.295	0.333	0.314
1	2	1002243	1	09-Feb-10	Schedule (ii)	10	0.0089	3	+S9	25	219	504	25	191	523	8.76	7.64	8.20	0.435	0.365	0.400
1	2	1002243	1	09-Feb-10	Schedule (ii)	15	0.0133	3	+S9	25	241	513	25	227	509	9.6	9.1	9.4	0.470	0.446	0.458
1	2	1002243	1	09-Feb-10	Schedule (ii)	20	0.0178	3	+S9	25	244	511	25	245	518	9.8	9.8	9.8	0.477	0.473	0.475
1	2	1002243	1	09-Feb-10	Schedule (ii)	25	0.0222	3	+S9	25	261	509	25	264	510	10.4	10.6	10.5	0.513	0.518	0.515
1	2	1002243	1	09-Feb-10	Schedule (ii)	27.5	0.0244	3	+S9	25	280	523	25	276	528	11.2	11.0	11.1	0.535	0.523	0.529
1	2	1002243	1	09-Feb-10	Schedule (ii)	30	0.0267	3	+S9	25	296	520	25	284	514	11.8	11.4	11.6	0.569	0.553	0.561
2	3	1002243	2	17-Feb-10	Schedule (ii)	0	0	3	+S9	25	165	523	25	173	500	6.60	6.92	6.76	0.315	0.346	0.331
2	3	1002243	2	17-Feb-10	Schedule (ii)	10	0.0089	3	+S9	25	210	519	25	211	507	8.40	8.44	8.42	0.405	0.416	0.410
2	3	1002243	2	17-Feb-10	Schedule (ii)	15	0.0133	3	+S9	25	238	516	25	233	517	9.5	9.3	9.4	0.461	0.451	0.456
2	3	1002243	2	17-Feb-10	Schedule (ii)	20	0.0178	3	+S9	25	252	507	25	248	518	10.1	9.9	10.0	0.497	0.479	0.488
2	3	1002243	2	17-Feb-10	Schedule (ii)	25	0.0222	3	+S9	25	270	515	25	276	504	10.8	11.0	10.9	0.524	0.548	0.536
2	3	1002243	2	17-Feb-10	Schedule (ii)	27.5	0.0244	3	+S9	25	284	517	25	289	502	11.4	11.6	11.5	0.549	0.576	0.563
2	3	1002243	2	17-Feb-10	Schedule (ii)	30	0.0267	3	+S9	25	297	518	25	305	508	11.9	12.2	12.0	0.573	0.600	0.587
3	3	1002243	3	25-Feb-10	Schedule (ii)	0	0	3	+S9	25	165	521	25	164	511	6.60	6.56	6.58	0.317	0.321	0.319
3	3	1002243	3	25-Feb-10	Schedule (ii)	10	0.0089	3	+S9	25	205	542	25	193	517	8.20	7.72	7.96	0.378	0.373	0.376
3	3	1002243	3	25-Feb-10	Schedule (ii)	15	0.0133	3	+S9	25	235	525	25	226	508	9.4	9.0	9.2	0.448	0.445	0.446
3	3	1002243	3	25-Feb-10	Schedule (ii)	20	0.0178	3	+S9	25	255	514	25	245	520	10.2	9.8	10.0	0.496	0.471	0.484
3	3	1002243	3	25-Feb-10	Schedule (ii)	25	0.0222	3	+S9	25	273	527	25	264	515	10.9	10.6	10.7	0.518	0.513	0.515
3	3	1002243	3	25-Feb-10	Schedule (ii)	27.5	0.0245	3	+S9	25	283	523	25	277	517	11.3	11.1	11.2	0.541	0.536	0.538
3	3	1002243	3	25-Feb-10	Schedule (ii)	30	0.0267	3	+S9	25	300	526	25	287	513	12.0	11.5	11.7	0.570	0.559	0.565
4	1	1002244	1	04-Mar-10	Schedule (ii)	0	0	3	+S9	25	159	502	25	178	531	6.36	7.12	6.74	0.32	0.34	0.33
4	1	1002244	1	04-Mar-10	Schedule (ii)	10	0.0004	3	+S9	25	207	513	25	224	513	8.28	8.96	8.62	0.40	0.44	0.42
4	1	1002244	1	04-Mar-10	Schedule (ii)	15	0.0007	3	+S9	25	238	497	25	235	517	9.5	9.4	9.5	0.48	0.45	0.47
4	1	1002244	1	04-Mar-10	Schedule (ii)	20	0.0009	3	+S9	25	270	497	25	252	522	10.8	10.1	10.4	0.54	0.48	0.51
4	1	1002244	1	04-Mar-10	Schedule (ii)	25	0.0011	3	+S9	25	274	507	25	273	521	11.0	10.9	10.9	0.54	0.52	0.53
4	1	1002244	1	04-Mar-10	Schedule (ii)	27.5	0.0012	3	+S9	25	301	514	25	291	522	12.0	11.6	11.8	0.59	0.56	0.57
4	1	1002244	1	04-Mar-10	Schedule (ii)	30	0.0013	3	+S9	25	322	523	25	317	530	12.9	12.7	12.8	0.62	0.60	0.61

**In Vitro Sister Chromatid Exchange Assay of CHO cells with (+) and without (-) S9 Metabolic Activation
(Observations per flask)**

Set Number	Run Number	Sample ID	Replicate Number	Assay Date	Treatment Schedule	WT (μL/mL)	Unit of Use (Units/mL)	Treatment Time (h)	Metabolic Activation	Cell Counts (Flask 1)			Cell Counts (Flask 2)			Sister Chromatid Exchanges per Cell/Chromosome					
										# of Cells	# of SCE	Number of chromosomes	# of Cells	# of SCE	Number of chromosomes	SCE per Cell			SCE per Chromosome		
																Flask 1	Flask 2	Average	Flask 1	Flask 2	Average
5	2	1002244	2	11-Mar-10	Schedule (ii)	0	0	3	+S9	25	167	508	25	174	524	6.68	6.96	6.82	0.329	0.332	0.330
5	2	1002244	2	11-Mar-10	Schedule (ii)	10	0.0004	3	+S9	25	213	503	25	195	527	8.52	7.80	8.16	0.423	0.370	0.397
5	2	1002244	2	11-Mar-10	Schedule (ii)	15	0.0007	3	+S9	25	223	487	25	218	525	8.9	8.7	8.8	0.458	0.415	0.437
5	2	1002244	2	11-Mar-10	Schedule (ii)	20	0.0009	3	+S9	25	252	501	25	249	524	10.1	10.0	10.0	0.503	0.475	0.489
5	2	1002244	2	11-Mar-10	Schedule (ii)	25	0.0011	3	+S9	25	258	497	25	264	523	10.3	10.6	10.4	0.519	0.505	0.512
5	2	1002244	2	11-Mar-10	Schedule (ii)	27.5	0.0012	3	+S9	25	289	502	25	292	524	11.6	11.7	11.6	0.576	0.557	0.566
5	2	1002244	2	11-Mar-10	Schedule (ii)	30	0.0013	3	+S9	25	327	494	25	319	524	13.1	12.8	12.9	0.662	0.609	0.635
6	3	1002244	3	18-Mar-10	Schedule (ii)	0	0	3	+S9	25	174	517	25	173	525	6.96	6.92	6.94	0.337	0.330	0.333
6	3	1002244	3	18-Mar-10	Schedule (ii)	10	0.0004	3	+S9	25	198	521	25	192	523	7.92	7.68	7.80	0.380	0.367	0.374
6	3	1002244	3	18-Mar-10	Schedule (ii)	15	0.0007	3	+S9	25	226	513	25	224	522	9.0	9.0	9.0	0.441	0.429	0.435
6	3	1002244	3	18-Mar-10	Schedule (ii)	20	0.0009	3	+S9	25	246	514	25	248	524	9.8	9.9	9.9	0.479	0.473	0.476
6	3	1002244	3	18-Mar-10	Schedule (ii)	25	0.0011	3	+S9	25	278	510	25	267	523	11.1	10.7	10.9	0.545	0.511	0.528
6	3	1002244	3	18-Mar-10	Schedule (ii)	27.5	0.0012	3	+S9	25	302	505	25	293	525	12.1	11.7	11.9	0.598	0.558	0.578
6	3	1002244	3	18-Mar-10	Schedule (ii)	30	0.0013	3	+S9	25	324	511	25	315	526	13.0	12.6	12.8	0.634	0.599	0.616
4	3	1002245	1	04-Mar-10	Schedule (ii)	0	0	3	+S9	25	154	491	25	149	520	6.16	5.96	6.06	0.314	0.287	0.300
4	3	1002245	1	04-Mar-10	Schedule (ii)	10	0.0019	3	+S9	25	191	508	25	178	505	7.64	7.12	7.38	0.376	0.352	0.364
4	3	1002245	1	04-Mar-10	Schedule (ii)	15	0.0028	3	+S9	25	198	516	25	203	506	7.9	8.1	8.0	0.384	0.401	0.392
4	3	1002245	1	04-Mar-10	Schedule (ii)	20	0.0037	3	+S9	25	217	531	25	225	501	8.7	9.0	8.8	0.409	0.449	0.429
4	3	1002245	1	04-Mar-10	Schedule (ii)	25	0.0046	3	+S9	25	237	526	25	247	521	9.5	9.9	9.7	0.451	0.474	0.462
4	3	1002245	1	04-Mar-10	Schedule (ii)	27.5	0.0051	3	+S9	25	247	511	25	263	505	9.9	10.5	10.2	0.483	0.521	0.502
4	3	1002245	1	04-Mar-10	Schedule (ii)	30	0.0056	3	+S9	25	262	527	25	276	513	10.5	11.0	10.8	0.497	0.538	0.518
5	3	1002245	2	11-Mar-10	Schedule (ii)	0	0	3	+S9	25	177	508	25	165	512	7.08	6.60	6.84	0.348	0.322	0.335
5	3	1002245	2	11-Mar-10	Schedule (ii)	10	0.0019	3	+S9	25	213	512	25	202	527	8.52	8.08	8.30	0.416	0.383	0.400
5	3	1002245	2	11-Mar-10	Schedule (ii)	15	0.0028	3	+S9	25	223	509	25	214	522	8.9	8.6	8.7	0.438	0.410	0.424
5	3	1002245	2	11-Mar-10	Schedule (ii)	20	0.0037	3	+S9	25	238	512	25	228	523	9.5	9.1	9.3	0.465	0.436	0.450
5	3	1002245	2	11-Mar-10	Schedule (ii)	25	0.0046	3	+S9	25	274	508	25	257	518	11.0	10.3	10.6	0.539	0.496	0.518
5	3	1002245	2	11-Mar-10	Schedule (ii)	27.5	0.0051	3	+S9	25	294	513	25	280	526	11.8	11.2	11.5	0.573	0.532	0.553
5	3	1002245	2	11-Mar-10	Schedule (ii)	30	0.0056	3	+S9	25	301	507	25	294	517	12.0	11.8	11.9	0.594	0.569	0.581
6	2	1002245	3	18-Mar-10	Schedule (ii)	0	0	3	+S9	25	192	518	25	177	524	7.68	7.08	7.38	0.37	0.34	0.35
6	2	1002245	3	18-Mar-10	Schedule (ii)	10	0.0019	3	+S9	25	208	516	25	194	524	8.32	7.76	8.04	0.40	0.37	0.39
6	2	1002245	3	18-Mar-10	Schedule (ii)	15	0.0028	3	+S9	25	232	516	25	214	525	9.3	8.6	8.9	0.45	0.41	0.43
6	2	1002245	3	18-Mar-10	Schedule (ii)	20	0.0037	3	+S9	25	258	506	25	231	525	10.3	9.2	9.8	0.51	0.44	0.47
6	2	1002245	3	18-Mar-10	Schedule (ii)	25	0.0046	3	+S9	25	268	508	25	254	524	10.7	10.2	10.4	0.53	0.48	0.51
6	2	1002245	3	18-Mar-10	Schedule (ii)	27.5	0.0051	3	+S9	25	284	518	25	275	524	11.4	11.0	11.2	0.55	0.52	0.54
6	2	1002245	3	18-Mar-10	Schedule (ii)	30	0.0056	3	+S9	25	298	512	25	296	526	11.9	11.8	11.9	0.58	0.56	0.57
4	2	1002246	1	04-Mar-10	Schedule (ii)	0	0	3	+S9	25	153	518	25	178	515	6.12	7.12	6.62	0.295	0.346	0.320
4	2	1002246	1	04-Mar-10	Schedule (ii)	10	0.0022	3	+S9	25	187	508	25	208	511	7.48	8.32	7.90	0.368	0.407	0.388
4	2	1002246	1	04-Mar-10	Schedule (ii)	15	0.0032	3	+S9	25	213	517	25	227	512	8.5	9.1	8.8	0.412	0.443	0.428
4	2	1002246	1	04-Mar-10	Schedule (ii)	20	0.0043	3	+S9	25	231	510	25	237	518	9.2	9.5	9.4	0.453	0.458	0.455
4	2	1002246	1	04-Mar-10	Schedule (ii)	25	0.0054	3	+S9	25	248	515	25	256	525	9.9	10.2	10.1	0.482	0.488	0.485
4	2	1002246	1	04-Mar-10	Schedule (ii)	27.5	0.0059	3	+S9	25	266	516	25	282	526	10.6	11.3	11.0	0.516	0.536	0.526
4	2	1002246	1	04-Mar-10	Schedule (ii)	30	0.0065	3	+S9	25	287	509	25	308	524	11.5	12.3	11.9	0.564	0.588	0.576
5	1	1002246	2	11-Mar-10	Schedule (ii)	0	0	3	+S9	25	151	507	25	180	525	6.04	7.20	6.62	0.298	0.343	0.320
5	1	1002246	2	11-Mar-10	Schedule (ii)	10	0.0022	3	+S9	25	205	504	25	203	511	8.20	8.12	8.16	0.407	0.397	0.402
5	1	1002246	2	11-Mar-10	Schedule (ii)	15	0.0032	3	+S9	25	228	496	25	230	515	9.1	9.2	9.2	0.460	0.447	0.453
5	1	1002246	2	11-Mar-10	Schedule (ii)	20	0.0043	3	+S9	25	268	505	25	267	511	10.7	10.7	10.7	0.531	0.523	0.527
5	1	1002246	2	11-Mar-10	Schedule (ii)	25	0.0054	3	+S9	25	285	502	25	278	511	11.4	11.1	11.3	0.568	0.544	0.556
5	1	1002246	2	11-Mar-10	Schedule (ii)	27.5	0.0059	3	+S9	25	294	506	25	299	504	11.8	12.0	11.9	0.581	0.593	0.587
5	1	1002246	2	11-Mar-10	Schedule (ii)	30	0.0065	3	+S9	25	321	511	25	310	509	12.8	12.4	12.6	0.628	0.609	0.619

**In Vitro Sister Chromatid Exchange Assay of CHO cells with (+) and without (-) S9 Metabolic Activation
(Observations per flask)**

Set Number	Run Number	Sample ID	Replicate Number	Assay Date	Treatment Schedule	WT (μL/mL)	Unit of Use (Units/mL)	Treatment Time (h)	Metabolic Activation	Cell Counts (Flask 1)			Cell Counts (Flask 2)			Sister Chromatid Exchanges per Cell/Chromosome					
										# of Cells	# of SCE	Number of chromosomes	# of Cells	# of SCE	Number of chromosomes	SCE per Cell			SCE per Chromosome		
																Flask 1	Flask 2	Average	Flask 1	Flask 2	Average
6	1	1002246	3	18-Mar-10	Schedule (ii)	0	0	3	+S9	25	172	496	25	179	504	6.88	7.16	7.02	0.347	0.355	0.351
6	1	1002246	3	18-Mar-10	Schedule (ii)	10	0.0022	3	+S9	25	213	503	25	206	512	8.52	8.24	8.38	0.423	0.402	0.413
6	1	1002246	3	18-Mar-10	Schedule (ii)	15	0.0032	3	+S9	25	236	502	25	229	511	9.4	9.2	9.3	0.470	0.448	0.459
6	1	1002246	3	18-Mar-10	Schedule (ii)	20	0.0043	3	+S9	25	249	509	25	244	509	10.0	9.8	9.9	0.489	0.479	0.484
6	1	1002246	3	18-Mar-10	Schedule (ii)	25	0.0054	3	+S9	25	257	497	25	255	512	10.3	10.2	10.2	0.517	0.498	0.508
6	1	1002246	3	18-Mar-10	Schedule (ii)	27.5	0.0059	3	+S9	25	289	503	25	272	507	11.6	10.9	11.2	0.575	0.536	0.556
6	1	1002246	3	18-Mar-10	Schedule (ii)	30	0.0065	3	+S9	25	312	496	25	295	510	12.5	11.8	12.1	0.629	0.578	0.604
7	1	1002247	1	24-Mar-10	Schedule (ii)	0	0	3	+S9	25	153	523	25	167	529	6.12	6.68	6.40	0.293	0.316	0.304
7	1	1002247	1	24-Mar-10	Schedule (ii)	10	0.0049	3	+S9	25	173	523	25	182	501	6.92	7.28	7.10	0.331	0.363	0.347
7	1	1002247	1	24-Mar-10	Schedule (ii)	15	0.0074	3	+S9	25	195	526	25	201	510	7.8	8.0	7.9	0.371	0.394	0.382
7	1	1002247	1	24-Mar-10	Schedule (ii)	20	0.0099	3	+S9	25	219	524	25	217	523	8.8	8.7	8.7	0.418	0.415	0.416
7	1	1002247	1	24-Mar-10	Schedule (ii)	25	0.0123	3	+S9	25	243	522	25	253	527	9.7	10.1	9.9	0.466	0.480	0.473
7	1	1002247	1	24-Mar-10	Schedule (ii)	27.5	0.0136	3	+S9	25	270	524	25	265	516	10.8	10.6	10.7	0.515	0.514	0.514
7	1	1002247	1	24-Mar-10	Schedule (ii)	30	0.0148	3	+S9	25	294	523	25	292	517	11.8	11.7	11.7	0.562	0.565	0.563
8	1	1002247	2	25-Mar-10	Schedule (ii)	0	0	3	+S9	25	158	518	25	167	501	6.32	6.68	6.50	0.305	0.333	0.319
8	1	1002247	2	25-Mar-10	Schedule (ii)	10	0.0049	3	+S9	25	188	514	25	185	502	7.52	7.40	7.46	0.366	0.369	0.367
8	1	1002247	2	25-Mar-10	Schedule (ii)	15	0.0074	3	+S9	25	200	523	25	210	510	8.0	8.4	8.2	0.382	0.412	0.397
8	1	1002247	2	25-Mar-10	Schedule (ii)	20	0.0099	3	+S9	25	220	521	25	223	495	8.8	8.9	8.9	0.422	0.451	0.436
8	1	1002247	2	25-Mar-10	Schedule (ii)	25	0.0124	3	+S9	25	233	514	25	240	498	9.3	9.6	9.5	0.453	0.482	0.468
8	1	1002247	2	25-Mar-10	Schedule (ii)	27.5	0.0136	3	+S9	25	260	508	25	255	495	10.4	10.2	10.3	0.512	0.515	0.513
8	1	1002247	2	25-Mar-10	Schedule (ii)	30	0.0148	3	+S9	25	288	507	25	304	501	11.5	12.2	11.8	0.568	0.607	0.587
9	1	1002247	3	30-Mar-10	Schedule (ii)	0	0	3	+S9	25	168	517	25	152	505	6.72	6.08	6.40	0.325	0.301	0.313
9	1	1002247	3	30-Mar-10	Schedule (ii)	10	0.0049	3	+S9	25	196	515	25	191	502	7.84	7.64	7.74	0.381	0.380	0.381
9	1	1002247	3	30-Mar-10	Schedule (ii)	15	0.0074	3	+S9	25	227	512	25	216	501	9.1	8.6	8.9	0.443	0.431	0.437
9	1	1002247	3	30-Mar-10	Schedule (ii)	20	0.0099	3	+S9	25	254	522	25	248	504	10.2	9.9	10.0	0.487	0.492	0.489
9	1	1002247	3	30-Mar-10	Schedule (ii)	25	0.0124	3	+S9	25	274	505	25	266	507	11.0	10.6	10.8	0.543	0.525	0.534
9	1	1002247	3	30-Mar-10	Schedule (ii)	27.5	0.0136	3	+S9	25	282	514	25	275	509	11.3	11.0	11.1	0.549	0.540	0.544
9	1	1002247	3	30-Mar-10	Schedule (ii)	30	0.0148	3	+S9	25	295	524	25	304	517	11.8	12.2	12.0	0.563	0.588	0.575

***In Vitro* Sister Chromatid Exchange Assay of CHO cells with (+) and without (-) S9 Metabolic Activation
(Cell Scoring per flask)**

Set Number	Run Number	Sample ID	Replicate Number	Assay Date	Treatment Schedule	WT (μL/mL)	Unit of Use (Units/mL)	Treatment Time (h)	Metabolic Activation	Flask 1						Flask 2					
										Metaphases Scored					AGT (hours)	Metaphases Scored					AGT (hours)
										M1	M1+	M2	M2+	PRI		M1	M1+	M2	M2+	PRI	
1	4	1002241	1	04-Feb-10	Schedule (i)	0	0	30	-S9	3	0	80	17	2.14	14.02	3	0	82	15	2.12	14.15
1	4	1002241	1	04-Feb-10	Schedule (i)	1	0.0004	30	-S9	7	2	77	14	2.07	14.49	4	1	84	11	2.07	14.49
1	4	1002241	1	04-Feb-10	Schedule (i)	2.5	0.0010	30	-S9	10	5	75	10	2.00	15.00	6	3	81	10	2.04	14.71
1	4	1002241	1	04-Feb-10	Schedule (i)	3.75	0.0015	30	-S9	13	4	73	10	1.97	15.23	7	6	79	8	2.01	14.93
1	4	1002241	1	04-Feb-10	Schedule (i)	5	0.0020	30	-S9	14	7	73	6	1.92	15.63	11	5	77	7	1.96	15.31
1	4	1002241	1	04-Feb-10	Schedule (i)	7.5	0.0030	30	-S9	16	8	72	4	1.88	15.96	12	3	81	4	1.92	15.63
2	1	1002241	2	11-Feb-10	Schedule (i)	0	0	30	-S9	2	0	86	12	2.10	14.29	3	0	85	12	2.09	14.35
2	1	1002241	2	11-Feb-10	Schedule (i)	1	0.0004	30	-S9	5	0	81	14	2.09	14.35	2	3	87	8	2.06	14.56
2	1	1002241	2	11-Feb-10	Schedule (i)	2.5	0.0010	30	-S9	7	0	81	12	2.05	14.63	5	1	86	8	2.03	14.78
2	1	1002241	2	11-Feb-10	Schedule (i)	3.75	0.0015	30	-S9	11	3	77	9	1.98	15.15	9	2	82	7	1.98	15.15
2	1	1002241	2	11-Feb-10	Schedule (i)	5	0.0020	30	-S9	12	1	79	8	1.96	15.31	11	2	81	6	1.95	15.38
2	1	1002241	2	11-Feb-10	Schedule (i)	7.5	0.0030	30	-S9	16	1	77	6	1.90	15.79	13	3	79	5	1.92	15.63
3	2	1002241	3	23-Feb-10	Schedule (i)	0	0	30	-S9	2	1	84	13	2.11	14.22	2	0	82	16	2.14	14.02
3	2	1002241	3	23-Feb-10	Schedule (i)	1	0.0004	30	-S9	4	3	82	11	2.07	14.49	5	2	82	11	2.06	14.56
3	2	1002241	3	23-Feb-10	Schedule (i)	2.5	0.0010	30	-S9	6	5	80	9	2.03	14.78	8	5	77	10	2.02	14.85
3	2	1002241	3	23-Feb-10	Schedule (i)	3.75	0.0015	30	-S9	8	3	81	8	2.00	15.00	13	7	73	7	1.94	15.46
3	2	1002241	3	23-Feb-10	Schedule (i)	5	0.0020	30	-S9	11	2	79	8	1.97	15.23	15	11	68	6	1.91	15.71
3	2	1002241	3	23-Feb-10	Schedule (i)	7.5	0.0030	30	-S9	18	0	77	5	1.87	16.04	19	9	68	4	1.85	16.22
1	3	1002242	1	04-Feb-10	Schedule (i)	0	0	30	-S9	2	1	88	9	2.07	14.49	2	3	82	13	2.11	14.22
1	3	1002242	1	04-Feb-10	Schedule (i)	1	0.0000	30	-S9	3	3	88	6	2.03	14.78	8	8	72	12	2.04	14.71
1	3	1002242	1	04-Feb-10	Schedule (i)	2.5	0.0001	30	-S9	5	4	86	5	2.00	15.00	8	7	76	9	2.01	14.93
1	3	1002242	1	04-Feb-10	Schedule (i)	3.75	0.0002	30	-S9	7	2	87	4	1.97	15.23	10	7	77	6	1.96	15.31
1	3	1002242	1	04-Feb-10	Schedule (i)	5	0.0002	30	-S9	9	3	86	2	1.93	15.54	13	2	79	6	1.93	15.54
1	3	1002242	1	04-Feb-10	Schedule (i)	7.5	0.0003	30	-S9	12	5	82	1	1.89	15.87	13	7	77	3	1.90	15.79
2	2	1002242	2	11-Feb-10	Schedule (i)	0	0	30	-S9	3	1	84	12	2.09	14.35	2	1	82	15	2.13	14.08
2	2	1002242	2	11-Feb-10	Schedule (i)	1	0.0000	30	-S9	5	2	83	10	2.05	14.63	4	3	81	12	2.08	14.42
2	2	1002242	2	11-Feb-10	Schedule (i)	2.5	0.0001	30	-S9	6	4	83	7	2.01	14.93	9	8	72	11	2.02	14.85
2	2	1002242	2	11-Feb-10	Schedule (i)	3.75	0.0002	30	-S9	11	5	78	6	1.95	15.38	12	5	74	9	1.97	15.23
2	2	1002242	2	11-Feb-10	Schedule (i)	5	0.0002	30	-S9	16	3	74	7	1.91	15.71	16	7	72	5	1.89	15.87
2	2	1002242	2	11-Feb-10	Schedule (i)	7.5	0.0003	30	-S9	15	4	78	3	1.88	15.96	18	10	70	2	1.84	16.30
3	1	1002242	3	23-Feb-10	Schedule (i)	0	0	30	-S9	2	3	81	14	2.12	14.15	2	2	84	12	2.10	14.29
3	1	1002242	3	23-Feb-10	Schedule (i)	1	0.0000	30	-S9	4	2	83	11	2.07	14.49	5	2	84	9	2.04	14.71
3	1	1002242	3	23-Feb-10	Schedule (i)	2.5	0.0001	30	-S9	6	4	81	9	2.03	14.78	7	3	82	8	2.01	14.93
3	1	1002242	3	23-Feb-10	Schedule (i)	3.75	0.0002	30	-S9	8	5	80	7	1.99	15.08	8	4	82	6	1.98	15.15
3	1	1002242	3	23-Feb-10	Schedule (i)	5	0.0002	30	-S9	12	5	77	6	1.94	15.46	15	0	77	8	1.93	15.54
3	1	1002242	3	23-Feb-10	Schedule (i)	7.5	0.0003	30	-S9	16	8	71	5	1.89	15.87	16	3	78	3	1.87	16.04

***In Vitro* Sister Chromatid Exchange Assay of CHO cells with (+) and without (-) S9 Metabolic Activation
(Cell Scoring per flask)**

Set Number	Run Number	Sample ID	Replicate Number	Assay Date	Treatment Schedule	WT (μL/mL)	Unit of Use (Units/mL)	Treatment Time (h)	Metabolic Activation	Flask 1						AGT (hours)	Flask 2						AGT (hours)
										Metaphases Scored					AGT (hours)		Metaphases Scored					AGT (hours)	
										M1	M1+	M2	M2+	PRI			M1	M1+	M2	M2+	PRI		
1	2	1002243	1	04-Feb-10	Schedule (i)	0	0	30	-S9	2	2	81	15	2.13	14.08	1	5	84	10	2.09	14.35		
1	2	1002243	1	04-Feb-10	Schedule (i)	1	0.0009	30	-S9	5	2	80	13	2.08	14.42	4	2	86	8	2.04	14.71		
1	2	1002243	1	04-Feb-10	Schedule (i)	2.5	0.0022	30	-S9	9	0	78	13	2.04	14.71	6	2	85	7	2.01	14.93		
1	2	1002243	1	04-Feb-10	Schedule (i)	3.75	0.0033	30	-S9	11	2	77	10	1.99	15.08	8	5	82	5	1.97	15.23		
1	2	1002243	1	04-Feb-10	Schedule (i)	5	0.0044	30	-S9	15	1	76	8	1.93	15.54	9	5	83	3	1.94	15.46		
1	2	1002243	1	04-Feb-10	Schedule (i)	7.5	0.0067	30	-S9	15	3	79	3	1.88	15.96	10	7	82	1	1.91	15.71		
2	3	1002243	2	11-Feb-10	Schedule (i)	0	0	30	-S9	3	2	82	13	2.10	14.29	2	2	79	17	2.15	13.95		
2	3	1002243	2	11-Feb-10	Schedule (i)	1	0.0009	30	-S9	4	3	83	10	2.06	14.56	5	3	83	9	2.04	14.71		
2	3	1002243	2	11-Feb-10	Schedule (i)	2.5	0.0022	30	-S9	5	6	81	8	2.03	14.78	10	4	78	8	1.98	15.15		
2	3	1002243	2	11-Feb-10	Schedule (i)	3.75	0.0033	30	-S9	9	2	80	9	2.00	15.00	11	5	77	7	1.96	15.31		
2	3	1002243	2	11-Feb-10	Schedule (i)	5	0.0044	30	-S9	11	3	77	7	1.92	15.63	13	8	75	4	1.91	15.71		
2	3	1002243	2	11-Feb-10	Schedule (i)	7.5	0.0067	30	-S9	15	3	79	3	1.88	15.96	15	9	73	3	1.88	15.96		
3	3	1002243	3	23-Feb-10	Schedule (i)	0	0	30	-S9	1	2	83	14	2.13	14.08	1	1	85	13	2.12	14.15		
3	3	1002243	3	23-Feb-10	Schedule (i)	1	0.0009	30	-S9	3	2	84	11	2.08	14.42	6	0	82	12	2.06	14.56		
3	3	1002243	3	23-Feb-10	Schedule (i)	2.5	0.0022	30	-S9	4	6	83	7	2.03	14.78	7	0	83	10	2.03	14.78		
3	3	1002243	3	23-Feb-10	Schedule (i)	3.75	0.0033	30	-S9	11	3	79	7	1.96	15.31	8	0	86	6	1.98	15.15		
3	3	1002243	3	23-Feb-10	Schedule (i)	5	0.0044	30	-S9	13	3	79	5	1.92	15.63	13	2	80	5	1.92	15.63		
3	3	1002243	3	23-Feb-10	Schedule (i)	7.5	0.0067	30	-S9	16	5	75	4	1.88	15.96	15	2	79	4	1.89	15.87		
4	1	1002244	1	02-Mar-10	Schedule (i)	0	0	30	-S9	2	0	85	13	2.11	14.22	2	3	81	14	2.12	14.15		
4	1	1002244	1	02-Mar-10	Schedule (i)	1	0.0000	30	-S9	3	2	84	11	2.08	14.42	4	3	82	11	2.07	14.49		
4	1	1002244	1	02-Mar-10	Schedule (i)	2.5	0.0001	30	-S9	3	3	88	6	2.03	14.78	5	4	83	8	2.03	14.78		
4	1	1002244	1	02-Mar-10	Schedule (i)	3.75	0.0002	30	-S9	9	4	82	5	1.96	15.31	9	3	82	6	1.97	15.23		
4	1	1002244	1	02-Mar-10	Schedule (i)	5	0.0002	30	-S9	13	1	83	3	1.90	15.79	14	2	78	6	1.92	15.63		
4	1	1002244	1	02-Mar-10	Schedule (i)	7.5	0.0003	30	-S9	16	2	81	1	1.85	16.22	17	3	76	4	1.87	16.04		
5	2	1002244	2	09-Mar-10	Schedule (i)	0	0	30	-S9	2	0	85	13	2.11	14.22	1	1	86	12	2.11	14.22		
5	2	1002244	2	09-Mar-10	Schedule (i)	1	0.0000	30	-S9	5	1	84	10	2.05	14.63	4	3	83	10	2.06	14.56		
5	2	1002244	2	09-Mar-10	Schedule (i)	2.5	0.0001	30	-S9	7	5	81	7	2.00	15.00	4	4	86	6	2.02	14.85		
5	2	1002244	2	09-Mar-10	Schedule (i)	3.75	0.0002	30	-S9	14	8	73	5	1.91	15.71	9	4	82	5	1.96	15.31		
5	2	1002244	2	09-Mar-10	Schedule (i)	5	0.0002	30	-S9	18	9	70	3	1.85	16.22	11	4	83	2	1.91	15.71		
5	2	1002244	2	09-Mar-10	Schedule (i)	7.5	0.0003	30	-S9	17	10	71	2	1.85	16.22	17	4	76	3	1.86	16.13		
6	3	1002244	3	16-Mar-10	Schedule (i)	0	0	30	-S9	2	0	83	15	2.13	14.08	2	0	86	12	2.10	14.29		
6	3	1002244	3	16-Mar-10	Schedule (i)	1	0.0000	30	-S9	3	3	81	13	2.10	14.29	0	4	89	7	2.07	14.49		
6	3	1002244	3	16-Mar-10	Schedule (i)	2.5	0.0001	30	-S9	6	2	83	9	2.03	14.78	8	5	78	9	2.01	14.93		
6	3	1002244	3	16-Mar-10	Schedule (i)	3.75	0.0002	30	-S9	10	5	77	8	1.98	15.15	9	7	80	4	1.95	15.38		
6	3	1002244	3	16-Mar-10	Schedule (i)	5	0.0002	30	-S9	14	4	77	5	1.91	15.71	13	7	78	2	1.89	15.87		
6	3	1002244	3	16-Mar-10	Schedule (i)	7.5	0.0003	30	-S9	17	7	73	3	1.86	16.13	16	6	77	1	1.85	16.22		

***In Vitro* Sister Chromatid Exchange Assay of CHO cells with (+) and without (-) S9 Metabolic Activation
(Cell Scoring per flask)**

Set Number	Run Number	Sample ID	Replicate Number	Assay Date	Treatment Schedule	WT (μL/mL)	Unit of Use (Units/mL)	Treatment Time (h)	Metabolic Activation	Flask 1						Flask 2					
										Metaphases Scored					AGT (hours)	Metaphases Scored					AGT (hours)
										M1	M1+	M2	M2+	PRI		M1	M1+	M2	M2+	PRI	
4	3	1002245	1	02-Mar-10	Schedule (i)	0	0	30	-S9	2	2	83	13	2.11	14.22	1	0	83	16	2.15	13.95
4	3	1002245	1	02-Mar-10	Schedule (i)	1	0.0002	30	-S9	5	3	81	11	2.06	14.56	3	2	83	12	2.09	14.35
4	3	1002245	1	02-Mar-10	Schedule (i)	2.5	0.0005	30	-S9	8	2	80	10	2.02	14.85	8	3	79	10	2.02	14.85
4	3	1002245	1	02-Mar-10	Schedule (i)	3.75	0.0007	30	-S9	9	2	82	7	1.98	15.15	11	4	78	7	1.96	15.31
4	3	1002245	1	02-Mar-10	Schedule (i)	5	0.0009	30	-S9	11	2	81	6	1.95	15.38	16	6	73	5	1.89	15.87
4	3	1002245	1	02-Mar-10	Schedule (i)	7.5	0.0014	30	-S9	14	2	80	4	1.90	15.79	18	8	71	3	1.85	16.22
5	3	1002245	2	09-Mar-10	Schedule (i)	0	0	30	-S9	2	3	83	12	2.10	14.29	3	1	82	14	2.11	14.22
5	3	1002245	2	09-Mar-10	Schedule (i)	1	0.0002	30	-S9	4	6	80	10	2.06	14.56	5	2	81	12	2.07	14.49
5	3	1002245	2	09-Mar-10	Schedule (i)	2.5	0.0005	30	-S9	9	5	77	9	2.00	15.00	7	2	82	9	2.02	14.85
5	3	1002245	2	09-Mar-10	Schedule (i)	3.75	0.0007	30	-S9	11	6	76	7	1.96	15.31	9	3	81	7	1.98	15.15
5	3	1002245	2	09-Mar-10	Schedule (i)	5	0.0009	30	-S9	13	8	74	5	1.92	15.63	13	2	79	6	1.93	15.54
5	3	1002245	2	09-Mar-10	Schedule (i)	7.5	0.0014	30	-S9	14	12	71	3	1.89	15.87	15	2	80	3	1.88	15.96
6	2	1002245	3	16-Mar-10	Schedule (i)	0	0	30	-S9	1	5	81	13	2.12	14.15	2	0	84	14	2.12	14.15
6	2	1002245	3	16-Mar-10	Schedule (i)	1	0.0002	30	-S9	6	5	77	12	2.06	14.56	4	0	86	10	2.06	14.56
6	2	1002245	3	16-Mar-10	Schedule (i)	2.5	0.0005	30	-S9	10	8	71	11	2.01	14.93	8	2	82	8	2.00	15.00
6	2	1002245	3	16-Mar-10	Schedule (i)	3.75	0.0007	30	-S9	7	5	84	4	1.97	15.23	10	2	82	6	1.96	15.31
6	2	1002245	3	16-Mar-10	Schedule (i)	5	0.0009	30	-S9	11	3	82	4	1.93	15.54	15	3	79	3	1.88	15.96
6	2	1002245	3	16-Mar-10	Schedule (i)	7.5	0.0014	30	-S9	15	1	80	4	1.89	15.87	19	5	75	1	1.82	16.48
4	2	1002246	1	02-Mar-10	Schedule (i)	0	0	30	-S9	1	2	82	15	2.14	14.02	1	3	84	12	2.11	14.22
4	2	1002246	1	02-Mar-10	Schedule (i)	1	0.0002	30	-S9	5	2	82	11	2.06	14.56	6	1	81	12	2.06	14.56
4	2	1002246	1	02-Mar-10	Schedule (i)	2.5	0.0005	30	-S9	9	3	80	8	1.99	15.08	10	0	79	11	2.01	14.93
4	2	1002246	1	02-Mar-10	Schedule (i)	3.75	0.0008	30	-S9	12	6	75	7	1.95	15.38	12	1	81	6	1.94	15.46
4	2	1002246	1	02-Mar-10	Schedule (i)	5	0.0011	30	-S9	17	7	72	4	1.87	16.04	16	0	78	6	1.90	15.79
4	2	1002246	1	02-Mar-10	Schedule (i)	7.5	0.0016	30	-S9	23	9	66	2	1.79	16.76	19	0	76	5	1.86	16.13
5	1	1002246	2	09-Mar-10	Schedule (i)	0	0	30	-S9	1	2	84	13	2.12	14.15	1	1	82	16	2.15	13.95
5	1	1002246	2	09-Mar-10	Schedule (i)	1	0.0002	30	-S9	3	3	85	9	2.06	14.56	5	1	84	10	2.05	14.63
5	1	1002246	2	09-Mar-10	Schedule (i)	2.5	0.0005	30	-S9	5	3	85	7	2.02	14.85	6	0	86	8	2.02	14.85
5	1	1002246	2	09-Mar-10	Schedule (i)	3.75	0.0008	30	-S9	11	3	80	6	1.95	15.38	9	3	81	7	1.98	15.15
5	1	1002246	2	09-Mar-10	Schedule (i)	5	0.0011	30	-S9	12	0	85	3	1.91	15.71	13	1	80	6	1.93	15.54
5	1	1002246	2	09-Mar-10	Schedule (i)	7.5	0.0016	30	-S9	15	2	82	1	1.86	16.13	18	1	76	5	1.87	16.04
6	1	1002246	3	16-Mar-10	Schedule (i)	0	0	30	-S9	3	0	80	17	2.14	14.02	3	0	81	16	2.13	14.08
6	1	1002246	3	16-Mar-10	Schedule (i)	1	0.0002	30	-S9	5	4	78	13	2.08	14.42	5	1	80	14	2.09	14.35
6	1	1002246	3	16-Mar-10	Schedule (i)	2.5	0.0005	30	-S9	6	3	81	10	2.04	14.71	9	4	77	10	2.01	14.93
6	1	1002246	3	16-Mar-10	Schedule (i)	3.75	0.0008	30	-S9	9	5	77	9	2.00	15.00	12	1	79	8	1.96	15.31
6	1	1002246	3	16-Mar-10	Schedule (i)	5	0.0011	30	-S9	12	6	78	4	1.92	15.63	15	3	74	8	1.93	15.54
6	1	1002246	3	16-Mar-10	Schedule (i)	7.5	0.0016	30	-S9	20	9	68	3	1.83	16.39	19	2	73	6	1.87	16.04

***In Vitro* Sister Chromatid Exchange Assay of CHO cells with (+) and without (-) S9 Metabolic Activation
(Cell Scoring per flask)**

Set Number	Run Number	Sample ID	Replicate Number	Assay Date	Treatment Schedule	WT (μL/mL)	Unit of Use (Units/mL)	Treatment Time (h)	Metabolic Activation	Flask 1					AGT (hours)	Flask 2					AGT (hours)	
										Metaphases Scored						AGT (hours)	Metaphases Scored					
										M1	M1+	M2	M2+	PRI			M1	M1+	M2	M2+		PRI
7	1	1002247	1	23-Mar-10	Schedule (i)	0	0	30	-S9	3	2	79	16	2.13	14.08	1	3	84	12	2.11	14.22	
7	1	1002247	1	23-Mar-10	Schedule (i)	1	0.0005	30	-S9	4	3	80	13	2.09	14.35	3	2	85	10	2.07	14.49	
7	1	1002247	1	23-Mar-10	Schedule (i)	2.5	0.0012	30	-S9	6	2	82	10	2.04	14.71	5	3	85	7	2.02	14.85	
7	1	1002247	1	23-Mar-10	Schedule (i)	3.75	0.0019	30	-S9	9	5	79	7	1.98	15.15	10	5	77	8	1.98	15.15	
7	1	1002247	1	23-Mar-10	Schedule (i)	5	0.0025	30	-S9	12	7	75	6	1.94	15.46	13	6	75	6	1.93	15.54	
7	1	1002247	1	23-Mar-10	Schedule (i)	7.5	0.0037	30	-S9	16	7	73	4	1.88	15.96	14	7	76	3	1.89	15.87	
8	1	1002247	2	25-Mar-10	Schedule (i)	0	0	30	-S9	3	1	80	16	2.13	14.08	2	0	85	13	2.11	14.22	
8	1	1002247	2	25-Mar-10	Schedule (i)	1	0.0005	30	-S9	3	4	82	11	2.08	14.42	4	2	84	10	2.06	14.56	
8	1	1002247	2	25-Mar-10	Schedule (i)	2.5	0.0012	30	-S9	6	8	77	9	2.03	14.78	5	4	84	7	2.02	14.85	
8	1	1002247	2	25-Mar-10	Schedule (i)	3.75	0.0019	30	-S9	7	6	79	8	2.01	14.93	5	2	89	4	1.99	15.08	
8	1	1002247	2	25-Mar-10	Schedule (i)	5	0.0025	30	-S9	11	4	78	7	1.96	15.31	9	5	84	2	1.93	15.54	
8	1	1002247	2	25-Mar-10	Schedule (i)	7.5	0.0037	30	-S9	15	6	74	5	1.90	15.79	14	8	76	2	1.88	15.96	
9	1	1002247	3	30-Mar-10	Schedule (i)	0	0	30	-S9	1	1	85	13	2.12	14.15	1	0	87	12	2.11	14.22	
9	1	1002247	3	30-Mar-10	Schedule (i)	1	0.0005	30	-S9	6	0	80	14	2.08	14.42	3	1	87	9	2.06	14.56	
9	1	1002247	3	30-Mar-10	Schedule (i)	2.5	0.0012	30	-S9	8	3	78	11	2.03	14.78	7	3	82	8	2.01	14.93	
9	1	1002247	3	30-Mar-10	Schedule (i)	3.75	0.0019	30	-S9	9	4	79	8	1.99	15.08	8	3	84	5	1.97	15.23	
9	1	1002247	3	30-Mar-10	Schedule (i)	5	0.0025	30	-S9	11	8	75	6	1.95	15.38	13	5	77	5	1.92	15.63	
9	1	1002247	3	30-Mar-10	Schedule (i)	7.5	0.0037	30	-S9	15	5	75	5	1.90	15.79	16	7	75	2	1.86	16.13	
1	4	1002241	1	09-Feb-10	Schedule (ii)	0	0	3	+S9	2	0	88	10	2.08	14.42	1	4	84	11	2.10	14.29	
1	4	1002241	1	09-Feb-10	Schedule (ii)	10	0.0040	3	+S9	3	2	87	8	2.05	14.63	3	1	86	10	2.07	14.49	
1	4	1002241	1	09-Feb-10	Schedule (ii)	15	0.0060	3	+S9	6	3	83	8	2.02	14.85	5	1	86	8	2.03	14.78	
1	4	1002241	1	09-Feb-10	Schedule (ii)	20	0.0079	3	+S9	8	4	82	6	1.98	15.15	5	5	85	5	2.00	15.00	
1	4	1002241	1	09-Feb-10	Schedule (ii)	25	0.0099	3	+S9	13	5	75	7	1.94	15.46	10	2	82	6	1.96	15.31	
1	4	1002241	1	09-Feb-10	Schedule (ii)	27.5	0.0109	3	+S9	11	7	79	3	1.92	15.63	9	5	84	2	1.93	15.54	
1	4	1002241	1	09-Feb-10	Schedule (ii)	30	0.0119	3	+S9	13	9	76	2	1.89	15.87	12	5	81	2	1.90	15.79	
2	1	1002241	2	17-Feb-10	Schedule (ii)	0	0	3	+S9	2	2	83	13	2.11	14.22	4	3	76	17	2.13	14.08	
2	1	1002241	2	17-Feb-10	Schedule (ii)	10	0.0040	3	+S9	3	2	84	11	2.08	14.42	5	1	80	14	2.09	14.35	
2	1	1002241	2	17-Feb-10	Schedule (ii)	15	0.0060	3	+S9	6	3	81	10	2.04	14.71	9	2	76	13	2.04	14.71	
2	1	1002241	2	17-Feb-10	Schedule (ii)	20	0.0079	3	+S9	8	4	81	7	1.99	15.08	10	4	78	8	1.98	15.15	
2	1	1002241	2	17-Feb-10	Schedule (ii)	25	0.0099	3	+S9	9	4	83	4	1.95	15.38	14	1	75	10	1.96	15.31	
2	1	1002241	2	17-Feb-10	Schedule (ii)	27.5	0.0109	3	+S9	12	3	83	2	1.90	15.79	13	5	78	4	1.91	15.71	
2	1	1002241	2	17-Feb-10	Schedule (ii)	30	0.0119	3	+S9	17	3	78	2	1.85	16.22	15	7	75	3	1.88	15.96	
3	2	1002241	3	25-Feb-10	Schedule (ii)	0	0	3	+S9	2	1	80	17	2.15	13.95	0	4	83	13	2.13	14.08	
3	2	1002241	3	25-Feb-10	Schedule (ii)	10	0.0040	3	+S9	4	0	82	14	2.10	14.29	3	1	86	10	2.07	14.49	
3	2	1002241	3	25-Feb-10	Schedule (ii)	15	0.0060	3	+S9	5	2	80	13	2.08	14.42	6	2	83	9	2.03	14.78	
3	2	1002241	3	25-Feb-10	Schedule (ii)	20	0.0079	3	+S9	9	1	77	13	2.04	14.71	7	5	82	6	1.99	15.08	
3	2	1002241	3	25-Feb-10	Schedule (ii)	25	0.0099	3	+S9	11	1	80	8	1.97	15.23	13	7	73	7	1.94	15.46	
3	2	1002241	3	25-Feb-10	Schedule (ii)	27.5	0.0109	3	+S9	15	1	75	9	1.94	15.46	14	12	71	3	1.89	15.87	
3	2	1002241	3	25-Feb-10	Schedule (ii)	30	0.0119	3	+S9	15	3	77	5	1.90	15.79	16	11	70	3	1.87	16.04	

***In Vitro* Sister Chromatid Exchange Assay of CHO cells with (+) and without (-) S9 Metabolic Activation
(Cell Scoring per flask)**

Set Number	Run Number	Sample ID	Replicate Number	Assay Date	Treatment Schedule	WT (μL/mL)	Unit of Use (Units/mL)	Treatment Time (h)	Metabolic Activation	Flask 1						Flask 2					
										Metaphases Scored					AGT (hours)	Metaphases Scored					AGT (hours)
										M1	M1+	M2	M2+	PRI		M1	M1+	M2	M2+	PRI	
1	3	1002242	1	09-Feb-10	Schedule (ii)	0	0	3	+S9	1	1	84	14	2.13	14.08	3	1	82	14	2.11	14.22
1	3	1002242	1	09-Feb-10	Schedule (ii)	10	0.0004	3	+S9	4	2	81	13	2.09	14.35	7	0	80	13	2.06	14.56
1	3	1002242	1	09-Feb-10	Schedule (ii)	15	0.0007	3	+S9	9	7	74	10	2.01	14.93	9	3	77	11	2.02	14.85
1	3	1002242	1	09-Feb-10	Schedule (ii)	20	0.0009	3	+S9	10	5	76	9	1.99	15.08	9	4	77	10	2.01	14.93
1	3	1002242	1	09-Feb-10	Schedule (ii)	25	0.0011	3	+S9	15	4	72	9	1.94	15.46	14	2	73	11	1.97	15.23
1	3	1002242	1	09-Feb-10	Schedule (ii)	27.5	0.0012	3	+S9	16	7	70	7	1.91	15.71	14	5	75	6	1.92	15.63
1	3	1002242	1	09-Feb-10	Schedule (ii)	30	0.0013	3	+S9	18	5	73	4	1.86	16.13	14	5	77	4	1.90	15.79
2	2	1002242	2	17-Feb-10	Schedule (ii)	0	0	3	+S9	4	2	82	12	2.08	14.42	1	2	86	11	2.10	14.29
2	2	1002242	2	17-Feb-10	Schedule (ii)	10	0.0004	3	+S9	6	1	83	10	2.04	14.71	3	4	85	8	2.05	14.63
2	2	1002242	2	17-Feb-10	Schedule (ii)	15	0.0007	3	+S9	8	2	81	9	2.01	14.93	6	3	82	9	2.03	14.78
2	2	1002242	2	17-Feb-10	Schedule (ii)	20	0.0009	3	+S9	10	2	81	7	1.97	15.23	9	5	79	7	1.98	15.15
2	2	1002242	2	17-Feb-10	Schedule (ii)	25	0.0011	3	+S9	11	2	83	4	1.93	15.54	11	6	78	5	1.94	15.46
2	2	1002242	2	17-Feb-10	Schedule (ii)	27.5	0.0012	3	+S9	11	2	86	1	1.90	15.79	12	6	78	4	1.92	15.63
2	2	1002242	2	17-Feb-10	Schedule (ii)	30	0.0013	3	+S9	15	3	81	1	1.86	16.13	17	5	74	4	1.87	16.04
3	1	1002242	3	25-Feb-10	Schedule (ii)	0	0	3	+S9	1	1	80	18	2.17	13.82	1	2	85	12	2.11	14.22
3	1	1002242	3	25-Feb-10	Schedule (ii)	10	0.0004	3	+S9	3	2	80	15	2.12	14.15	3	2	85	10	2.07	14.49
3	1	1002242	3	25-Feb-10	Schedule (ii)	15	0.0007	3	+S9	8	3	78	11	2.03	14.78	5	4	82	9	2.04	14.71
3	1	1002242	3	25-Feb-10	Schedule (ii)	20	0.0009	3	+S9	11	6	75	8	1.97	15.23	7	3	82	8	2.01	14.93
3	1	1002242	3	25-Feb-10	Schedule (ii)	25	0.0011	3	+S9	12	9	72	7	1.95	15.38	9	2	81	8	1.99	15.08
3	1	1002242	3	25-Feb-10	Schedule (ii)	27.5	0.0012	3	+S9	16	7	72	5	1.89	15.87	11	4	81	4	1.93	15.54
3	1	1002242	3	25-Feb-10	Schedule (ii)	30	0.0013	3	+S9	15	5	77	3	1.88	15.96	14	4	79	3	1.89	15.87
1	2	1002243	1	09-Feb-10	Schedule (ii)	0	0	3	+S9	3	0	84	13	2.10	14.29	2	0	84	14	2.12	14.15
1	2	1002243	1	09-Feb-10	Schedule (ii)	10	0.0089	3	+S9	5	1	84	10	2.05	14.63	4	1	84	11	2.07	14.49
1	2	1002243	1	09-Feb-10	Schedule (ii)	15	0.0133	3	+S9	6	5	82	7	2.01	14.93	7	3	80	10	2.03	14.78
1	2	1002243	1	09-Feb-10	Schedule (ii)	20	0.0178	3	+S9	11	7	76	6	1.95	15.38	13	0	77	10	1.97	15.23
1	2	1002243	1	09-Feb-10	Schedule (ii)	25	0.0222	3	+S9	16	8	68	8	1.92	15.63	14	7	72	7	1.93	15.54
1	2	1002243	1	09-Feb-10	Schedule (ii)	27.5	0.0244	3	+S9	18	5	71	6	1.88	15.96	16	3	75	6	1.90	15.79
1	2	1002243	1	09-Feb-10	Schedule (ii)	30	0.0267	3	+S9	21	6	70	3	1.82	16.48	19	4	71	6	1.87	16.04
2	3	1002243	2	17-Feb-10	Schedule (ii)	0	0	3	+S9	2	1	80	17	2.15	13.95	2	1	79	18	2.16	13.89
2	3	1002243	2	17-Feb-10	Schedule (ii)	10	0.0089	3	+S9	5	0	80	15	2.10	14.29	4	2	78	16	2.12	14.15
2	3	1002243	2	17-Feb-10	Schedule (ii)	15	0.0133	3	+S9	8	2	77	13	2.05	14.63	7	3	77	13	2.06	14.56
2	3	1002243	2	17-Feb-10	Schedule (ii)	20	0.0178	3	+S9	9	3	79	9	2.00	15.00	13	8	70	9	1.96	15.31
2	3	1002243	2	17-Feb-10	Schedule (ii)	25	0.0222	3	+S9	13	2	77	8	1.95	15.38	16	10	67	7	1.91	15.71
2	3	1002243	2	17-Feb-10	Schedule (ii)	27.5	0.0244	3	+S9	16	1	75	8	1.92	15.63	14	5	77	4	1.90	15.79
2	3	1002243	2	17-Feb-10	Schedule (ii)	30	0.0267	3	+S9	19	0	73	8	1.89	15.87	21	10	66	3	1.82	16.48

***In Vitro* Sister Chromatid Exchange Assay of CHO cells with (+) and without (-) S9 Metabolic Activation
(Cell Scoring per flask)**

Set Number	Run Number	Sample ID	Replicate Number	Assay Date	Treatment Schedule	WT (μL/mL)	Unit of Use (Units/mL)	Treatment Time (h)	Metabolic Activation	Flask 1					AGT (hours)	Flask 2					AGT (hours)		
										Metaphases Scored						AGT (hours)	Metaphases Scored					AGT (hours)	
										M1	M1+	M2	M2+	PRI			M1	M1+	M2	M2+			PRI
3	3	1002243	3	25-Feb-10	Schedule (ii)	0	0	3	+S9	3	1	78	18	2.15	13.95	2	4	81	13	2.11	14.22		
3	3	1002243	3	25-Feb-10	Schedule (ii)	10	0.0089	3	+S9	6	2	79	13	2.07	14.49	5	3	82	10	2.05	14.63		
3	3	1002243	3	25-Feb-10	Schedule (ii)	15	0.0133	3	+S9	8	1	80	11	2.03	14.78	8	1	83	8	2.00	15.00		
3	3	1002243	3	25-Feb-10	Schedule (ii)	20	0.0178	3	+S9	12	1	75	12	2.00	15.00	9	3	81	7	1.98	15.15		
3	3	1002243	3	25-Feb-10	Schedule (ii)	25	0.0222	3	+S9	14	0	78	8	1.94	15.46	11	3	80	6	1.95	15.38		
3	3	1002243	3	25-Feb-10	Schedule (ii)	27.5	0.0245	3	+S9	14	0	80	6	1.92	15.63	12	4	79	5	1.93	15.54		
3	3	1002243	3	25-Feb-10	Schedule (ii)	30	0.0267	3	+S9	16	0	79	5	1.89	15.87	13	2	82	3	1.90	15.79		
4	1	1002244	1	04-Mar-10	Schedule (ii)	0	0	3	+S9	2	0	82	16	2.14	14.02	2	1	80	17	2.15	13.95		
4	1	1002244	1	04-Mar-10	Schedule (ii)	10	0.0004	3	+S9	3	2	83	12	2.09	14.35	6	0	81	13	2.07	14.49		
4	1	1002244	1	04-Mar-10	Schedule (ii)	15	0.0007	3	+S9	7	3	80	10	2.03	14.78	7	1	81	11	2.04	14.71		
4	1	1002244	1	04-Mar-10	Schedule (ii)	20	0.0009	3	+S9	10	9	75	6	1.96	15.31	12	0	78	10	1.98	15.15		
4	1	1002244	1	04-Mar-10	Schedule (ii)	25	0.0011	3	+S9	14	9	74	3	1.89	15.87	15	2	73	10	1.95	15.38		
4	1	1002244	1	04-Mar-10	Schedule (ii)	27.5	0.0012	3	+S9	20	8	64	8	1.88	15.96	14	5	76	5	1.91	15.71		
4	1	1002244	1	04-Mar-10	Schedule (ii)	30	0.0013	3	+S9	21	9	66	4	1.83	16.39	17	2	77	4	1.87	16.04		
5	2	1002244	2	11-Mar-10	Schedule (ii)	0	0	3	+S9	2	0	82	16	2.14	14.02	2	0	85	13	2.11	14.22		
5	2	1002244	2	11-Mar-10	Schedule (ii)	10	0.0004	3	+S9	7	2	77	14	2.07	14.49	3	3	85	9	2.06	14.56		
5	2	1002244	2	11-Mar-10	Schedule (ii)	15	0.0007	3	+S9	10	4	77	9	1.99	15.08	5	4	85	6	2.01	14.93		
5	2	1002244	2	11-Mar-10	Schedule (ii)	20	0.0009	3	+S9	13	7	75	5	1.92	15.63	8	2	84	6	1.98	15.15		
5	2	1002244	2	11-Mar-10	Schedule (ii)	25	0.0011	3	+S9	12	7	76	5	1.93	15.54	11	3	81	5	1.94	15.46		
5	2	1002244	2	11-Mar-10	Schedule (ii)	27.5	0.0012	3	+S9	18	3	78	3	1.89	15.87	12	4	82	2	1.90	15.79		
5	2	1002244	2	11-Mar-10	Schedule (ii)	30	0.0013	3	+S9	17	5	76	2	1.85	16.22	13	6	81	0	1.87	16.04		
6	3	1002244	3	18-Mar-10	Schedule (ii)	0	0	3	+S9	1	0	89	10	2.09	14.35	2	1	83	14	2.12	14.15		
6	3	1002244	3	18-Mar-10	Schedule (ii)	10	0.0004	3	+S9	3	0	88	9	2.06	14.56	3	3	84	10	2.07	14.49		
6	3	1002244	3	18-Mar-10	Schedule (ii)	15	0.0007	3	+S9	6	2	87	5	1.99	15.08	4	1	84	11	2.07	14.49		
6	3	1002244	3	18-Mar-10	Schedule (ii)	20	0.0009	3	+S9	9	3	82	6	1.97	15.23	7	3	84	6	1.99	15.08		
6	3	1002244	3	18-Mar-10	Schedule (ii)	25	0.0011	3	+S9	12	5	79	4	1.92	15.63	11	1	82	6	1.95	15.38		
6	3	1002244	3	18-Mar-10	Schedule (ii)	27.5	0.0012	3	+S9	13	4	81	2	1.89	15.87	15	1	80	4	1.89	15.87		
6	3	1002244	3	18-Mar-10	Schedule (ii)	30	0.0013	3	+S9	14	7	78	1	1.87	16.04	17	3	78	2	1.85	16.22		
4	3	1002245	1	04-Mar-10	Schedule (ii)	0	0	3	+S9	3	0	83	14	2.11	14.22	1	0	86	13	2.12	14.15		
4	3	1002245	1	04-Mar-10	Schedule (ii)	10	0.0019	3	+S9	5	4	81	10	2.05	14.63	4	2	84	10	2.06	14.56		
4	3	1002245	1	04-Mar-10	Schedule (ii)	15	0.0028	3	+S9	7	2	80	11	2.04	14.71	6	3	82	9	2.03	14.78		
4	3	1002245	1	04-Mar-10	Schedule (ii)	20	0.0037	3	+S9	12	0	79	9	1.97	15.23	8	3	81	8	2.00	15.00		
4	3	1002245	1	04-Mar-10	Schedule (ii)	25	0.0046	3	+S9	13	3	76	8	1.95	15.38	11	2	79	8	1.97	15.23		
4	3	1002245	1	04-Mar-10	Schedule (ii)	27.5	0.0051	3	+S9	15	2	76	7	1.92	15.63	11	2	82	5	1.94	15.46		
4	3	1002245	1	04-Mar-10	Schedule (ii)	30	0.0056	3	+S9	16	1	76	7	1.91	15.71	13	4	80	3	1.90	15.79		

***In Vitro* Sister Chromatid Exchange Assay of CHO cells with (+) and without (-) S9 Metabolic Activation
(Cell Scoring per flask)**

Set Number	Run Number	Sample ID	Replicate Number	Assay Date	Treatment Schedule	WT (μL/mL)	Unit of Use (Units/mL)	Treatment Time (h)	Metabolic Activation	Flask 1						Flask 2					
										Metaphases Scored					AGT (hours)	Metaphases Scored					AGT (hours)
										M1	M1+	M2	M2+	PRI		M1	M1+	M2	M2+	PRI	
5	3	1002245	2	11-Mar-10	Schedule (ii)	0	0	3	+S9	3	2	81	14	2.11	14.22	2	2	81	15	2.13	14.08
5	3	1002245	2	11-Mar-10	Schedule (ii)	10	0.0019	3	+S9	6	2	81	11	2.05	14.63	4	0	82	14	2.10	14.29
5	3	1002245	2	11-Mar-10	Schedule (ii)	15	0.0028	3	+S9	9	2	79	10	2.01	14.93	7	1	80	12	2.05	14.63
5	3	1002245	2	11-Mar-10	Schedule (ii)	20	0.0037	3	+S9	9	2	81	8	1.99	15.08	12	0	78	10	1.98	15.15
5	3	1002245	2	11-Mar-10	Schedule (ii)	25	0.0046	3	+S9	12	3	78	7	1.95	15.38	13	3	77	7	1.94	15.46
5	3	1002245	2	11-Mar-10	Schedule (ii)	27.5	0.0051	3	+S9	14	7	74	5	1.91	15.71	16	1	75	8	1.92	15.63
5	3	1002245	2	11-Mar-10	Schedule (ii)	30	0.0056	3	+S9	16	10	71	3	1.87	16.04	16	2	77	5	1.89	15.87
6	2	1002245	3	18-Mar-10	Schedule (ii)	0	0	3	+S9	2	1	82	15	2.13	14.08	1	0	86	13	2.12	14.15
6	2	1002245	3	18-Mar-10	Schedule (ii)	10	0.0019	3	+S9	3	5	80	12	2.09	14.35	3	3	85	9	2.06	14.56
6	2	1002245	3	18-Mar-10	Schedule (ii)	15	0.0028	3	+S9	5	8	78	9	2.04	14.71	5	3	85	7	2.02	14.85
6	2	1002245	3	18-Mar-10	Schedule (ii)	20	0.0037	3	+S9	9	4	79	8	1.99	15.08	8	2	84	6	1.98	15.15
6	2	1002245	3	18-Mar-10	Schedule (ii)	25	0.0046	3	+S9	10	7	76	7	1.97	15.23	11	2	81	6	1.95	15.38
6	2	1002245	3	18-Mar-10	Schedule (ii)	27.5	0.0051	3	+S9	13	6	76	5	1.92	15.63	11	4	82	3	1.92	15.63
6	2	1002245	3	18-Mar-10	Schedule (ii)	30	0.0056	3	+S9	13	4	81	2	1.89	15.87	12	7	81	0	1.88	15.96
4	2	1002246	1	04-Mar-10	Schedule (ii)	0	0	3	+S9	2	2	81	15	2.13	14.08	4	2	80	14	2.10	14.29
4	2	1002246	1	04-Mar-10	Schedule (ii)	10	0.0022	3	+S9	4	2	84	10	2.06	14.56	6	4	79	11	2.05	14.63
4	2	1002246	1	04-Mar-10	Schedule (ii)	15	0.0032	3	+S9	8	2	81	9	2.01	14.93	6	7	79	8	2.02	14.85
4	2	1002246	1	04-Mar-10	Schedule (ii)	20	0.0043	3	+S9	9	3	80	8	1.99	15.08	8	7	79	6	1.98	15.15
4	2	1002246	1	04-Mar-10	Schedule (ii)	25	0.0054	3	+S9	10	4	80	6	1.96	15.31	15	2	73	10	1.95	15.38
4	2	1002246	1	04-Mar-10	Schedule (ii)	27.5	0.0059	3	+S9	13	2	80	5	1.92	15.63	16	5	72	7	1.91	15.71
4	2	1002246	1	04-Mar-10	Schedule (ii)	30	0.0065	3	+S9	16	3	77	4	1.88	15.96	18	7	70	5	1.87	16.04
5	1	1002246	2	11-Mar-10	Schedule (ii)	0	0	3	+S9	1	0	84	15	2.14	14.02	2	0	86	12	2.10	14.29
5	1	1002246	2	11-Mar-10	Schedule (ii)	10	0.0022	3	+S9	6	3	80	11	2.05	14.63	5	3	81	11	2.06	14.56
5	1	1002246	2	11-Mar-10	Schedule (ii)	15	0.0032	3	+S9	9	6	77	8	1.99	15.08	7	2	83	8	2.01	14.93
5	1	1002246	2	11-Mar-10	Schedule (ii)	20	0.0043	3	+S9	12	8	74	6	1.94	15.46	13	4	75	8	1.95	15.38
5	1	1002246	2	11-Mar-10	Schedule (ii)	25	0.0054	3	+S9	13	6	77	4	1.91	15.71	16	5	73	6	1.90	15.79
5	1	1002246	2	11-Mar-10	Schedule (ii)	27.5	0.0059	3	+S9	14	4	80	2	1.88	15.96	17	7	71	5	1.88	15.96
5	1	1002246	2	11-Mar-10	Schedule (ii)	30	0.0065	3	+S9	17	7	72	4	1.87	16.04	19	6	72	3	1.84	16.30
6	1	1002246	3	18-Mar-10	Schedule (ii)	0	0	3	+S9	3	0	84	13	2.10	14.29	5	2	79	14	2.09	14.35
6	1	1002246	3	18-Mar-10	Schedule (ii)	10	0.0022	3	+S9	4	2	83	11	2.07	14.49	6	2	81	11	2.05	14.63
6	1	1002246	3	18-Mar-10	Schedule (ii)	15	0.0032	3	+S9	6	5	81	8	2.02	14.85	8	3	80	9	2.01	14.93
6	1	1002246	3	18-Mar-10	Schedule (ii)	20	0.0043	3	+S9	10	6	79	5	1.95	15.38	11	5	76	8	1.97	15.23
6	1	1002246	3	18-Mar-10	Schedule (ii)	25	0.0054	3	+S9	13	5	78	4	1.91	15.71	12	6	77	5	1.93	15.54
6	1	1002246	3	18-Mar-10	Schedule (ii)	27.5	0.0059	3	+S9	16	7	73	4	1.88	15.96	14	6	76	4	1.90	15.79
6	1	1002246	3	18-Mar-10	Schedule (ii)	30	0.0065	3	+S9	20	7	71	2	1.82	16.48	15	6	77	2	1.87	16.04

***In Vitro* Sister Chromatid Exchange Assay of CHO cells with (+) and without (-) S9 Metabolic Activation
(Cell Scoring per flask)**

Set Number	Run Number	Sample ID	Replicate Number	Assay Date	Treatment Schedule	WT (μ L/mL)	Unit of Use (Units/mL)	Treatment Time (h)	Metabolic Activation	Flask 1						Flask 2					
										Metaphases Scored					AGT (hours)	Metaphases Scored					AGT (hours)
										M1	M1+	M2	M2+	PRI		M1	M1+	M2	M2+	PRI	
7	1	1002247	1	24-Mar-10	Schedule (ii)	0	0	3	+S9	2	4	80	14	2.12	14.15	1	1	81	17	2.16	13.89
7	1	1002247	1	24-Mar-10	Schedule (ii)	10	0.0049	3	+S9	3	1	85	11	2.08	14.42	3	0	83	14	2.11	14.22
7	1	1002247	1	24-Mar-10	Schedule (ii)	15	0.0074	3	+S9	5	3	84	8	2.03	14.78	9	1	80	10	2.01	14.93
7	1	1002247	1	24-Mar-10	Schedule (ii)	20	0.0099	3	+S9	8	2	84	6	1.98	15.15	12	1	78	9	1.97	15.23
7	1	1002247	1	24-Mar-10	Schedule (ii)	25	0.0123	3	+S9	11	2	81	6	1.95	15.38	12	4	79	5	1.93	15.54
7	1	1002247	1	24-Mar-10	Schedule (ii)	27.5	0.0136	3	+S9	11	4	82	3	1.92	15.63	15	6	73	6	1.91	15.71
7	1	1002247	1	24-Mar-10	Schedule (ii)	30	0.0148	3	+S9	14	9	75	2	1.88	15.96	18	0	75	7	1.89	15.87
8	1	1002247	2	25-Mar-10	Schedule (ii)	0	0	3	+S9	5	0	80	15	2.10	14.29	2	0	83	15	2.13	14.08
8	1	1002247	2	25-Mar-10	Schedule (ii)	10	0.0049	3	+S9	5	2	81	12	2.07	14.49	4	3	80	13	2.09	14.35
8	1	1002247	2	25-Mar-10	Schedule (ii)	15	0.0074	3	+S9	7	4	79	10	2.03	14.78	6	4	81	9	2.03	14.78
8	1	1002247	2	25-Mar-10	Schedule (ii)	20	0.0099	3	+S9	9	2	79	10	2.01	14.93	7	3	84	6	1.99	15.08
8	1	1002247	2	25-Mar-10	Schedule (ii)	25	0.0124	3	+S9	12	1	80	7	1.95	15.38	10	6	79	5	1.95	15.38
8	1	1002247	2	25-Mar-10	Schedule (ii)	27.5	0.0136	3	+S9	15	2	75	8	1.93	15.54	11	7	79	3	1.92	15.63
8	1	1002247	2	25-Mar-10	Schedule (ii)	30	0.0148	3	+S9	18	4	70	8	1.90	15.79	13	9	76	2	1.89	15.87
9	1	1002247	3	30-Mar-10	Schedule (ii)	0	0	3	+S9	1	0	87	12	2.11	14.22	2	1	83	14	2.12	14.15
9	1	1002247	3	30-Mar-10	Schedule (ii)	10	0.0049	3	+S9	3	2	86	9	2.06	14.56	3	3	84	10	2.07	14.49
9	1	1002247	3	30-Mar-10	Schedule (ii)	15	0.0074	3	+S9	6	2	83	9	2.03	14.78	6	2	84	8	2.02	14.85
9	1	1002247	3	30-Mar-10	Schedule (ii)	20	0.0099	3	+S9	6	5	82	7	2.01	14.93	7	3	85	5	1.98	15.15
9	1	1002247	3	30-Mar-10	Schedule (ii)	25	0.0124	3	+S9	8	5	82	5	1.97	15.23	9	3	84	4	1.95	15.38
9	1	1002247	3	30-Mar-10	Schedule (ii)	27.5	0.0136	3	+S9	11	6	80	3	1.92	15.63	10	6	81	3	1.93	15.54
9	1	1002247	3	30-Mar-10	Schedule (ii)	30	0.0148	3	+S9	14	8	76	2	1.88	15.96	17	9	72	2	1.85	16.22

Slope Analysis of the Linear Portion of the Dose-Response Curve
[Number of Sister Chromatid Exchanges per Cell / ('Unit of Use'/mL)]

			(Number of SCE's/Cell) / ('Unit of Use/mL)													
Treatment Schedule	Sample ID	Sample Description	Replicate 1			Replicate 2			Replicate 3			Statistics for Replicate			T-test Analysis	
			Dose Range	slope	LOG	Dose Range	slope	LOG	Dose Range	slope	LOG	LOG[Slope] Estimates			(H ₀ : mean[Slope] = 0)	
			('Unit/mL)		[slope]	('Unit/mL)		[slope]	('Unit/mL)		[slope]	Mean	Std. Err.	95% C.I.	p-value	significance
Schedule (i)	1002241	Ariva Wintergreen	0 - 0.003	2262	3.35	0 - 0.003	2300	3.36	0 - 0.003	2449	3.39	3.37	0.01	3.32 - 3.41	0.001	significant
Schedule (i)	1002242	Copenhagen Long Cut	0 - 0.0003	21488	4.33	0 - 0.0003	19621	4.29	0 - 0.0003	21266	4.33	4.32	0.01	4.26 - 4.37	0.001	significant
Schedule (i)	1002243	Fresh Strips	0 - 0.0067	933	2.97	0 - 0.0067	1035	3.01	0 - 0.0067	952	2.98	2.99	0.01	2.93 - 3.05	0.001	significant
Schedule (i)	1002244	2S3	0 - 0.0003	25802	4.41	0 - 0.0003	24533	4.39	0 - 0.0003	25371	4.40	4.40	0.01	4.37 - 4.43	0.000	significant
Schedule (i)	1002245	Camel SNUS Frost	0 - 0.0014	3789	3.58	0 - 0.0014	3883	3.59	0 - 0.0014	4218	3.63	3.60	0.01	3.54 - 3.66	0.001	significant
Schedule (i)	1002246	Mellow Sticks	0 - 0.0016	4915	3.69	0 - 0.0016	4606	3.66	0 - 0.0016	4649	3.67	3.67	0.01	3.64 - 3.71	0.000	significant
Schedule (i)	1002247	Fresh Orbs	0 - 0.0037	1838	3.26	0 - 0.0037	1985	3.30	0 - 0.0037	2038	3.31	3.29	0.01	3.23 - 3.35	0.001	significant
Schedule (ii)	1002241	Ariva Wintergreen	0.004 - 0.0119	460	2.66	0.004 - 0.0119	507	2.71	0.004 - 0.0119	507	2.71	2.69	0.01	2.63 - 2.75	0.001	significant
Schedule (ii)	1002242	Copenhagen Long Cut	0.0004 - 0.0013	4356	3.64	0.0004 - 0.0013	3889	3.59	0.0004 - 0.0013	3813	3.58	3.60	0.02	3.53 - 3.68	0.002	significant
Schedule (ii)	1002243	Fresh Strips	0.0089 - 0.0267	180	2.25	0.0089 - 0.0267	196	2.29	0.0089 - 0.0267	202	2.31	2.28	0.02	2.22 - 2.35	0.001	significant
Schedule (ii)	1002244	2S3	0.0004 - 0.0013	4370	3.64	0.0004 - 0.0013	4953	3.69	0.0004 - 0.0013	5357	3.73	3.69	0.03	3.58 - 3.8	0.003	significant
Schedule (ii)	1002245	Camel SNUS Frost	0.0019 - 0.0056	909	2.96	0.0019 - 0.0056	1019	3.01	0.0019 - 0.0056	992	3.00	2.99	0.01	2.92 - 3.05	0.001	significant
Schedule (ii)	1002246	Mellow Sticks	0.0022 - 0.0065	858	2.93	0.0022 - 0.0065	1006	3.00	0.0022 - 0.0065	782	2.89	2.94	0.03	2.81 - 3.08	0.006	significant
Schedule (ii)	1002247	Fresh Orbs	0.0049 - 0.0148	452	2.66	0.0049 - 0.0148	390	2.59	0.0049 - 0.0148	409	2.61	2.62	0.02	2.54 - 2.7	0.002	significant

One-Way ANOVA of Mean 'Unit of Use' LOG[Slope] Estimates
Among Test Samples

Schedule (i)

Source	Sum of Squares	Df	Mean Square	F-Ratio	P-Value
Among Samples	4.9809	6	0.8302	2029.9	0.000
Within Samples	0.0057	14	0.0004		
Total (Corr.)	4.9867	20			

Schedule (ii)

Source	Sum of Squares	Df	Mean Square	F-Ratio	P-Value
Among Samples	4.7666	6	0.7944	610.98	0.000
Within Samples	0.0182	14	0.0013		
Total (Corr.)	4.7848	20			

One-way ANOVA analysis indicates significant differences (at $\alpha = 0.05$) among mean log-transformed 'Unit of Use' specific activity slope estimates for test samples under Treatment Schedules (i) and (ii) .

Ratio (Max÷ Min) of Standard Deviations of log-transformed 'Unit of Use' Slope Estimates and Corresponding Method of Comparison

Treatment Schedule	Std. Dev. Ratio (Max ÷ Min)	Method of Comparison
Schedule (i)	2.2	ANOVA (equal variance)
Schedule (ii)	2.2	ANOVA (equal variance)

**ANOVA-Based Comparisons of Average 'Unit of Use' LOG[Slope] for Contrasts of Interest
using Bonferroni-adjusted p-values**

ANOVA-Based Comparison	Schedule (i)			Schedule (ii)		
	f-ratio	p-value	significance at $\alpha = 0.05$	f-ratio	p-value	significance at $\alpha = 0.05$
1002241 vs. 1002242	3304	5.0E-18	significant	960	2.7E-14	significant
1002241 vs. 1002243	531	1.6E-12	significant	191	1.5E-09	significant
1002241 vs. 1002244	3917	1.5E-18	significant	1147	7.8E-15	significant
1002241 vs. 1002245	193	1.4E-09	significant	102	8.5E-08	significant
1002241 vs. 1002246	343	3.1E-11	significant	73.3	6.2E-07	significant
1002241 vs. 1002247	22.4	3.2E-04	significant	5.92	0.0289	not significant
1002242 vs. 1002243	6485	4.5E-20	significant	2008	1.6E-16	significant
1002242 vs. 1002244	26.1	1.6E-04	significant	8.27	0.0122	not significant
1002242 vs. 1002245	1901	2.3E-16	significant	437	5.9E-12	significant
1002242 vs. 1002246	1519	1.1E-15	significant	503	2.3E-12	significant
1002242 vs. 1002247	3870	1.7E-18	significant	1117	9.4E-15	significant
1002243 vs. 1002244	7334	1.9E-20	significant	2274	6.8E-17	significant
1002243 vs. 1002245	1364	2.4E-15	significant	571	9.5E-13	significant
1002243 vs. 1002246	1727	4.6E-16	significant	501	2.3E-12	significant
1002243 vs. 1002247	336	3.5E-11	significant	130	1.8E-08	significant
1002244 vs. 1002245	2373	5.0E-17	significant	566	1.0E-12	significant
1002244 vs. 1002246	1943	2.0E-16	significant	640	4.3E-13	significant
1002244 vs. 1002247	4531	5.5E-19	significant	1318	3.0E-15	significant
1002245 vs. 1002246	21.5	3.9E-04	significant	2.31	0.1510	not significant
1002245 vs. 1002247	346	2.9E-11	significant	157	5.5E-09	significant
1002246 vs. 1002247	540	1.4E-12	significant	121	2.9E-08	significant

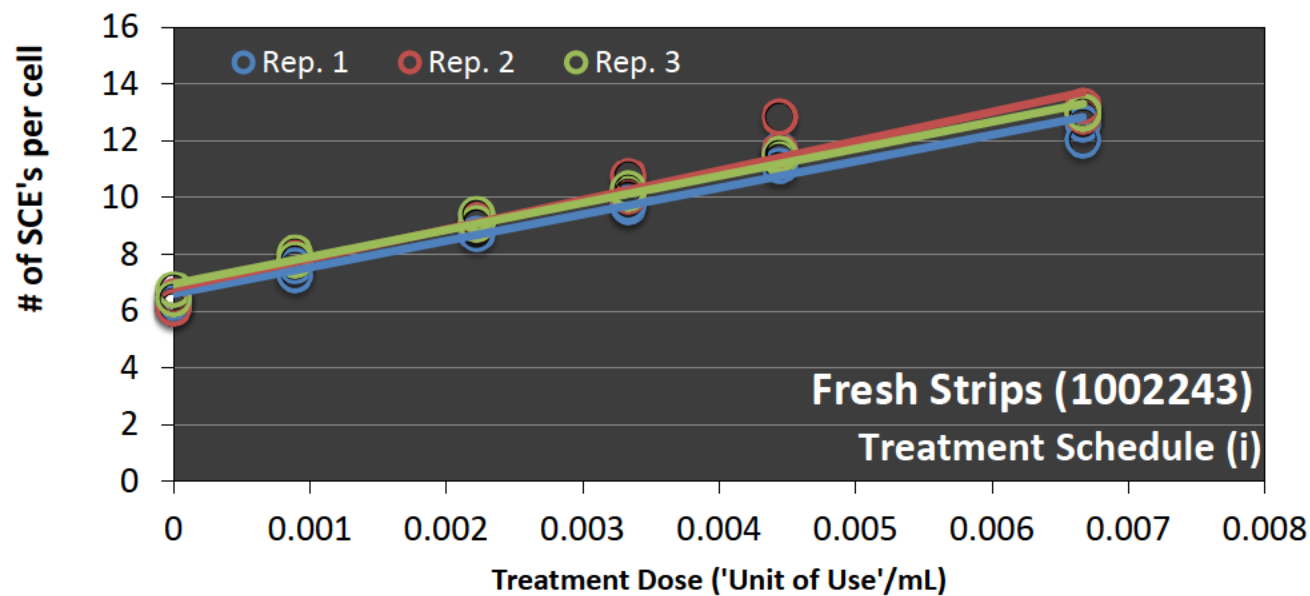
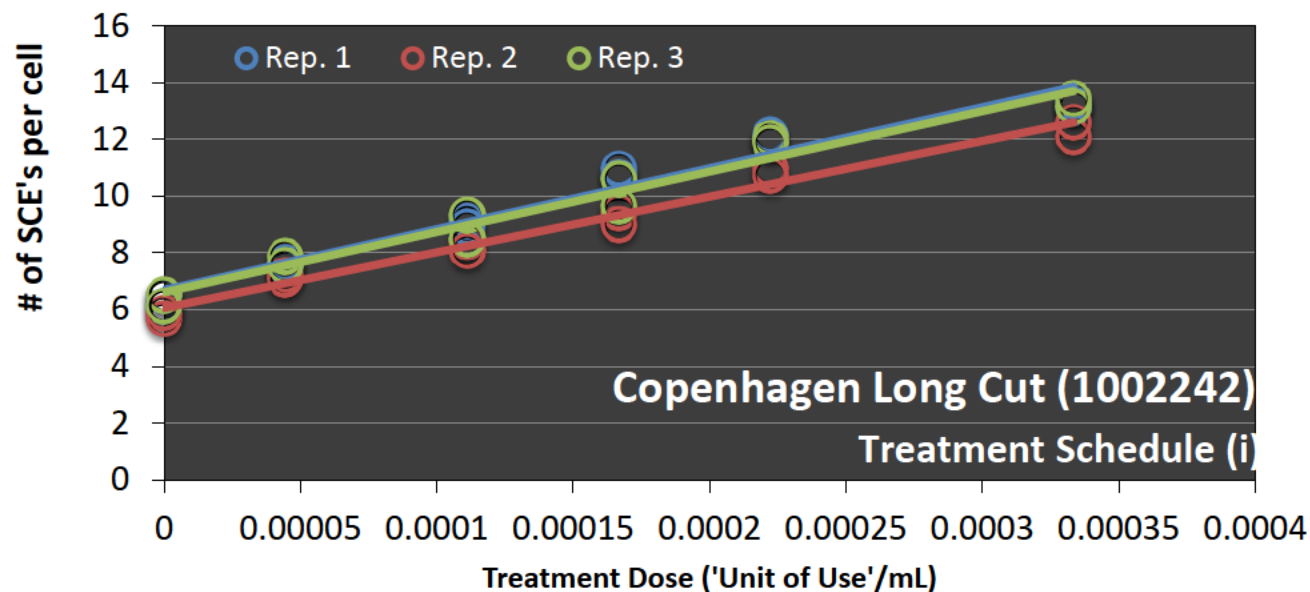
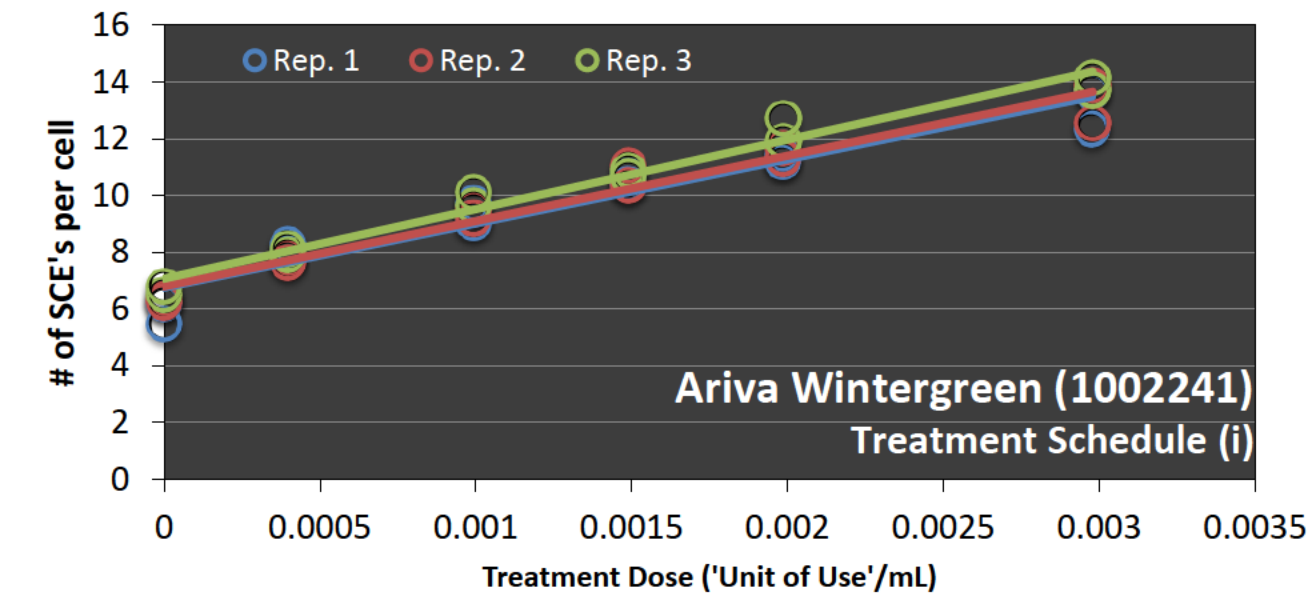
ANOVA-based comparison p-values less than the Bonferroni-adjusted $\alpha = 0.05$ indicate that significant differences in mean log-transformed 'Unit of Use' slope were as follows under treatment schedules (i) and (ii):

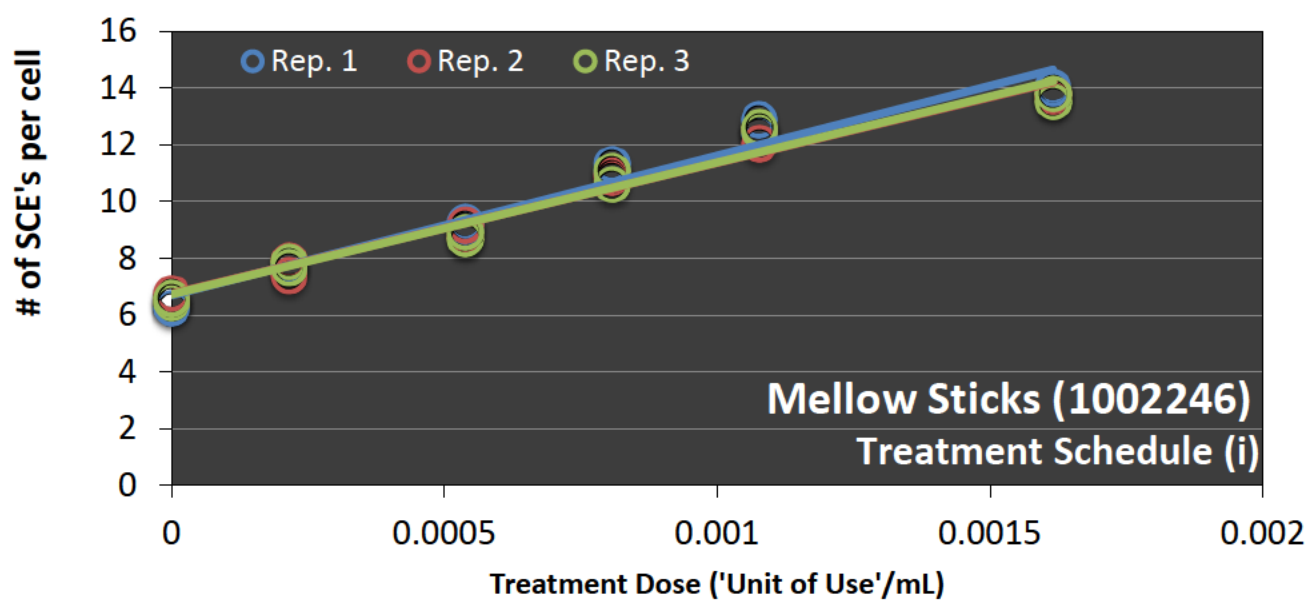
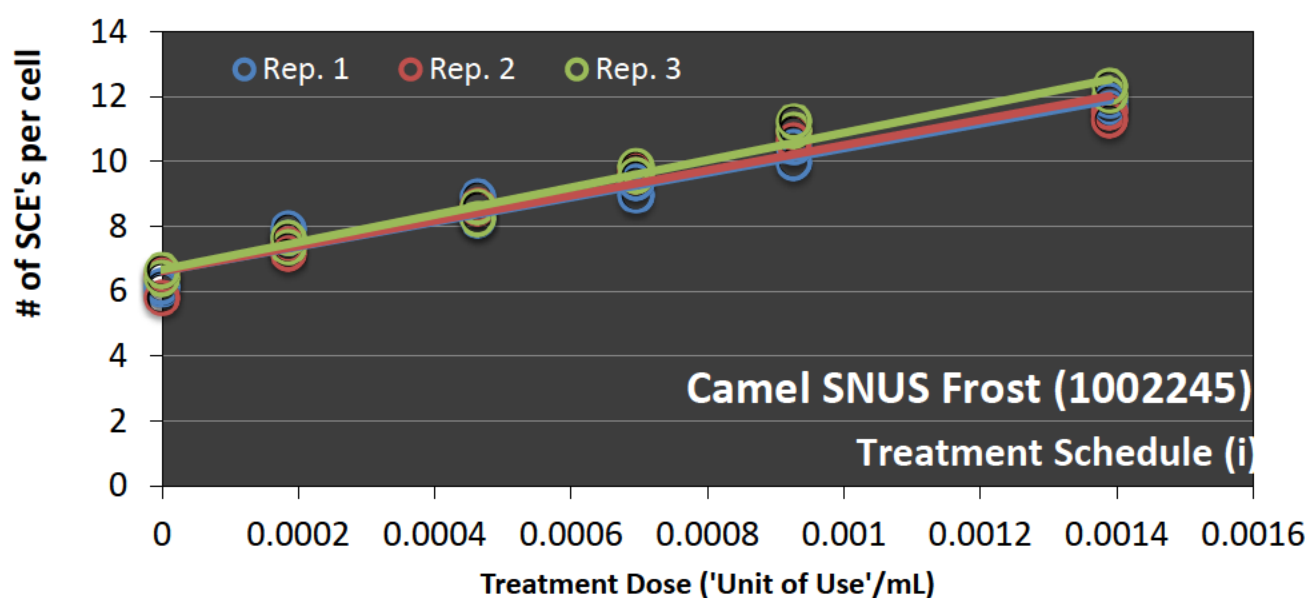
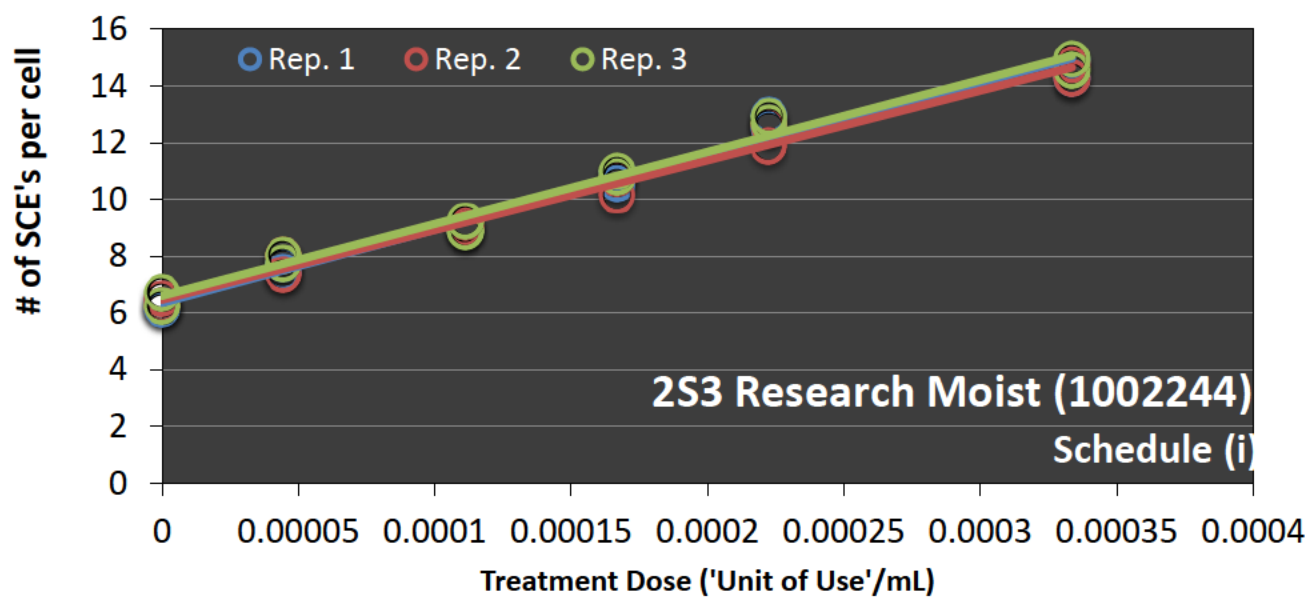
Schedule (i)

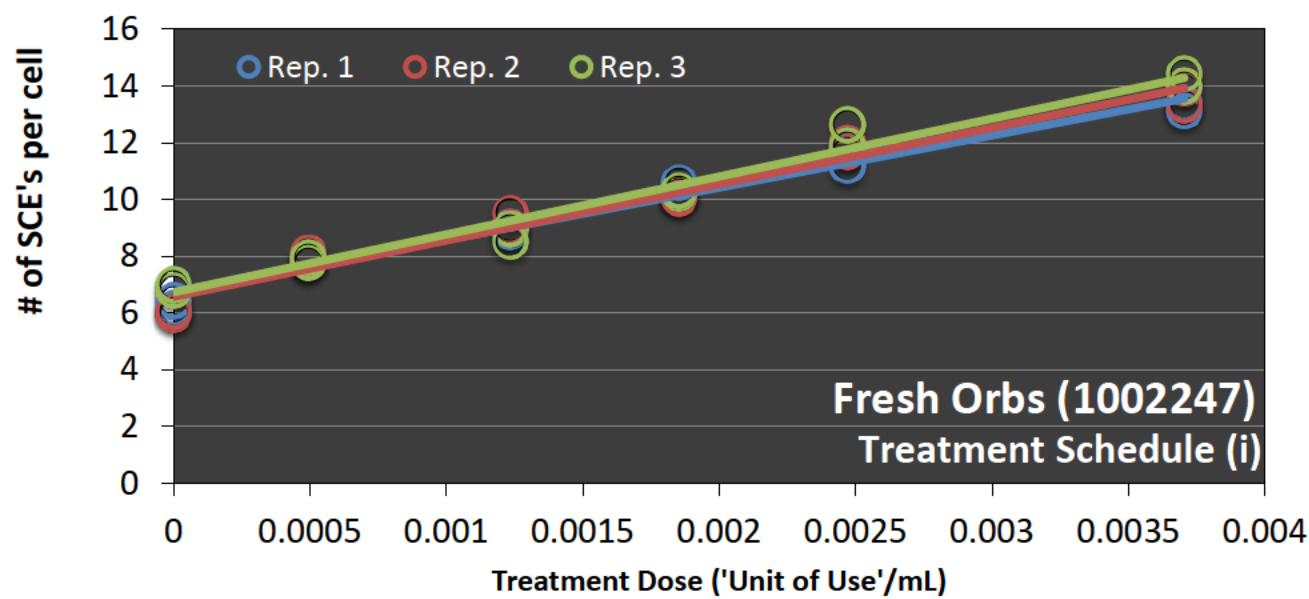
Sample Description	Sample ID	LOG[Slope] Mean	Homogenous Groupings
Fresh Strips	1002243	2.99	X
Fresh Orbs	1002247	3.29	X
Ariva Wintergreen	1002241	3.37	X
Camel SNUS Frost	1002245	3.60	X
Mellow Sticks	1002246	3.67	X
Copenhagen Long Cut	1002242	4.32	X
2S3	1002244	4.40	X

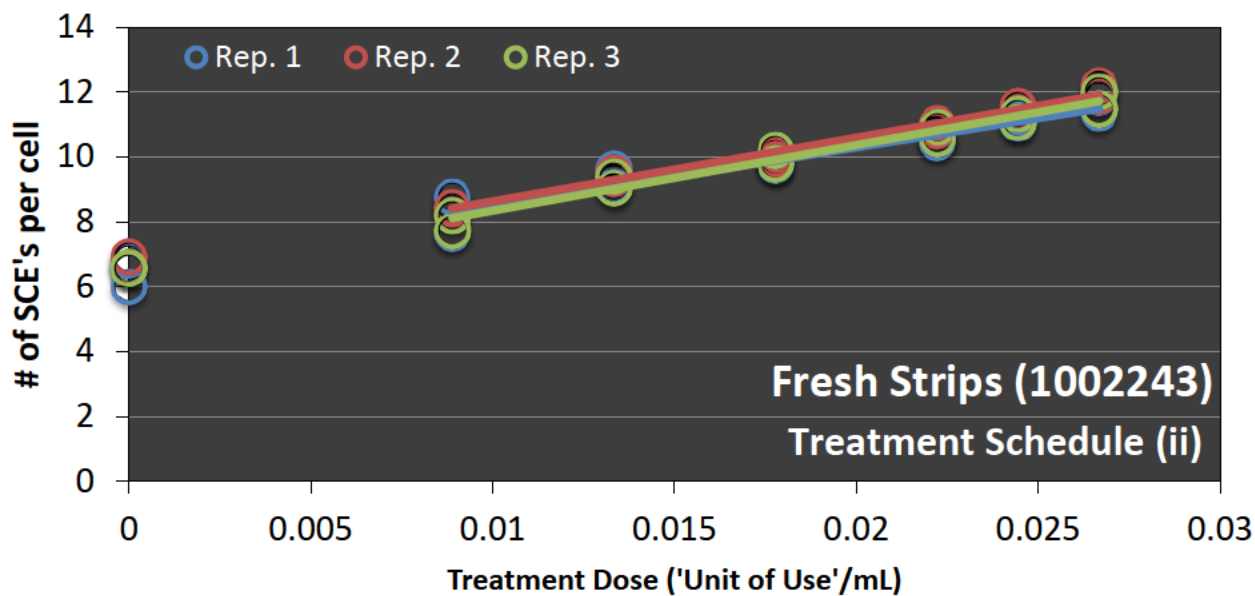
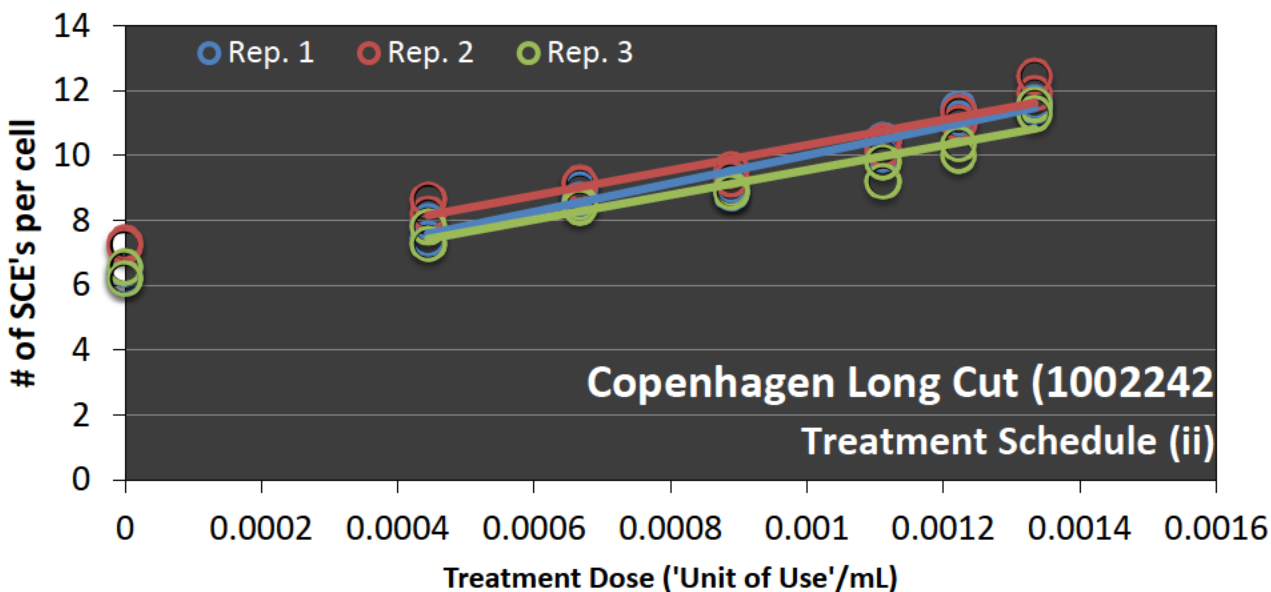
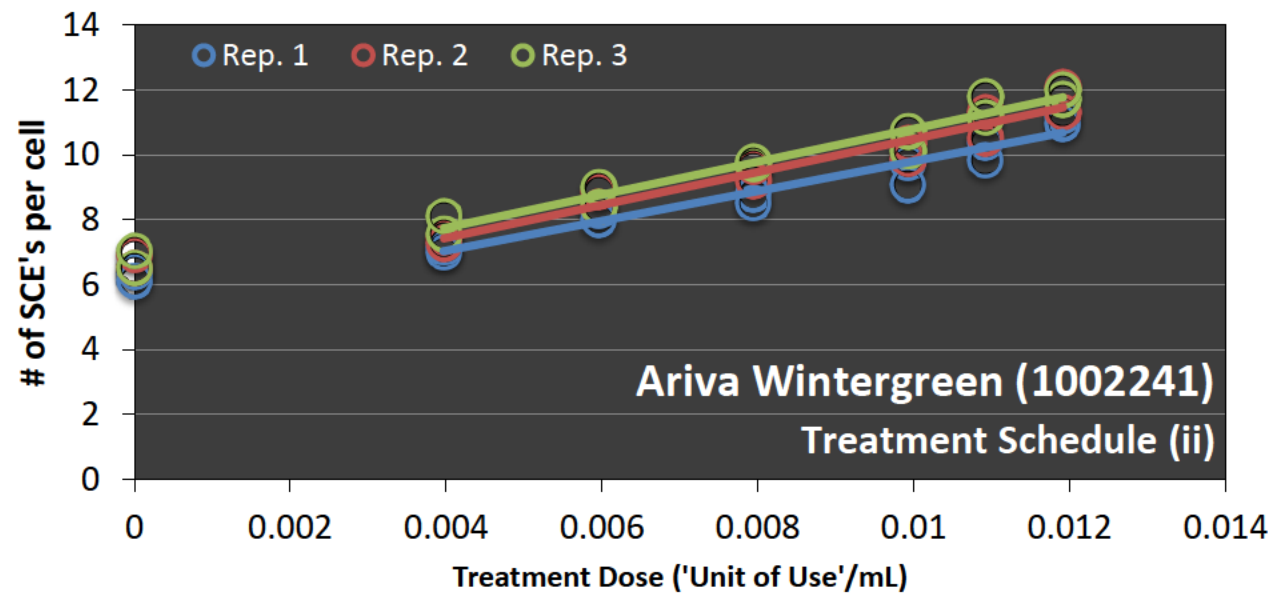
Schedule (ii)

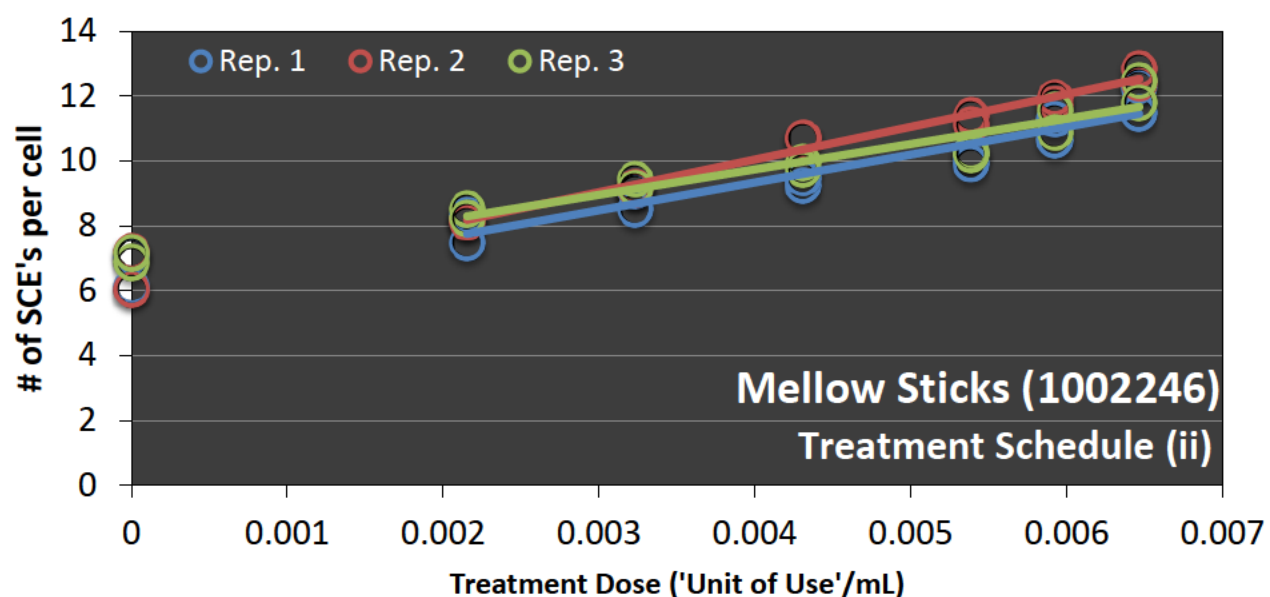
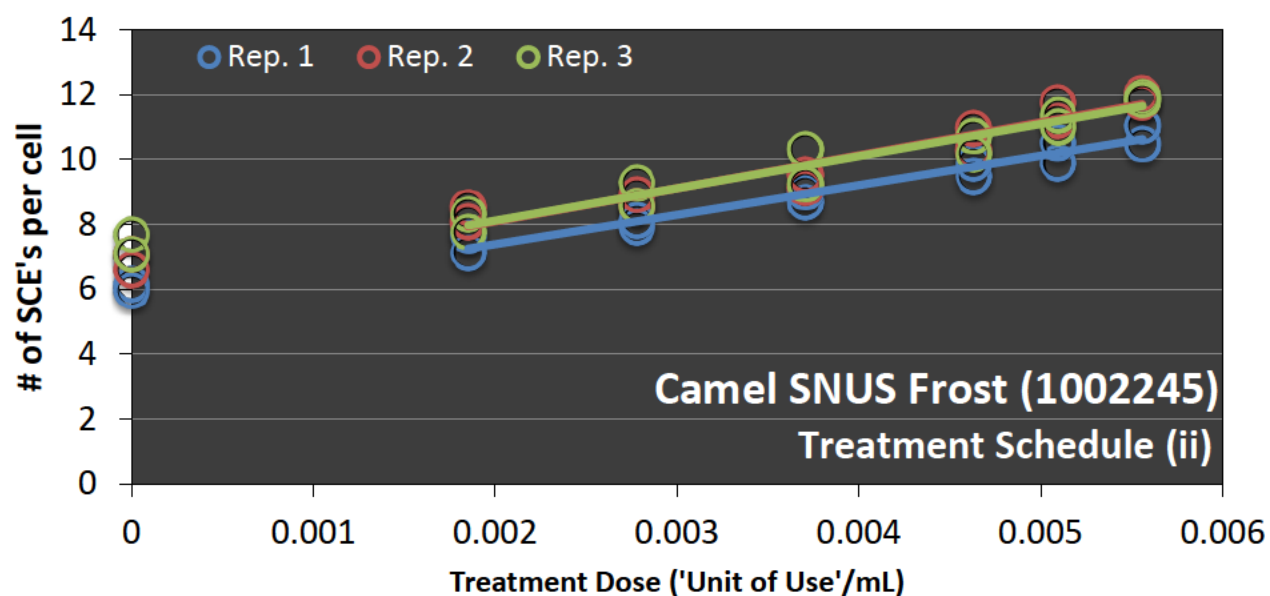
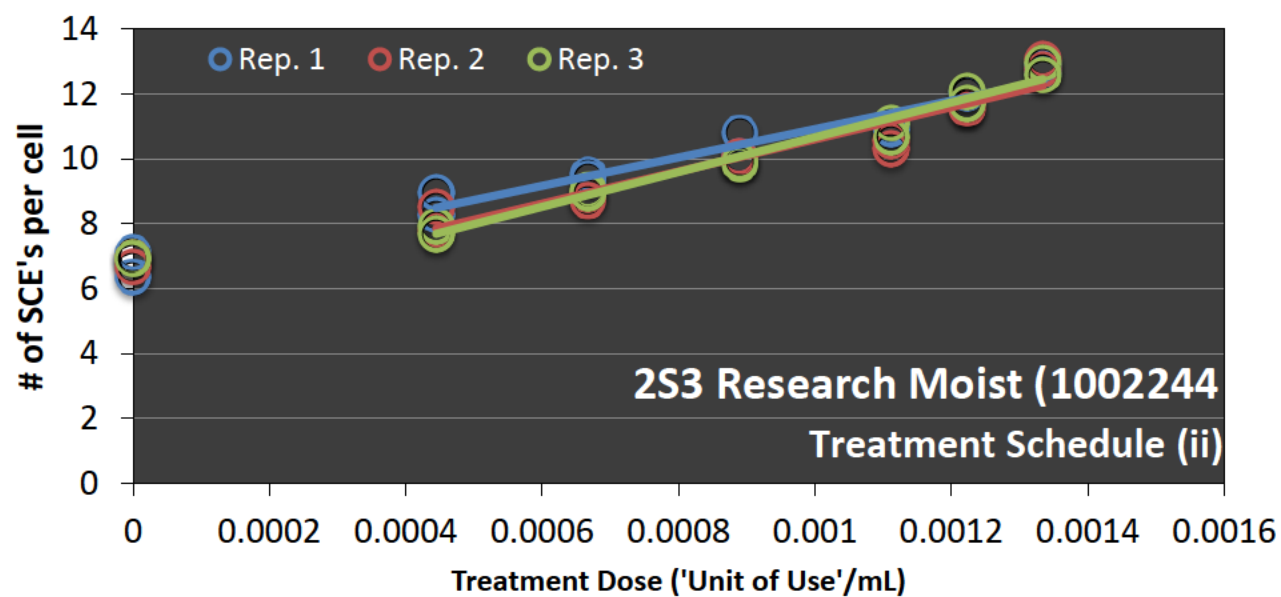
Sample Description	Sample ID	LOG[Slope] Mean	Homogenous Groupings
Fresh Strips	1002243	2.28	X
Fresh Orbs	1002247	2.62	X
Ariva Wintergreen	1002241	2.69	X
Mellow Sticks	1002246	2.94	X
Camel SNUS Frost	1002245	2.99	X
Copenhagen Long Cut	1002242	3.60	X
2S3	1002244	3.69	X

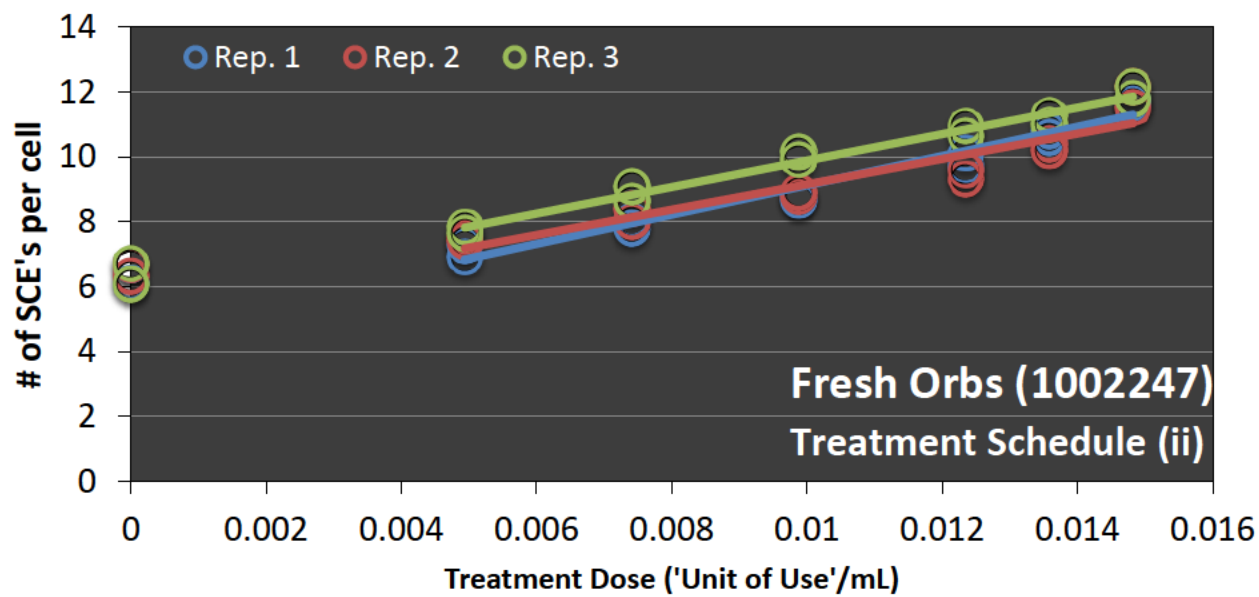


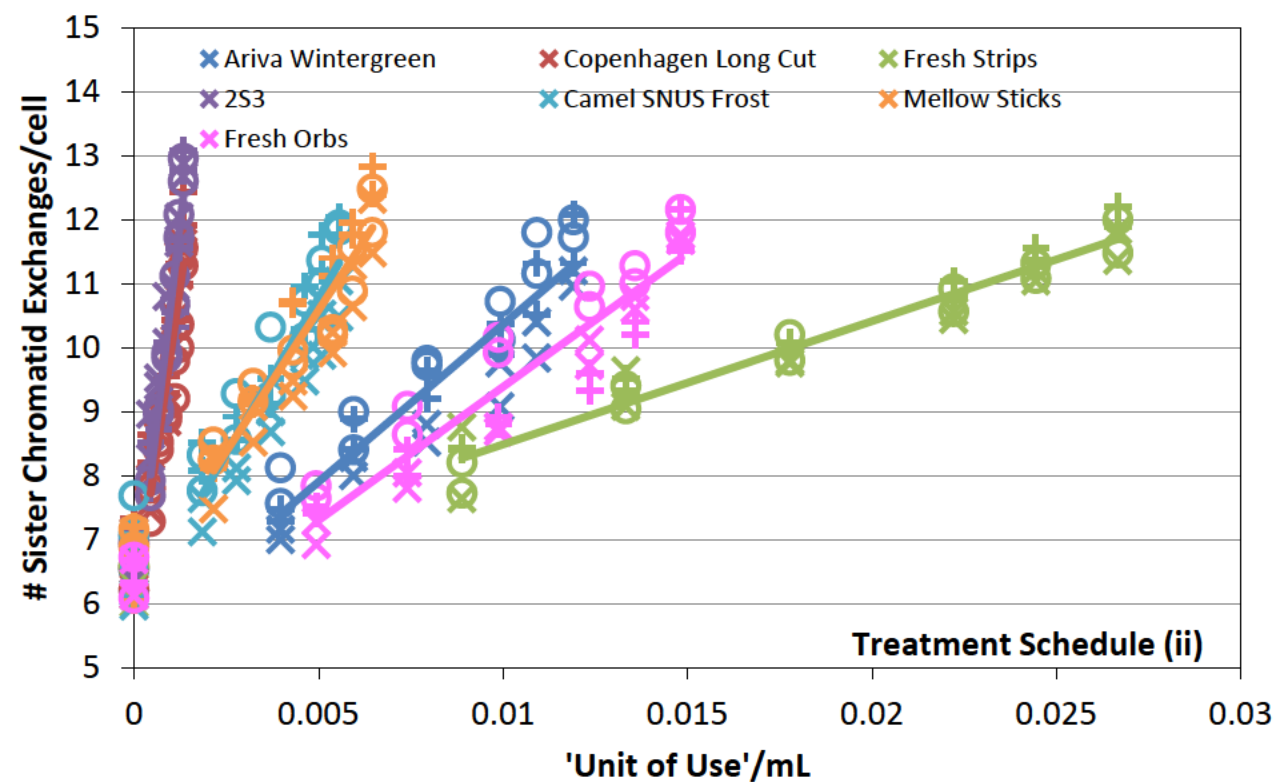
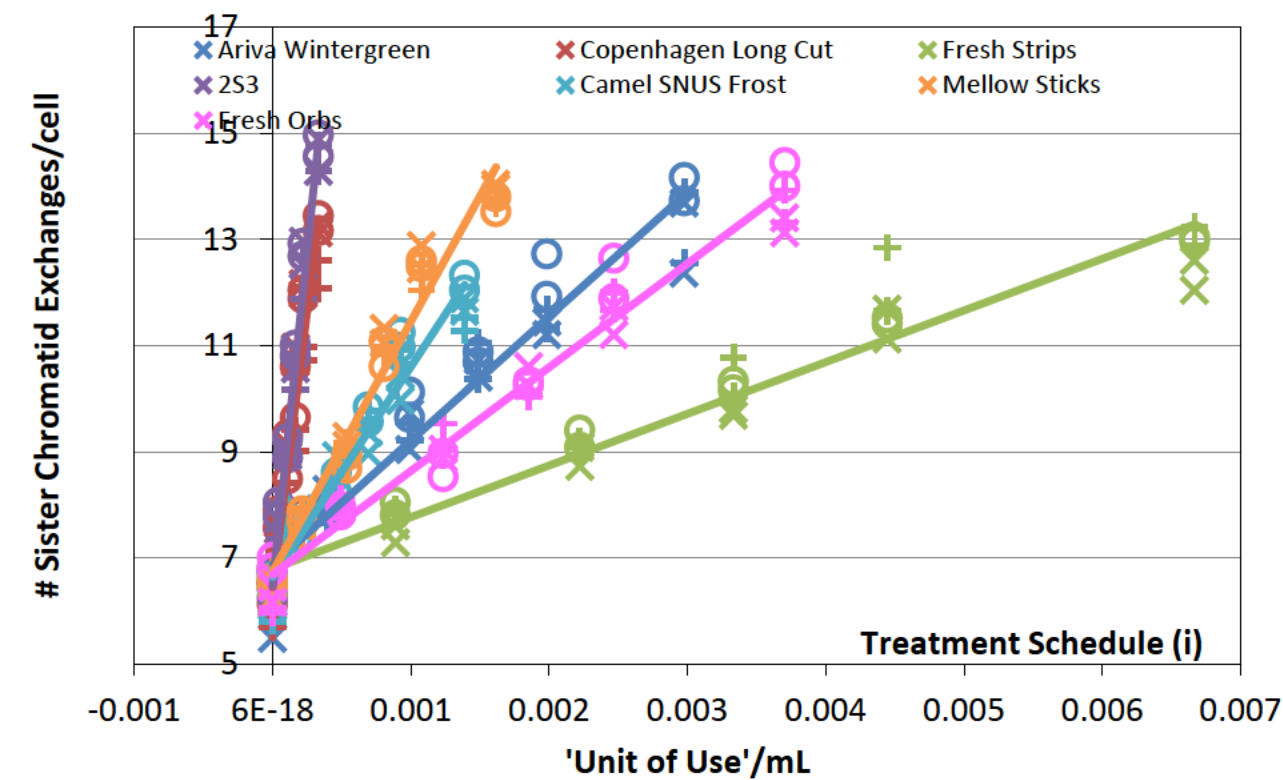












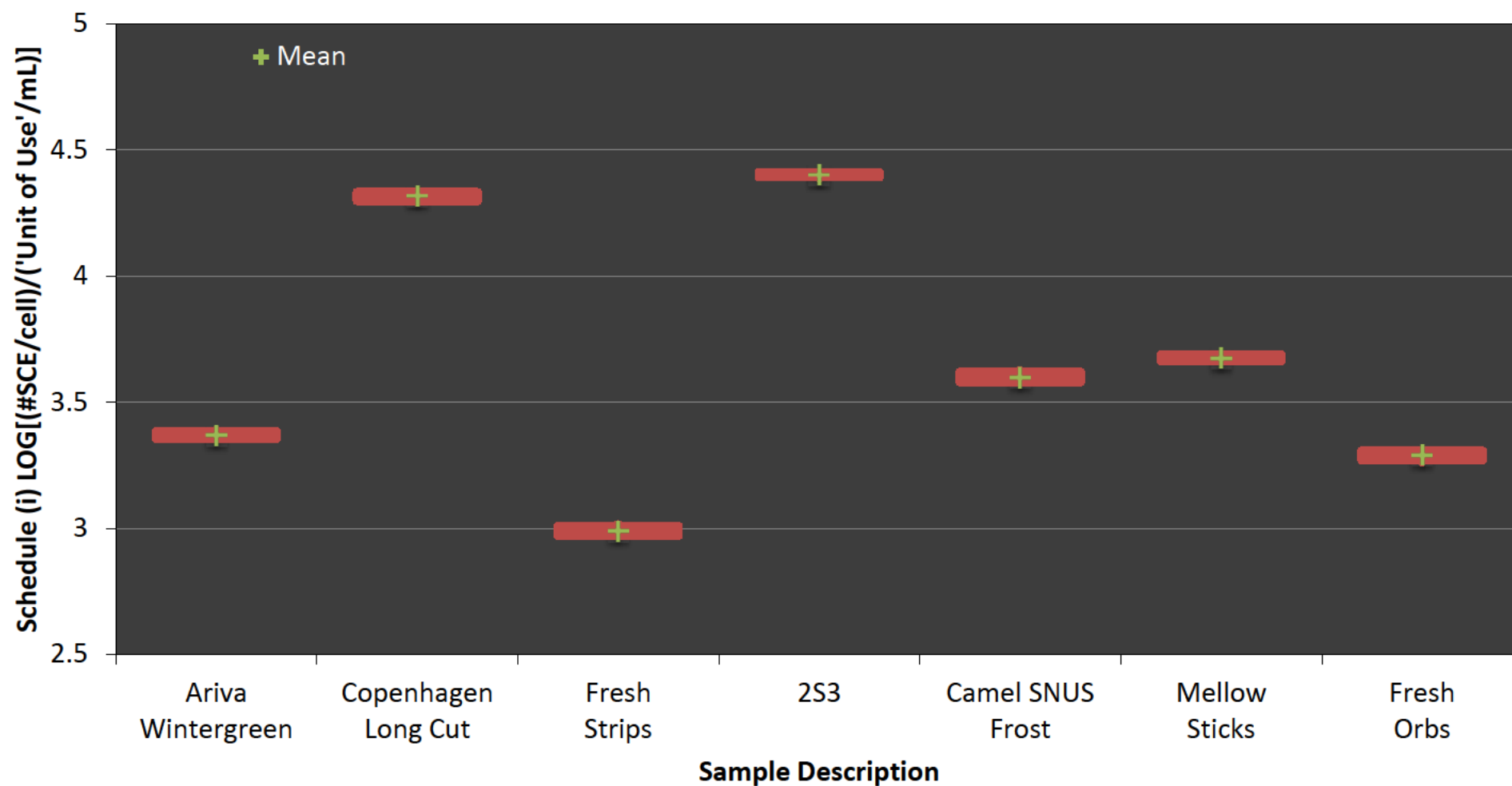
Test **Describe - Comparative**

Performed by

Schedule (i) LOG[(# SCE/cell)/('Unit of Use'/mL)] by Sample Description
Wendy Wagstaff

Date

15 December 2010



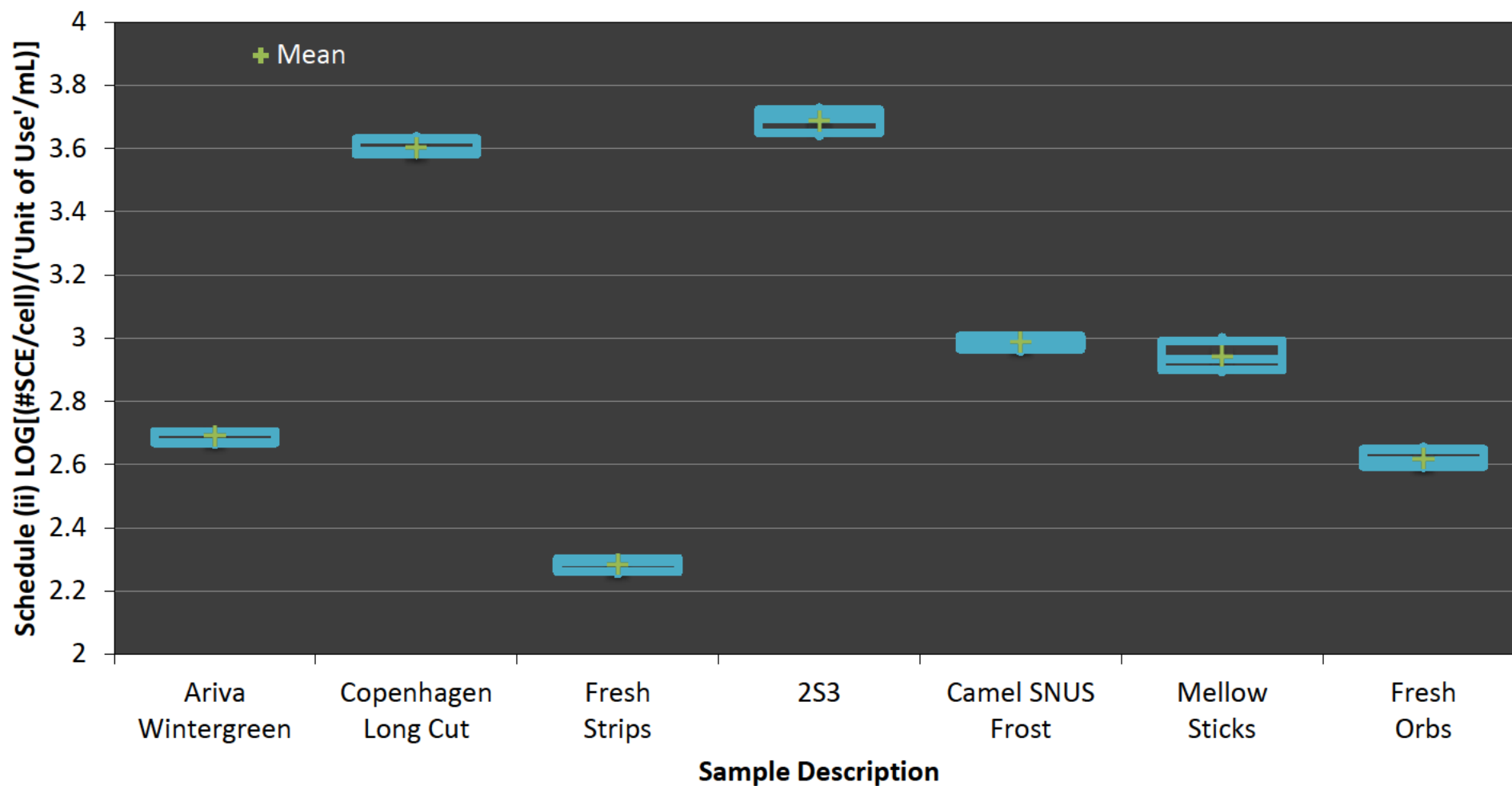
Test **Describe - Comparative**

Performed by

Schedule (ii) LOG[(# SCE/cell)/('Unit of Use'/mL)] by Sample Description
Wendy Wagstaff

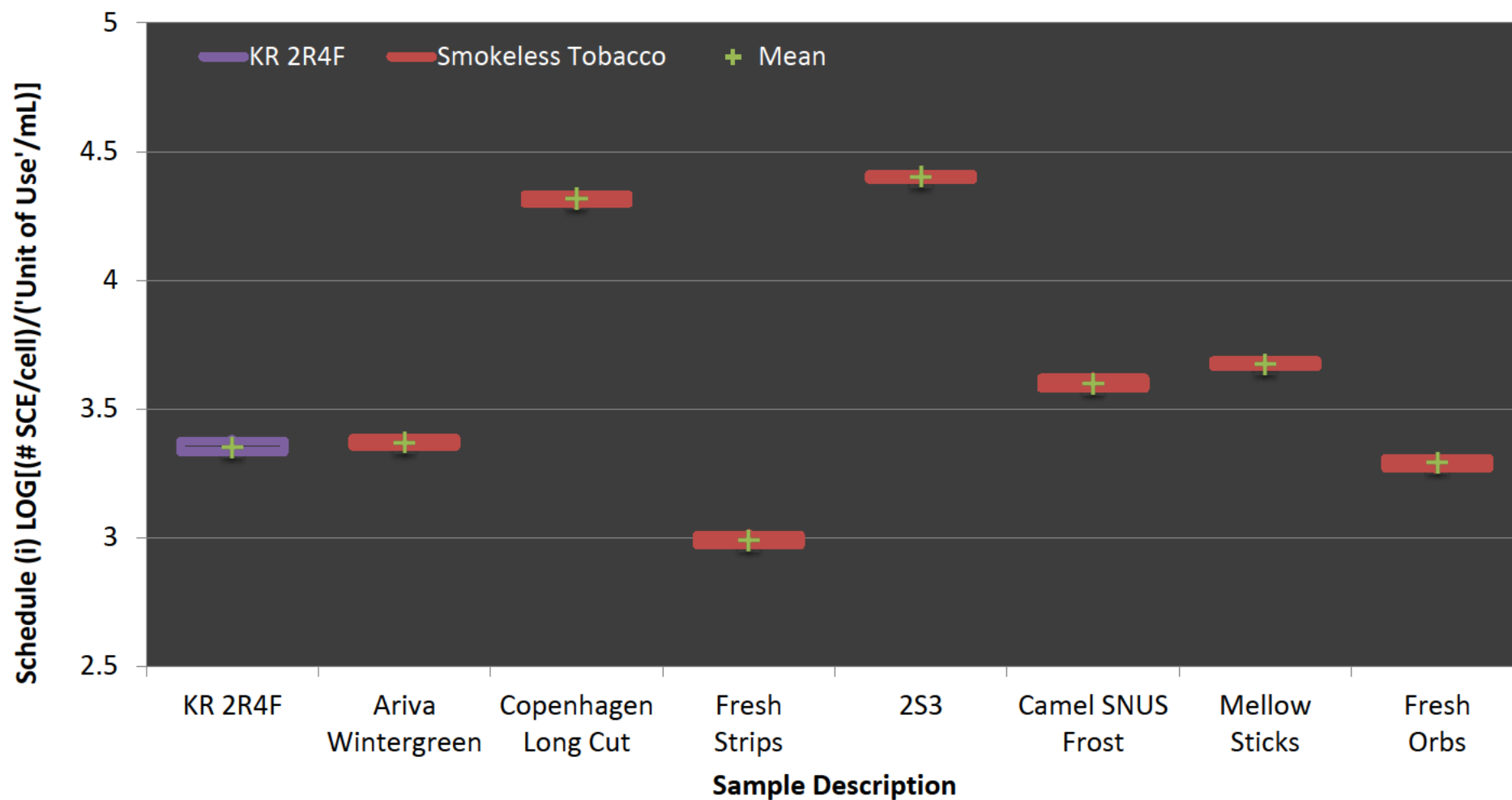
Date

15 December 2010



Test **Describe - Comparative**Performed by Schedule (i) $\text{LOG}[(\# \text{SCE}/\text{cell})/(\text{'cigarettes'}/\text{mL})]$ (KR 2R4F) and $\text{LOG}[(\# \text{SCE}/\text{cell})/(\text{'Unit of Use'}/\text{mL})]$ by Sample Description
Wendy Wagstaff

Date 15 December 2010



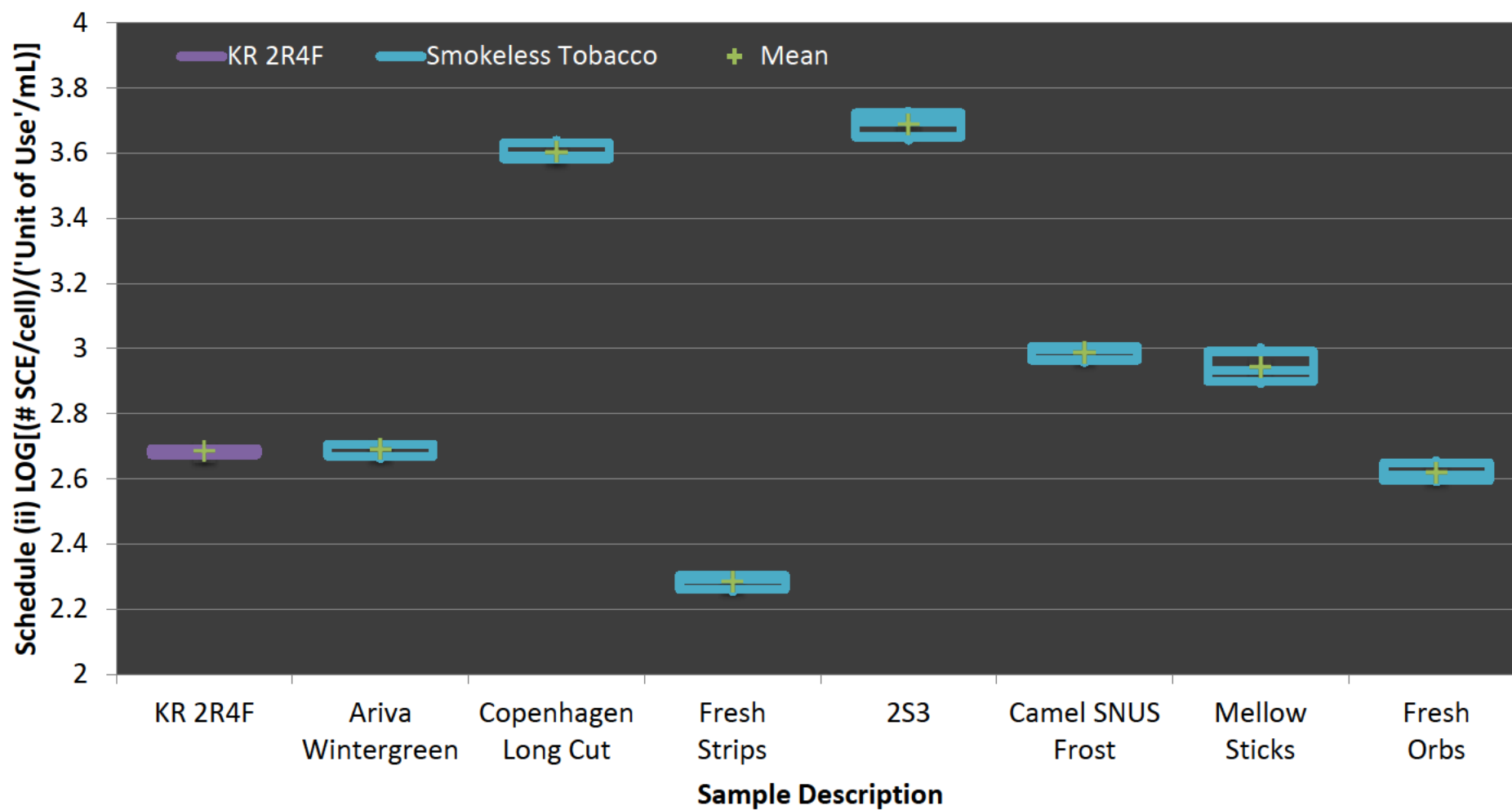
Test **Describe - Comparative**

Performed by

Schedule (ii) LOG[(#SCE/cell)/('cigarettes'/mL)] (KR 2R4F) and LOG[(#SCE/cell)/('Unit of Use'/mL)] by Sample Description
Wendy Wagstaff

Date

15 December 2010



Schedule (ii) Unit (tpm+wt)

Revision: 0

M125 Supplemental_sce_Box&Whisker.xls

Labstat International ULC