

Supplemental Table S1
Levels of Nicotine, Minor Alkaloids, and Beta-carbolines in Cigarette Smoke (ISO Regimen)

Cigarette variety	Nicotine, mg/cigarette	Minor alkaloids, µg/cigarette			Beta-carbolines, µg/cigarette	
		Nornicotine	Anatabine	Anabasine	Harman	Norharman
Natural American Spirit^a						
Black	1.8	8.3	6.0	1.6	1.8	5.5
Blue	1.7	6.4	5.3	1.0	1.8	4.9
Celadon	1.3	4.2	3.4	0.7	1.3	3.7
Dark Blue	1.9	7.0	4.2	1.0	1.7	4.7
Dark Green	2.1	12.8	8.2	2.0	2.3	6.1
Gold	1.2	5.8	3.9	0.9	0.9	2.2
Green	1.6	6.8	5.1	1.3	1.5	4.2
Gray	1.3	5.5	3.4	0.8	1.1	3.7
Orange	0.6	2.0	1.4	0.5	0.5	1.5
Tan	1.2	5.2	2.8	0.7	1.1	2.9
Turquoise	1.7	9.4	7.1	1.8	1.6	4.4
Yellow	1.5	6.7	4.3	1.2	1.6	4.5
Brown (non-filter)	2.4	10.1	7.6	1.7	2.7	7.3
<i>Average (SD), filter</i>	<i>1.5 (0.4)</i>	<i>6.7 (2.7)</i>	<i>4.6 (1.9)</i>	<i>1.1 (0.5)</i>	<i>1.4 (0.5)</i>	<i>4.0 (1.3)</i>
<i>Average (SD), all NAS</i>	<i>1.6 (0.5)</i>	<i>6.9 (2.8)</i>	<i>4.8 (2.0)</i>	<i>1.2 (0.5)</i>	<i>1.5 (0.6)</i>	<i>4.3 (1.6)</i>
Other Brands^a						
Newport Menthol	1.1	9.1	5.6	1.2	2.0	6.6
Marlboro Red	0.8	6.3	4.8	1.0	1.7	5.9
Marlboro Gold	0.7	6.2	4.5	1.0	1.6	5.7
Camel Filter	1.1	6.1	4.7	1.0	2.1	7.0
Camel Non-Filter	1.5	9.2	7.1	1.5	3.8	12.4
<i>Average (SD), filter</i>	<i>0.9 (0.2)</i>	<i>6.9 (1.5)</i>	<i>4.9 (0.5)</i>	<i>1.1 (0.1)</i>	<i>1.8 (0.2)</i>	<i>6.3 (0.6)</i>
<i>Average (SD), all other</i>	<i>1.0 (0.3)</i>	<i>7.4 (1.6)</i>	<i>5.3 (1.1)</i>	<i>1.1 (0.2)</i>	<i>2.2 (0.9)</i>	<i>7.5 (2.8)</i>
Reference Cigarettes^b						
1R5F	0.2	2.1	1.7	0.6	0.3	0.8
3R4F	0.6	5.7	3.6	0.5	0.8	2.2

Note.**a:** Values are averages of triplicate analyses.**b:** Values are from single analysis.

Supplemental Table S2
Levels of Tobacco-specific *N*-nitrosamines (TSNA) in Cigarette Smoke (ISO Regimen)

Cigarette Variety	TSNA, ng/cigarette				
	NNN	NNK	NAT	NAB	Total
Natural American Spirit^a					
Black	110	39	94	24	268
Blue	41	31	73	9.9	155
Celadon	15	19	30	3.6	67
Dark Blue	17	21	39	4.8	82
Dark Green	48	25	84	15	172
Gold	25	22	47	10	104
Green	30	25	52	10	117
Gray	113	35	68	19	235
Orange	7.1	9.2	17	2.7	36
Tan	9.3	11	23	3.1	46
Turquoise	40	33	76	15	164
Yellow	19	20	37	5.4	81
Brown (non-filter)	28	25	63	8.1	124
<i>Average (SD), filter</i>	<i>40 (36)</i>	<i>24 (9)</i>	<i>53 (25)</i>	<i>10 (6.8)</i>	<i>127 (73)</i>
<i>Average (SD), all NAS</i>	<i>39 (35)</i>	<i>24 (9)</i>	<i>54 (24)</i>	<i>10 (6.6)</i>	<i>127 (70)</i>
Other Brands^a					
Newport Menthol	147	95	193	33	468
Marlboro Red	165	121	235	38	558
Marlboro Gold	142	105	193	31	471
Camel Filter	117	113	185	34	448
Camel Non-Filter	162	71	292	50	575
<i>Average (SD), filter</i>	<i>143 (20)</i>	<i>108 (11)</i>	<i>201 (23)</i>	<i>34 (3)</i>	<i>486 (49)</i>
<i>Average (SD), all other</i>	<i>147 (19)</i>	<i>101 (19)</i>	<i>219 (45)</i>	<i>37 (8)</i>	<i>504 (58)</i>
Reference Cigarettes^b					
1R5F	59	34	81	12	186
3R4F	132	103	184	22	440

Note.**a:** Values are averages of triplicate analyses.**b:** Values are from single analysis.**c:** NNN, *N*'-nitrosornicotine; NNK, 4-(methylnitrosamino)-1-(3-pyridyl)-1-butane; NAT, *N*'-nitrosoanatabine; NAB, *N*'-nitrosoanabasine

Supplemental Table S3
Levels of Polycyclic Aromatic Hydrocarbons (PAH) in Cigarette Smoke (ISO Regimen)^a

Cigarette variety	PAH, ng/cigarette											Total PAH
	PHE	ANT	PY	B[a]A	CHR	B[b+j]F	B[k]F	B[e]P	B[a]P	IcdP	DBahA	
Natural American Spirit												
Black	280	124	38	38	55	20	3.0	7.1	17.9	7.2	6.4	597
Blue	318	125	41	41	59	22	3.9	8.4	20.8	8.9	6.8	655
Celadon	205	98	39	28	41	17	2.5	5.6	14.9	6.0	5.7	462
Dark Blue	215	97	33	27	41	15	2.2	5.4	13.6	6.5	4.5	460
Dark Green	254	128	45	39	54	24	3.7	7.9	18.6	7.6	5.9	589
Gold	130	60	23	15	23	10	1.4	3.6	8.0	2.6	4.5	281
Green	214	91	41	26	39	16	4.6	5.8	12.5	5.7	4.6	460
Gray	204	83	32	27	39	15	2.4	4.9	13.1	5.7	5.3	431
Orange	139	60	27	16	25	10	2.3	3.6	8.1	3.2	5.5	299
Tan	174	73	30	22	32	12	2.3	4.2	11.2	4.8	3.8	371
Turquoise	179	94	30	23	34	14	1.9	4.7	11.5	4.4	5.2	402
Yellow	213	99	37	29	39	18	3.4	5.7	13.7	6.2	5.5	468
Brown (non-filter)	480	203	53	74	103	41	7.7	14.5	34.8	17.3	8.6	1038
<i>Average (SD), filter</i>	<i>210 (54)</i>	<i>94 (23)</i>	<i>35 (7)</i>	<i>28 (8)</i>	<i>40 (11)</i>	<i>16 (4)</i>	<i>2.8 (0.9)</i>	<i>5.6 (1.6)</i>	<i>13.7 (3.9)</i>	<i>5.7 (1.8)</i>	<i>5.3 (0.9)</i>	<i>456 (114)</i>
<i>Average (SD), all NAS</i>	<i>231 (91)</i>	<i>103 (37)</i>	<i>36 (8)</i>	<i>31 (15)</i>	<i>45 (21)</i>	<i>18 (8)</i>	<i>3.2 (1.6)</i>	<i>6.3 (2.9)</i>	<i>15.3 (6.9)</i>	<i>6.6 (3.6)</i>	<i>5.6 (1.2)</i>	<i>501 (195)</i>
Other Brands												
Newport Menthol	161	65	39	22	28	19	3.4	5.6	11.2	5.9	3.7	363
Marlboro Red	148	65	31	17	24	12	2.0	4.3	9.7	4.2	3.2	321
Marlboro Gold	144	60	31	17	24	13	2.1	4.1	8.8	4.1	3.0	311
Camel Filter	202	86	42	25	36	19	3.6	6.0	13.2	6.1	4.3	442
Camel Non-Filter	279	114	47	34	43	22	3.8	6.8	15.9	8.1	4.8	578
<i>Average (SD), filter</i>	<i>164 (27)</i>	<i>69 (12)</i>	<i>36 (6)</i>	<i>20 (4)</i>	<i>28 (6)</i>	<i>16 (4)</i>	<i>2.8 (0.8)</i>	<i>5.0 (0.9)</i>	<i>10.7 (1.9)</i>	<i>5.1 (1.1)</i>	<i>3.6 (0.6)</i>	<i>359 (60)</i>
<i>Average (SD), all other</i>	<i>187 (56)</i>	<i>78 (22)</i>	<i>38 (7)</i>	<i>23 (7)</i>	<i>31 (8)</i>	<i>17 (4)</i>	<i>3.0 (0.9)</i>	<i>5.4 (1.1)</i>	<i>11.8 (2.9)</i>	<i>5.7 (1.6)</i>	<i>3.8 (0.8)</i>	<i>403 (111)</i>
Reference Cigarettes												
1R5F	42	16	10	4.0	5.0	5.0	0.6	1.2	2.7	0.5	1.0	87
3R4F	116	47	25	13	18	11	1.4	2.7	6.7	3.1	2.3	247

Note.

a: All values are averages of triplicate analyses.

PHE, phenanthrene; ANT, anthracene; PY, pyrene; B[a]A, benz[a]anthracene; CHR, chrysene; B[b+j]F, benzo[b]fluoranthene plus benzo[j]fluoranthene; B[k]F, benzo[k]fluoranthene; B[e]P, benzo[e]pyrene; B[a]P, benzo[a]pyrene; IcdP, indeno[1,2,3-cd]pyrene; DB[ah]A, dibenz[a,h]anthracene

Supplemental Table S4
Levels of Carbonyl Compounds in Cigarette Smoke (ISO Regimen)^a

Cigarette Variety	Carbonyl compounds, µg/cigarette								Total
	Formaldehyde	Acetaldehyde	Acetone	Acrolein	Propionaldehyde	Crotonaldehyde	Butanone	Butyraldehyde	
Natural American Spirit									
Black	29	768	298	40	53	22	74	40	1324
Blue	33	921	341	62	67	22	93	46	1586
Celadon	21	613	223	33	42	14	57	28	1032
Dark Blue	30	684	250	36	45	18	72	29	1165
Dark Green	26	870	330	48	55	18	72	39	1459
Gold	9.0	477	202	23	36	11	50	26	834
Green	13	588	207	32	43	13	52	29	976
Gray	24	578	226	32	41	18	52	24	995
Orange	13	563	237	21	37	13	85	32	1002
Tan	30	679	257	46	49	18	65	36	1179
Turquoise	15	631	241	33	46	14	58	28	1066
Yellow	25	696	274	39	50	18	68	36	1207
Brown (non-filter)	75	964	388	64	71	36	106	55	1759
<i>Average (SD), filter</i>	<i>22 (8)</i>	<i>672 (129)</i>	<i>257 (45)</i>	<i>37 (11)</i>	<i>47 (9)</i>	<i>17 (4)</i>	<i>67 (14)</i>	<i>33 (7)</i>	<i>1152 (217)</i>
<i>Average (SD), all NAS</i>	<i>26 (17)</i>	<i>695 (147)</i>	<i>267 (57)</i>	<i>39 (13)</i>	<i>49 (11)</i>	<i>18 (6)</i>	<i>70 (17)</i>	<i>34 (9)</i>	<i>1199 (267)</i>
Other Brands									
Newport Menthol	30	941	284	60	56	31	62	33	1496
Marlboro Red	24	631	208	54	43	13	51	25	1048
Marlboro Gold	22	652	217	58	37	17	62	24	1088
Camel Filter	25	767	269	49	47	19	68	31	1274
Camel Non-Filter	62	796	273	60	48	25	71	26	1362
<i>Average (SD), filter</i>	<i>25 (3)</i>	<i>748 (142)</i>	<i>245 (38)</i>	<i>55 (5)</i>	<i>46 (8)</i>	<i>20 (8)</i>	<i>61 (7)</i>	<i>28 (4)</i>	<i>1227 (205)</i>
<i>Average (SD), all other</i>	<i>33 (17)</i>	<i>757 (125)</i>	<i>250 (35)</i>	<i>56 (5)</i>	<i>46 (7)</i>	<i>21 (7)</i>	<i>63 (8)</i>	<i>28 (4)</i>	<i>1254 (187)</i>
Reference Cigarettes									
1R5F	3.0	232	180	10	18	2.0	28	10	482
3R4F	18	663	277	42	45	13	60	23	1141

Note.

a: All values are means of duplicate analyses.