Supplementary table 1. Relative harmful and potentially harmful constituents (HPHC) yields on a per mg nicotine basis measured in 3R4F and THS2.2 mainstream smoke and aerosol, respectively.

HPHC	CAS Number	Unit	3R4F	THS2.2
Total Particulate Matter (TPM)	NA	mg/cig	25.93	36.52
Carbon monoxide	630-08-0	mg/cig	17.35	0.4
Tar	NA	mg/cig	16.51	7.8
Water	7732-18-5	mg/cig	8.36	27.65
Glycerol (glycerin)	56-81-5	mg/cig	1.28	3.51
Nicotine	54-11-5	mg/cig	1	1
Acetaldehyde	75-07-0	ug/cig	822.75	165.91
Isoprene	78-79-5	ug/cig	422.22	1.78
Acetone	67-64-1	ug/cig	389.42	30.83
Nitrogen oxides	10102-44-0	ug/cig	284.13	13.11
Hydrogen cyanide	74-90-8	ug/cig	260.85	3.64
Nitric oxide	10102-43-9	ug/cig	259.79	12.73
Toluene	108-88-3	ug/cig	99.47	1.96
Methyl ethyl ketone	78-93-3	ug/cig	98.94	5.44
Acrolein	107-02-8	ug/cig	81.48	8.56
Propionaldehyde	123-38-6	ug/cig	66.14	10.98
Benzene	71-43-2	ug/cig	51.64	0.49
Catechol	120-80-9	ug/cig	48.36	12.35
Butyraldehyde	123-72-8	ug/cig	46.77	19.77
Hydroquinone	123-31-9	ug/cig	43.97	6.14
Crotonaldehyde	123-73-9	ug/cig	36.4	3.14
1,3-butadiene	106-99-0	ug/cig	33.76	0.22
Formaldehyde	50-00-0	ug/cig	29.89	4.19
Ammonia	7664-41-7	ug/cig	20.79	10.76
Pyridine	110-86-1	ug/cig	19.1	5.71
Acrylonitrile	107-13-1	ug/cig	16.88	0.2
Ethylene oxide	75-21-8	ug/cig	15.56	0.15
Styrene	100-42-5	ug/cig	12.96	0.46
Acetamide	60-35-5	ug/cig	7.35	3.05
Phenol	108-95-2	ug/cig	7.2	0.88
p-cresol	106-44-5	ug/cig	4.85	0.05
Acrylamide	79-06-1	ug/cig	2.56	1.31
o-cresol	95-48-7	ug/cig	2.37	0.05
m-cresol	108-39-4	ug/cig	1.6	0.02
Resorcinol	108-46-3	ug/cig	0.98	0.03
Propylene oxide	75-56-9	ug/cig	0.7	0.11
Quinoline	91-22-5	ug/cig	0.27	0.11

N-nitrosoanatabine	71267-22-6	ng/cig	168.25	15.53
N-nitrosonornicotine	15443-55-8	ng/cig	163.49	13.03
4-(methylnitrosamino)-1-(3-pyridyl)-1-butanone (NNK)	64091-91-4	ng/cig	140.74	5.05
Cadmium	7440-43-9	ng/cig	85.19	0.27
Vinyl chloride	75-01-4	ng/cig	51.16	2.58
Pyrene	129-00-0	ng/cig	46.19	3.79
o-Toluidine	95-53-4	ng/cig	45.24	0.95
Lead	7439-92-1	ng/cig	19.58	2.54
N-nitrosoanabasine	1133-64-8	ng/cig	17.83	2.39
Benz(a)anthracene	56-55-3	ng/cig	14.81	1.1
1-aminonaphthalene	134-32-7	ng/cig	11.01	0.06
Benzo(a)pyrene	50-32-8	ng/cig	7.51	0.26
2-aminonaphthalene	91-59-8	ng/cig	5.82	0.03
Nitrobenzene	98-95-3	ng/cig	4.56	0.14
Arsenic	7440-38-2	ng/cig	4.5	0.86
Mercury	7439-97-6	ng/cig	2.54	0.89
3-aminobiphenyl	2243-47-2	ng/cig	1.99	0.02
4-aminobiphenyl	92-67-1	ng/cig	1.72	0.04
Dibenz(a,h)anthracene	53-70-3	ng/cig	0.9	0.08
Selenium	7782-49-2	ng/cig	0.86	0.42
Chromium	7440-47-3	ng/cig	0.29	0.42
Nickel	7440-02-0	ng/cig	0.29	0.42
Benzidine	92-87-5	ng/cig	0.01	0.01

Note: values in red are at or below limit of quantification (LOQ), therefore LOQ is given.