

Supplementary Tables. Wang, Z. and Cadwallader, K.R. *Ethanol's Pharmacodynamic Effect on Odorant Detection in Distilled Beverages*.

Table S1 Individual (panel 1) ODT (μg) of odorants in the 0% ABV_{d.equiv.}, 20% ABV_{d.equiv.}, and 40% ABV_{d.equiv.} vapor matrices

No	Odorants	log P	Purity %	0% ABV _{d.equiv.}			20% ABV _{d.equiv.}			40% ABV _{d.equiv.}		
				Panelist 1	Panelist 2	Panelist 3	Panelist 1	Panelist 2	Panelist 3	Panelist 1	Panelist 2	Panelist 3
Esters												
1	ethyl propionate	1.210	99.67	0.9242	3.423E-2	0.3081	388.9 ^a	74.86	388.9 ^a	388.9 ^b	388.9 ^b	388.9 ^b
2	ethyl isobutyrate	1.648	99.86	8.217E-2	1.014E-3	8.217E-2	0.2465	9.130E-3	8.217E-2	0.2465	2.739E-2	19.97
3	ethyl butyrate	1.804	99.86	0.2007	2.230E-2	7.434E-3	1.806	5.419	0.6021	84.48 ^b	84.48 ^b	84.48 ^b
4	ethyl isovalerate	2.158	99.76	0.2245	9.240E-4	9.240E-4	0.6736	8.320E-3	2.770E-3	0.6736	0.6736	7.484E-2
5	isoamyl acetate	2.260	99.63	1.748	2.157E-2	2.157E-2	5.243	0.1942	6.472E-2	27.27 ^b	0.1942	0.1942
6	phenethyl acetate	2.300	99.77	1.216E-2	4.050E-3	1.351E-3	3.647E-2	1.216E-2	3.647E-2	0.1094	3.647E-2	0.1094
7	ethyl octanoate	3.842	99.76	0.3939	0.3939	1.182	0.3939	0.3939	1.182	0.4090	1.182	1.182
8	ethyl decanoate	4.861	99.81	0.4466	1.340	0.4466	0.4466	1.340	1.340	1.340	1.340	4.020
Aldehydes												
9	2-octenal	2.809	97.54	3.467E-3	3.467E-3	3.467E-3	1.040E-2	3.470E-3	1.040E-2	3.121E-3	3.470E-3	1.040E-2
Ketones												
10	β -ionone	3.995	97.78	0.1583	6.515E-4	5.277E-2	0.4750	5.860E-3	1.425	0.4750	5.860E-3	1.425
11	β -damascenone	4.402	13.3 ppm ^c	6.882E-6	2.294E-6	7.646E-7	6.882E-6	6.882E-6	6.882E-6	2.065E-5	6.882E-6	6.882E-6
Alcohols												
12	3-methyl-1-butanol	1.160	98.77	5.133E-2	5.703E-3	5.133E-2	12.47	12.47 ^a	12.47	21.6 ^b	21.6 ^b	21.6 ^b
13	2-phenylethanol	1.360	98.73	8.071E-4	2.691E-4	2.691E-4	2.420E-3	2.420E-3	8.100E-4	2.179E-2	2.420E-3	2.420E-3
14	cis-3-hexen-1-ol	1.697	99.25	1.806E-2	1.806E-2	5.418E-2	0.4877	0.4877	0.4877	1.463	4.389	13.17
15	α -terpineol	2.670	99.57	0.8860	0.8860	0.8860	0.8860	7.974	0.8860	0.9200	7.974	7.974
16	linalool (R/S)	2.970	95.80	5.958E-4	1.784E-3	1.784E-3	1.784E-3	1.784E-3	1.784E-3	1.784E-3	4.818E-2	1.606E-2
Acids												
17	butyric acid	0.790	99.62	1.656E-2	5.521E-3	1.840E-3	1.656E-2	1.656E-2	1.656E-2	1.656E-2	1.656E-2	4.968E-2
18	isovaleric acid	1.160	99.72	5.469E-4	1.823E-4	1.823E-4	1.640E-3	5.500E-4	5.500E-4	1.640E-3	5.550E-4	5.550E-4
19	octanoic acid	3.050	99.20	0.3704	0.1235	0.1235	0.3704	0.3704	0.3704	0.3704	0.3704	1.111

Continuation of Table S1

No.	Odorants	log P	Purity %	0% ABV _{d.equiv.}			20% ABV _{d.equiv.}			40% ABV _{d.equiv.}		
				Panelist 1	Panelist 2	Panelist 3	Panelist 1	Panelist 2	Panelist 3	Panelist 1	Panelist 2	Panelist 3
Lactones												
20	γ-nonalactone	1.942	99.33	6.476E-4	6.476E-4	6.476E-4	1.940E-3	1.940E-3	1.940E-3	5.830E-3	5.830E-3	5.830E-3
21	whiskey lactone (<i>E</i>)	1.968	51.81	8.143E-3	2.714E-2	2.714E-2	9.050E-3	2.714E-2	2.714E-2	9.050E-3	2.714E-2	2.714E-2
22	whiskey lactone (<i>Z</i>)	1.968	47.54	1.024E-4	3.075E-4	9.224E-4	2.770E-3	8.300E-3	9.200E-4	2.770E-3	8.300E-3	2.770E-3
23	γ-decalactone	2.720	98.69	5.464E-4	1.821E-4	1.634E-3	4.920E-3	1.800E-4	1.640E-3	1.475E-2	5.500E-4	4.920E-3
Phenols												
24	syringol	1.150	97.88	2.904E-4	8.711E-4	8.711E-4	8.711E-4	2.610E-3	7.840E-3	2.610E-3	2.610E-3	2.352E-2
25	vanillin	1.210	99.97	6.931E-4	2.311E-4	2.311E-4	2.080E-3	2.311E-4	6.900E-4	2.080E-3	6.900E-4	6.900E-4
26	guaiacol	1.320	99.61	9.379E-5	7.597E-3	2.814E-4	2.530E-3	7.600E-3	2.530E-3	2.279E-2	6.837E-2	2.530E-3
27	p-cresol	1.940	99.68	7.660E-5	7.660E-5	7.660E-5	6.894E-4	2.298E-4	6.894E-4	2.068E-3	6.894E-4	6.894E-4
28	eugenol	2.270	99.13	3.365E-2	4.155E-4	1.246E-3	0.1010	3.739E-3	3.365E-2	0.3029	0.3029	0.1010
29	4-ethylguaiacol	2.434	99.66	1.313E-3	1.313E-3	4.377E-4	3.940E-3	1.313E-3	1.182E-2	0.1064	3.940E-3	0.1064
30	4-ethylphenol	2.580	99.61	1.881E-3	6.271E-4	6.271E-4	5.644E-3	5.644E-3	1.881E-3	1.693E-2	5.644E-3	0.1524
31	isoeugenol (<i>E</i>)	3.040	77.02	6.827E-3	8.428E-5	2.528E-4	6.144E-2	7.585E-4	2.276E-3	0.1843	2.276E-3	2.276E-3
Hydrocarbons												
32	p-cymene	4.100	99.80	0.4121	0.4121	0.1374	0.4121	3.709	1.236	0.4121	3.7089	1.236
33	β-myrcene	4.170	81.66	0.1278	4.259E-2	4.259E-2	0.1278	0.3833	0.1278	1.150	1.150	1.236
34	γ-terpinene	4.500	97.81	0.5365	0.5365	0.1788	1.609	1.609	1.609	14.48	14.48	1.609

^aIn the 20% ABV_{d.equiv.} vapor matrix, the panelist was not able to detect this odorant in the undiluted stock solution. For data analysis, the undiluted concentration was used as a placeholder.

^bIn the 40% ABV_{d.equiv.} vapor matrix, the panelist was not able to detect this odorant in the undiluted stock solution. For data analysis, the undiluted concentration was used as a placeholder.

^cInitial concentration of β-damascenone was determined by GC-FID with internal standard calibration.

Table S2 Individual (panel 2) ODT (μg) of odorants in the 0% ABV_{d.equiv.}, 20% ABV_{d.equiv.}, and 40% ABV_{d.equiv.} vapor matrices

No.	Odorants	0% ABV _{d.equiv}				20% ABV _{d.equiv}				40% ABV _{d.equiv}			
		Panelist 1	Panelist 2	Panelist 3	Panelist 4	Panelist 1	Panelist 2	Panelist 3	Panelist 4	Panelist 1	Panelist 2	Panelist 3	Panelist 4
2	ethyl isobutyrate	1.222E-3	1.222E-3	3.669E-3	1.223E-3	3.302E-2	1.101E-2	1.101E-2	3.302E-2	0.2972	9.905E-2	9.905E-2	3.302E-2
3	ethyl butyrate	2.555E-2	8.500E-3	8.500E-3	2.550E-2	7.650E-2	7.650E-2	7.650E-2	0.2295	2.066	0.2295	0.6886	0.6885
11	β -damascenone	5.858E-6	1.757E-5	5.858E-6	5.858E-6	5.858E-6	1.757E-5	1.757E-5	5.858E-6	5.858E-6	5.272E-5	1.757E-5	1.757E-5
20	γ -nonalactone	2.510E-3	8.365E-4	8.365E-4	2.510E-3	2.510E-3	7.529E-3	2.510E-3	7.529E-3	7.529E-3	2.510E-3	2.510E-3	7.529E-3
26	guaiacol	4.517E-4	1.506E-4	1.355E-3	1.355E-3	1.355E-3	4.504E-4	4.065E-3	1.355E-3	1.220E-2	1.220E-2	4.065E-3	4.065E-3
29	4-ethyl guaiacol	1.169E-3	3.898E-4	1.169E-3	1.169E-3	1.169E-3	1.169E-3	3.508E-3	1.169E-3	3.508E-3	3.508E-3	3.508E-3	3.508E-3
31	isoeugenol (<i>E</i>)	1.191E-3	1.191E-3	1.191E-3	1.191E-3	1.191E-3	1.072E-2	1.191E-3	1.072E-2	1.072E-2	1.072E-2	1.072E-2	3.215E-2

Table S3 Individual (panel 2) ODT (ppb) of odorants in the 0% ABV, 20% ABV, and 40% ABV ethanol/water solutions (Panel 2)

No.	Odorants	0% ABV				20% ABV				40% ABV			
		Panelist 1	Panelist 2	Panelist 3	Panelist 4	Panelist 1	Panelist 2	Panelist 3	Panelist 4	Panelist 1	Panelist 2	Panelist 3	Panelist 4
2	ethyl isobutyrate	0.2310	0.2310	0.2310	0.2310	25.57	8.525	25.57	2.842	50.98	5.660	16.99	16.99
3	ethyl butyrate	0.4510	0.4510	0.4510	0.1504	13.54	13.54	4.512	0.5010	60.94	182.8	60.94	182.8
11	β -damascenone	4.610E-3	4.610E-3	4.610E-3	5.100E-4	2.615E-2	8.716E-3	2.615E-2	2.615E-2	6.229E-2	0.1869	6.229E-2	0.1869
20	γ -nonalactone	11.87	35.60	11.87	11.87	26.36	26.36	79.10	79.10	237.4	237.4	237.4	237.4
26	guaiacol	0.7100	2.130	2.130	7.890E-2	6.866	61.80	20.60	2.289	33.89	33.89	33.89	11.30
29	4-ethyl guaiacol	2.212	6.635	6.635	19.91	28.43	9.479	28.44	85.31	47.30	47.30	15.77	141.9
31	isoeugenol (<i>E</i>)	0.3089	8.340	0.3089	8.340	18.53	55.60	18.53	55.60	13.90	125.1	13.90	125.1