

Table S1. Volatile aroma compounds (mg/L) from Nanfeng tangerine wines

Compound	CAS	Sc	Hg-10-Sc	(Ce.Hg) - 10-Sc	(Ce.Ht) - 10-Sc	(Hg.Ht) - 10-Sc	(Ce.Hg. Ht) -10- Sc	Sc:(Ce.H g) -1:1	Sc:(Ce.Ht) -1:1	Sc:(Hg.H t) -1:1	Sc:(Ce.Hg. Ht) -1:1	Sc:(Ce.Hg) -1:100	Sc:(Ce.Ht) -1:100	Sc:(Hg.H t) -1:100	Sc:(Ce.Hg. Ht) -1:100
Montanol diagram															
2,3-butanediol	513-85-9	-	-	-	-	4.98±0.08 a	3.91±0.10 b	2.20±0.07 f	3.56±0.06 c	1.97±0.03 g	-	1.87±0.05 g	-	2.87±0.06 e	-
phenylethanol	1960/12/8	197.23±0.21j	301.02±2.07a	248.88±1.25d	194.01±1.50k	239.30±1.25e	267.55±1.65c	200.22±0.88i	215.26±1.52g	232.40±1.42f	275.28±1.89b	159.55±0.46m	207.21±1.46h	199.33±0.76ij	191.13±1.52l
Decanol	112-30-1	1.53±0.04a	-	-	-	-	-	-	-	-	-	0.95±0.01 b	-	-	-
Esters															
Butyl acetate	123-86-4	-	-	2.53±0.04 b	2.71±0.10	2.05±0.04 d	1.33±0.00 f	1.43±0.04 e	-	1.22±0.07 g	-	-	-	2.37±0.06 c	-
Ethyl butyrate	105-54-4	-	-	-	-	-	-	-	-	-	-	-	1.06±0.01	-	-
Isoamyl acetate	123-92-2	7.92±0.01l	36.07±0.21f	40.95±0.12b	7.46±0.12m	46.99±0.12a	7.70±0.00l	38.73±0.10c	9.94±0.13j	8.42±0.01k	14.11±0.06h	3.13±0.03m	36.82±0.23e	38.09±0.10d	12.81±0.06i
Ethyl caproate	123-66-0	1.36±0.02l	11.25±0.03a	9.34±0.03c	1.52±0.07k	9.20±0.03d	2.05±0.20i	10.08±0.03b	1.37±0.05l	1.31±0.06l	5.10±0.02g	0.97±0.06m	8.50±0.01e	8.23±0.03f	1.68±0.08j
Octyl formate	112-32-3	1.66±0.01b	-	-	-	-	-	-	-	-	-	-	-	-	-
P-toluene isocyanate	622-58-2	-	6.17±0.06a	5.19±0.06b	-	4.03±0.06c	5.24±0.05b	2.31±0.04e	1.67±0.00f	1.46±0.07g	-	1.49±0.06g	1.74±0.03f	2.47±0.08d	-
Ethyl caprylate	106-32-1	7.59±0.06h	11.22±0.14g	13.73±0.08e	4.54±0.02j	15.85±0.08c	4.62±0.12j	16.01±0.08c	4.71±0.02j	4.56±0.02j	5.61±0.01i	2.88±0.02k	13.28±0.16f	14.50±0.09d	22.52±0.27b
Phenethyl acetate	103-45-7	43.75±0.10k	172.02±0.54d	51.65±0.28i	40.76±0.26l	54.24±0.28gh	53.68±0.16h	66.54±0.30f	51.43±0.33i	69.66±0.38e	86.49±0.64a	30.41±0.14m	54.67±0.43g	47.83±0.22j	72.95±0.63c
Ethyl caprate	110-38-3	22.37±0.08d	18.89±0.18e	14.21±0.15h	5.56±0.06m	17.48±0.15f	10.04±0.07j	23.36±0.16c	8.71±0.09k	13.72±0.02i	16.41±0.14g	5.72±0.05l	16.68±0.19g	16.28±0.11l	40.10±0.41b

Ethyl laurate	106-33-2	4.42±0.03h	6.26±0.11e	3.96±0.07i	2.21±0.06l	6.67±0.07d	3.32±0.04k	8.92±0.08c	4.02±0.08i	5.83±0.10f	10.91±0.11a	1.42±0.04m	5.70±0.08f	4.71±0.10g	3.62±0.08j
Terpenes															
Linalool	78-70-6	5.17±0.03k	7.67±0.02h	9.55±0.01d	8.28±0.04g	11.02±0.011c	11.54±0.19b	7.35±0.02i	7.25±0.11i	8.25±0.01g	5.75±0.10j	5.83±0.03j	8.43±0.02f	9.62±0.01d	12.04±0.08a
4-terpenol	562-74-3	12.30±0.02d	10.05±0.03g	10.38±0.13f	10.79±0.03e	13.77±0.13b	12.95±0.13c	9.00±0.10i	8.13±0.09j	9.70±0.00h	14.32±0.13a	6.49±0.00k	9.72±0.03h	10.53±0.12f	13.60±0.17b
A-terpenol	10482-56-1	17.84±0.026i	21.31±0.23d	20.88±0.18e	19.76±0.08f	22.95±0.18b	25.32±0.24a	17.41±0.14j	15.96±0.16k	17.98±0.04hi	22.23±0.18c	12.65±0.00l	18.04±0.21hi	20.95±0.13e	18.17±0.20h
Citronellol	106-22-9	1.23±0.04e	-	-	2.49±0.02c	2.78±0.00a	-	-	-	-	-	1.95±0.05d	2.66±0.05b	2.42±0.08c	-
Styrene	100-42-5	12.46±0.01c	-	-	7.73±0.04g	-	-	-	11.48±0.12e	11.83±0.04d	11.28±0.02f	5.01±0.03h	-	-	16.32±0.08a
D-limonene	5989-27-5	6.25±0.02g	2.69±0.02j	3.97±0.07h	10.21±0.06c	4.07±0.07h	9.42±0.12d	2.96±0.06i	8.41±0.10e	8.37±0.12e	7.53±0.13f	2.01±0.02l	2.22±0.02k	3.93±0.04h	17.87±0.19a
Y-terpinene	98-86-2	-	-	-	-	-	-	-	-	-	-	-	-	-	1.00±0.08
Aldehydes and ketones															
Nonyl aldehyde	124-19-6	-	-	-	1.61±0.03	-	-	-	-	-	-	-	-	2.98±0.08a	-
Capric aldehyde	112-31-2	-	-	-	1.13±0.03	-	-	-	-	-	-	-	-	-	-
2,5-dimethyl benzaldehyde	5779-94-2	1.48±0.04a	-	-	-	-	-	-	-	-	1.42±0.09	-	-	-	-
2-hydroxy-5-methylacetophenone	1450-72-2	12.28±0.04b	-	-	-	-	-	-	-	-	23.49±0.18a	-	-	-	-
Phenols															
Thyme phenols	89-83-8	5.47±0.07b	4.76±0.06c	4.30±0.09d	2.72±0.11i	3.52±0.09e	2.36±0.01j	2.97±0.07h	2.98±0.01h	3.15±0.02g	6.07±0.10a	3.05±0.03gh	2.96±0.07h	3.38±0.06ef	3.34±0.07f
Acids															

Caprylic acids	124-07-2	-	11.71±0.15a	-	-	-	-	-	8.57±0.12b	6.30±0.10c	-	5.55±0.03d	4.91±0.10e	-	-
Other															
M-xylene	108-38-3	3.84±0.01c	-	-	2.74±0.11f	-	-	-	3.60±0.08d	3.41±0.05e	4.26±0.03b	1.09±8.05h	-	-	6.33±0.03a
1-methyl-3-isopropylbenzene	535-77-3	-	-	-	-	-	-	-	-	-	-	-	-	-	0.96±0.11
1-isopropenyl-3-methylbenzene	1124-20-5	1.11±0.02b	-	-	-	-	-	-	-	-	1.38±0.07a	-	-	1.06±1.06b	-
2-methyl-1,5-dioxane	6413-26-9	4.17±0.04	-	-	-	-	-	-	-	-	-	-	-	-	-
[5,5]undecane															
4hydroxy-3-methoxy Benzonitrile	4421/8/3	-	28.23±0.25d	32.53±0.21b	15.21±0.18l	41.75±0.21a	30.61±0.14c	24.29±0.07e	19.79±0.09j	21.29±0.07h	-	22.28±0.05g	23.73±0.22f	30.43±0.06c	15.89±0.11k
In total		371.41±0.51j	549.31±4.03a	475.46±2.38e	341.44±2.28k	500.66±2.38d	451.63±3.04f	433.78±1.88g	386.84±2.98i	430.82±2.11g	511.64±3.77c	274.30±0.89l	417.26±3.26h	420.05±1.52h	453.32±3.77f

Table S2. Volatile odor-active compounds (OAV≥1) in Nanfeng tangerine wines

Compounds	Aroma threshold (μg/L)	Description	Sc	Hg-10-Sc	(Ce.Hg)-10-Sc	(Ce.Ht)-10-Sc	(Hg.Ht)-10-Sc	(Ce.Hg.Ht)-10-Sc	Sc:(Ce.Hg.Ht)-1:1	Sc:(Ce.Hg.Ht)-1:1	Sc:(Hg.Ht)-1:1	Sc:(Ce.Hg.Ht)-1:1	Sc:(Ce.Hg.Ht)-1:100	Sc:(Ce.Hg.Ht)-1:100	Sc:(Hg.Ht)-1:100	Sc:(Ce.Hg.Ht)-1:100
Phenylethanol	14.00	Rose	14.09	21.5	17.78	13.86	17.09	19.11	14.3	15.38	16.6	19.66	11.4	14.8	14.24	13.65
Decanol	0.50	Fruit, sweet, flower,	3.07	<1	<1	<1	<1	<1	<1	<1	<1	<1	1.91	<1	<1	<1

		special fatty														
Butyl acetate	1.83	Fruit	<1	<1	1.38	1.48	1.12	<1	<1	<1	<1	<1	<1	<1	1.29	<1
Ethyl butyrate	0.02	Strawberry, apple, banana	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	53.02	<1
Isoamyl acetate	0.03	Banana, pear	263.95	1202.46	1364.99	248.66	1566.21	256.53	1290.96	331.41	280.69	470.27	104.4	1227.45	1269.72	426.99
Ethyl caproate	0.01	Pineapple, fruit, flower	271.27	2249.32	1867.89	304.62	1839.71	409.76	2015	274.46	261.95	1020.65	193.03	1699.18	1645.99	335.64
Ethyl caprylate	0.00	Pineapple, pear, soapy	3796.78	5609.07	6863.66	2269.38	7925.38	2308.86	8007.31	2353.03	2279.13	2805.9	1442.26	6639.12	7252	11259.46
Phenyl ethyl acetate	0.25	Rose, honey, tobacco	175.02	288.1	206.6	163.02	216.97	214.72	266.16	205.74	278.63	345.98	121.62	218.68	191.31	291.79
Ethyl caprate	0.20	Fruit, fresh	111.83	94.45	71.04	27.8	87.38	50.19	116.78	43.54	68.61	82.06	28.58	83.41	81.42	200.48
Ethyl laurate	0.50	Flower and fruit	8.84	12.52	7.91	4.42	13.34	6.63	17.84	8.04	11.65	21.83	2.84	11.4	9.41	7.24
Linalool	0.02	aroma Flower, fruit, muScat	344.36	511.1	636.98	551.73	734.89	769.62	490.3	483.38	550.16	383.64	388.75	561.98	641.09	802.76
4-terpenol	5.00	Pepper	2.46	2.01	2.08	2.16	2.75	2.59	1.8	1.63	1.94	2.86	1.3	1.94	2.11	2.72
Alpha terpinol	9.18	Flower, lemon	1.94	2.32	2.27	2.15	2.5	2.76	1.9	1.74	1.96	2.42	1.38	1.96	2.28	1.98
Citronellol	0.70	Green, lemon	1.75	<1	<1	3.56	3.97	<1	<1	<1	<1	<1	2.79	3.79	3.45	<1
Styrene	0.16	Fruit, sweet	77.86	<1	<1	48.33	<1	<1	<1	71.75	73.92	70.51	31.29	<1	<1	101.98

D-limonene	0.20	Floral, green, citrus	31.25	13.46	19.83	51.05	20.34	47.09	14.79	42.04	41.87	37.64	10.04	11.11	19.63	89.34
gamma-terpinene	0.01	citrus	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	100.18
Nonanal	0.02	Green, slightly pungent	<1	<1	<1	107.24	<1	<1	<1	<1	<1	<1	<1	<1	<1	198.78
Decenal	0.01	Sweet, citrus, flower	<1	<1	<1	112.9	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Thymol	0.05	Thyme	109.32	95.29	86.1	54.41	70.49	47.24	59.46	59.58	62.98	121.46	61.07	59.17	67.67	66.77
Caprylic acid	10.00	Rancid, harsh, cheese, fatty acid	<1	1.17	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
M-xylene	1.10	Strong aromatic smell	3.49	<1	<1	2.49	<1	<1	<1	3.27	3.1	3.87	<1	<1	<1	5.76
