

Supplementary Table S3 The information of volatile compounds identified by GC-MS.

No.	Volatile compounds	Odor descriptions ^δ	Oder threshold in water (µg/L) ^ε	CAS	Formula	Rt (min)	Mean content ± Standard deviation (µg/L)					VIP
							RM	FH0	FH4	FH8	GZ8	
Esters												
1	Methyl salicylate	Almond, caramel, peppermint ^a	34.9 ^A	119-36-8	C ₈ H ₈ O ₃	41.859	13.51±1.41c	56.18±3.99b	58.65±4.59b	106.25±15.48a	54.38±3.72b	1.1
2	Ethyl palmitate	Waxy, fruity, creamy, greasy, oily ^b	2000 ^A	628-97-7	C ₁₈ H ₃₆ O ₂	50.495	44.94±22.06a	ND	10.67±0.68b	23.97±3.14b	19.18±3.81b	0.89
3	Linoleic acid ethyl ester	Waxy, oily, fatty ^c	n.f.	544-35-4	C ₂₀ H ₃₆ O ₂	54.938	6.52±1.58a	ND	ND	8.65±1.85a	9.06±2.24a	0.84
4	2,2,4-Trimethyl-1,3-pentanediol diisobutyrate	-	n.f.	6846-50-0	C ₁₆ H ₃₀ O ₄	44.204	8.51±1.84a	7.56±0.67a	8.56±0.75a	6.86±0.56ab	5.63±0.41b	0.75
5	Diisobutyl phthalate	-	n.f.	84-69-5	C ₁₆ H ₂₂ O ₄	55.669	5.39±0.27b	7.7±0.09a	8.36±0.71a	5.72±0.53b	5.74±0.17b	0.88
6	Carbonic acid, ethyl nonyl ester	-	n.f.	-	C ₁₂ H ₂₄ O ₃	37.081	ND	29.79±1.81a	30.73±3.45a	ND	ND	0.9
7	2-Methyl-3-hydroxy-2,2,4-trimethylpentyl ester - propanoic acid	-	n.f.	77-68-9	C ₁₂ H ₂₄ O ₃	44.134	12.94±1.39a	10.78±0.51b	ND	5.48±0.98c	ND	1.14
8	(E)-Methyl geranate	Waxy, fruity, green ^b	n.f.	1189-09-9	C ₁₁ H ₁₈ O ₂	38.573	ND	ND	3.55±0.42b	7.7±1.59a	4.92±0.42b	0.96
9	Dimethyl phthalate	-	n.f.	131-11-3	C ₁₀ H ₁₀ O ₄	51.819	2.84±0.63ab	3.72±0.96a	2.75±0.55ab	2.77±0.63ab	2.03±0.53b	0.83
10	Dibutyl phthalate	-	n.f.	84-74-2	C ₁₆ H ₂₂ O ₄	45.941	ND	ND	ND	ND	6.2±1.53a	1.21
11	3,7,11-Trimethyldodeca-1,6,10-trien-3-yl acetate	Fresh, sweet, citrus, waxy, woody ^b	n.f.	2306-78-7	C ₁₇ H ₂₈ O ₂	47.297	ND	8.44±1.4a	ND	ND	ND	1.2

12	(3Z)-3-Hexen-1-yl benzoate	Fatty, green ^d	500 ^B	25152-85-6	C13H16O2	49.05	8.19±0.15a	ND	ND	ND	ND	0.95
13	Ethyl 13-methyl-tetradecanoate	-	n.f.	64317-63-1	C17H34O2	50.5	ND	6.07±0.91a	ND	ND	ND	1.2
14	Phenethyl acetate	Honey-like, floral, sweet, fruity ^e	249.59 ^C	103-45-7	C10H12O2	42.952	2.53±0.12b	ND	9.11±0.8a	ND	ND	1.14
15	Methyl linoleate	Oily, fatty, woody ^b	n.f.	112-63-0	C19H34O2	54.388	1.42±0.09c	1.99±0.1b	2.32±0.21a	ND	ND	0.83
16	(Z)-10-Tetradecen-1-ol acetate	-	n.f.	35153-16-3	C16H30O2	45.984	ND	ND	7.24±0.27a	ND	ND	1.13
17	Phosmet-oxon	-	n.f.	3785-33-9	C10H11BrO2	42.953	ND	ND	ND	1.13±0.12a	ND	1.28
18	(E)-2-Hexenyl hexanoate	Green, waxy ^d	herbal, 195 ^B	53398-86-0	C12H22O2	37.463	2.82±1.31a	ND	ND	ND	ND	0.87
19	Ethyl stearate	Waxy ^b	n.f.	111-61-5	C20H40O2	53.568	2.49±2.34a	ND	ND	ND	ND	0.72
20	2-Dodecyloxyethanol acetate (ester)	-	n.f.	22606-46-8	C18H36O4	39.086	1.75±0.32a	ND	ND	ND	ND	0.94
	Total						113.84±26.02c	132.22±4.96bc	141.93±6.94b	168.54±16.23a	107.15±6.55c	
Alcohols												
21	Geraniol	Floral, rosy, waxy, peach-like ^e	10 ^A	106-24-1	C10H18O	43.536	37.49±7.36d	338.51±11.26a	280.34±18.08b	75.1±11.81c	51.3±8.42d	0.95
22	Linalool	Coriander, floral, lavender, lemon, rose ^a	6 ^A	78-70-6	C10H18O	32.339	69.14±11.08b	106.81±3.98a	108.3±11.73a	70.23±9.37b	41.28±3.27c	0.93
23	(E)-Linalool oxide	Flower ^e	190 ^A	34995-77-2	C10H18O2	29.103	62.9±5.01a	67.45±6.53a	68.2±9.12a	73.36±11.76a	44.56±4.08b	1.16
24	Phenylethyl alcohol	Floral, rose ^b	3.17 ^A	22258	C8H10O	45.288	53.81±3.72b	90.37±14.86a	78.08±7.61a	27.02±4.91c	21.52±1.92c	0.85
25	(E)-Linalool (pyranoid)	oxide Woody ^e	n.f.	39028-58-5	C10H18O2	40.236	20.84±2.06b	41.19±5.89a	38.32±4.28a	33.15±4.89a	19.78±6.91b	1

26	(Z)-Linalool oxide	Flower ^e	100 ^A	5989-33-3	C10H18O2	27.792	30.3±1.08a	30.99±2.01a	33.28±5.07a	32.28±8.23a	17.73±2.1b	1.05
27	Dehydrolinalool	Mouldy ^e	n.f.	29957-43-5	C10H16O	35.143	16.18±1.53a	15.85±1.53a	13.75±1.27a	8.79±1.24b	6.42±0.62c	0.84
28	α -Terpineol	Pine, terpene, lilac, citrus, woody ^b	4.6 ^A	98-55-5	C10H18O	38.709	8.31±0.59b	10.11±0.17a	11.29±1.43a	6.85±1.02b	4.88±0.2c	0.85
29	Benzyl alcohol	Fruit, mild sweet, roasted ^f	620 ^A	100-51-6	C7H8O	44.53	15.72±0.91b	17.64±1.81a	10.74±0.64c	ND	2.36±0.76d	0.89
30	3,7,11,15-Tetramethyl-2-hexadecen-1-ol	-	n.f.	102608-53-7	C20H40O	46.186	ND	ND	15.45±1.74a	10.23±1.63b	ND	1.21
31	(+)-Cedrol	Woody ^f	n.f.	77-53-2	C15H26O	49.072	ND	ND	ND	5.44±0.14a	4.21±0.19b	0.86
32	(E)-Nerolidol	Rose, apple ^f	250 ^A	40716-66-3	C15H26O	47.292	5.9±0.52a	ND	ND	3.97±0.36b	3.19±0.38c	0.96
33	1-Octen-3-ol	Mushroom-like ^f	1 ^C	3391-86-4	C8H16O	27.982	ND	ND	ND	6.89±2.13a	ND	1.2
34	(Z)-3,7-Dimethyl-2,6-octadienal	Sweet, citrus ^b	290 ^A	106-25-2	C10H18O	42.213	2.12±0.5c	8.61±0.47a	6.22±0.9b	1.89±0.23c	1.14±0.16c	0.95
35	α -Cadinol	Herbal, woody ^c	n.f.	481-34-5	C15H26O	50.654	1.65±0.08b	5.29±1.08a	ND	2.17±0.17b	1.99±0.11b	1.28
36	Octanol	Chemical, metal, burnt ^e	110 ^A	111-87-5	C8H18O	32.789	5.06±0.77a	4.88±0.38a	4.7±0.08a	ND	ND	0.82
37	(Z)-linalool (pyranoid)	oxide Floral, honey-like ^c	3000 ^C	14009-71-3	C10H18O2	40.24	13.47±0.18a	ND	ND	ND	ND	0.95
38	Undecanol	Waxy, rose, citrus ^e	86 ^A	112-42-5	C11H24O	27.459	ND	ND	ND	0.97±0.11a	0.91±0.28a	0.8
39	2-Hexyl-1-decanol	-	n.f.	2425-77-6	C16H34O	45.59	4.04±1.29a	ND	3.14±0.4a	ND	ND	1.01
40	Terpinen-4-ol	Pepper, woody, earth, musty, sweet ^a	340 ^A	562-74-3	C10H18O	34.964	0.69±0.27a	ND	ND	0.84±0.29a	0.5±0.14a	0.9
41	3,7,11-Trimethyldodeca-6,10-dien-1-yn-3-ol	-	n.f.	2387-68-0	C15H24O	45.4	ND	ND	ND	1.58±1.29a	ND	1.03
42	1-epi-Cubenol	-	n.f.	19912-67-5	C15H26O	47.935	ND	ND	ND	ND	1.22±0.28a	1.22
43	Heptanol	Green ^e	5.4 ^A	111-70-6	C7H16O	28.221	ND	1.42±0.1a	1.26±0.56a	ND	ND	0.88

44	(E)-3-Hexen-1-ol	Green ^f	110 ^A	928-97-2	C6H12O	25.117	ND	1.22±0.35a	0.99±0.21a	ND	ND	0.9
45	(E)-2-Octen-1-ol	Green ^b	40 ^A	18409-17-1	C8H16O	35.376	1.22±0.08a	ND	ND	ND	ND	0.95
46	(E)-3-Carene-2-ol	-	n.f.	93905-79-4	C10H16O	19.815	ND	ND	1.52±0.21a	ND	ND	1.12
Total							354.37±32.01 b	740.35±42.96a	675.56±58.36a b	360.74±51.91 b	222.99±24.46c	

Aldehydes

47	3-Benzyloxy-2-fluoro-4-methoxy-benzaldehyde	-	n.f.	-	C15H13FO3	37.076	ND	ND	ND	15.93±1.4a	13.02±1.55b	0.84
48	Benzaldehyde	Almond, burnt, sugar ^e	300 ^A	100-52-7	C7H6O	31.904	12.26±0.56a	6.73±1.17c	8.62±0.57b	3.39±1.05d	2.17±0.19d	0.86
49	Nonanal	Melon, citrus ^f	1 ^A	124-19-6	C9H18O	25.504	6.68±0.44a	3.46±0.87b	3.88±1.09b	2.41±0.34b	3.02±0.99b	0.86
50	β-Cyclocitral	Tropical, rose, sweet, green ^b	5 ^A	432-25-7	C10H16O	35.932	6.6±0.51a	3.37±0.1b	3.63±0.49b	1.72±0.17c	ND	0.9
51	Hexanal	Apple, fat, fresh, green, oil ^a	2.5 ^A	66-25-1	C6H12O	11.781	6.15±1.67a	1.15±0.35b	ND	1.45±0.15b	1.17±0.24b	0.92
52	(E,E)-2,4-Heptadienal	Fatty, green ^d	15.4 ^A	881395	C7H10O	30.34	11.9±1.07a	ND	ND	ND	ND	0.95
53	(E)-2-Hexenal	Green, leaf ^l	17 ^B	6728-26-3	C6H10O	17.578	8.45±0.95a	ND	0.45±0.12b	ND	ND	0.95
54	(E)-2-Nonenal	Fatty, green, cucumber, aldehydic, citrus ^a	0.08 ^A	18829-56-6	C9H16O	32.045	3.07±0.05a	1±0.11c	1.33±0.02b	ND	0.57±0.06d	0.94
55	(Z)-7-Hexadecenal	Warm, floral, herbal, sweet ^b	n.f.	56797-40-1	C16H30O	42.581	ND	4.29±2.9a	ND	ND	ND	1.03
56	(2E,4E)-Deca-2,4-dienal	Fatty, melon, nutty ^b	0.027 ^D	25152-84-5	C10H16O	41.163	4.7±0.43a	ND	ND	ND	ND	0.95
57	2-Hexenal	Sweet, almond, fruity, green ^e	30 ^A	505-57-7	C6H10O	17.575	ND	ND	ND	ND	1.06±0.24a	1.22

58	(E)-2-Heptenal	Pungent, green, vegetable, fresh, 13 ^A fatty ^a	18829-55-5	C7H12O	22.431	0.89±0.23a	ND	0.71±0.13a	0.67±0.16a	ND	1.17
59	(2E,4E)-2,4-Nonadienal	Fatty, green, melon ^g 0.06 ^E	5910-87-2	C9H14O	39.005	3.25±0.06a	ND	ND	ND	ND	0.95
60	3-(acetyloxy)-2,2,4-Trimethyl-pentanal	- n.f.	77142-76-8	C10H18O3	41.366	1.11±0.09a	1.12±0.34a	1.18±0.09a	ND	ND	0.8
61	3,7-Dimethyl-2,6-octadien-1-al	Citrus, lemon ^b 32 ^A	141-27-5	C10H16O	40.035	ND	ND	5.58±0.58a	ND	ND	1.12
62	Octanal	Fruity ^h 0.7 ^A	124-13-0	C8H16O	20.649	1.03±0.28a	ND	ND	ND	ND	0.92
	Total					66.09±4.41a	21.11±3.7b	25.36±2.08b	25.57±2.64b	21±2.1b	
Ketones											
63	6,10,14-Trimethyl-2-pentadecanone	Floral, herbal, woody, oily ^b n.f.	502-69-2	C18H36O	38.171	64.98±8.16ab	75.11±33.56a	67.92±14.12ab	47.23±8.45ab	35.16±3.53b	0.65
64	Dicyclohexyl ketone	- n.f.	119-60-8	C13H22O	50.059	46.88±1.94b	54.8±4.91a	53.66±4.55a	29.39±2.16c	24.99±0.61c	0.82
65	β-Ionone	Floral, violet ^a 0.1 ^A	14901-07-6	C13H20O	45.734	55.71±2.53a	40.23±2.77b	40.31±0.91b	18.27±1.31c	14.71±1.21d	0.84
66	cis-Hexahydro-8a-methyl-1,8(2H,5H)-naphthalenedione	- n.f.	83406-41-1	C11H16O2	49.551	50±2.17a	45.7±2.17b	ND	ND	ND	1.04
67	(E)-6,10-Dimethyl-5,9-undecadien-2-one	Green, fruity, waxy, rose, woody ^b 60 ^A	3796-70-1	C13H22O	43.755	28.34±4.21a	17.34±1.76b	15.32±2.11b	6.19±0.46c	4.09±0.64c	0.85
68	β-Ionone epoxide	Berry, woody, violet, orris ^e n.f.	23267-57-4	C13H20O2	46.781	14.94±0.68a	12.45±0.93b	12.13±0.82b	7±0.63c	5.67±0.56c	0.83
69	N-Ethyl-succinimide	- n.f.	2314-78-5	C6H9NO2	44.703	5.36±0.5b	5.64±0.6b	4.73±0.34b	7.36±0.94a	7.6±0.69a	0.77
70	Benzophenone	Balsamic, rose ^b n.f.	119-61-9	C13H10O	55.375	7.27±0.44b	8.35±0.66ab	8.95±1.15a	5.86±0.46c	4.81±0.08c	0.82

71	α -Ionone	Woody, violet, fruity ^e	floral, tropical	3.78 ^A	127-41-3	C13H20O	43.817	10.47±0.54a	7.45±0.36b	9.19±1.65a	3.73±0.35c	2.48±0.08c	0.83
72	1-(2,6,6-trimethylcyclohexa-1,3-dien-1-yl)But-2-en-1-one	Fruity ^b		10 ^A	23726-93-4	C13H18O	43.067	8.78±0.66a	5.61±0.49b	5.61±0.48b	3.67±0.18c	2.64±0.18d	0.87
73	(Z)-Jasmone	Woody, floral, citrus ^b	herbal, n.f.		488-10-8	C11H16O	45.87	ND	ND	ND	6.51±0.66a	5.44±0.84b	0.83
74	5-Methyl-2-(1-methylethyl)-2-cyclohexen-1-one	-		n.f.	5113-66-6	C10H16O	50.22	ND	9.06±0.71a	5.05±0.31b	2.3±0.3c	2.14±0.28c	1.05
75	3,5-Octadien-2-one	Fruity, fatty ^b		n.f.	38284-27-4	C8H12O	33.68	15.73±0.82a	6.34±1.1b	4.19±1.16c	ND	ND	0.89
76	Acetophenone	Almonds, meat, must ^a	flower, 65 ^A		98-86-2	C8H8O	37.301	ND	ND	ND	ND	4.08±0.24a	1.24
77	6-Methyl-5-hepten-2-one	Citrus, pepper, strawberry ^a	mushroom, rubber, 50 ^A		110-93-0	C8H14O	22.964	2.82±0.21a	0.96±0.25	1.52±0.21b	1.26±0.12	0.99±0.12	0.97
78	5-Ethyl-6-methyl-3-hepten-2-one	-		n.f.	57283-79-1	C10H18O	28.776	4.74±0.32a	ND	2.11±0.37b	ND	ND	0.99
79	2-Pentadecanone	Fresh, celery, fatty ^b	jasmin, n.f.		2345-28-0	C15H30O	46.99	ND	2.5±0.43a	2.19±0.08a	ND	ND	0.91
80	(E)-3-Nonen-2-one	-		n.f.	18402-83-0	C9H16O	30.962	3.19±0.31a	ND	ND	ND	ND	0.95
81	2-Heptanone	Fruity, spicy, sweet, herbal, coconut ^a		410 ^A	110-43-0	C7H14O	15.833	0.69±0.1b	ND	2.85±0.64a	ND	ND	1.12
82	2,2,6-Trimethylcyclohexanone	Earthy ⁱ		100 ^A	2408-37-9	C9H16O	22.077	1.6±0.08a	ND	ND	ND	ND	0.95

83	Isopropylidencyclopropyl methyl ketone	-	n.f.	29765-67-1	C ₈ H ₁₂ O	34.64	ND	ND	2.72±0.35a	ND	ND	1.12
84	3,6,6-Trimethyl-2-cyclohexen-1-one	-	n.f.	23438-77-9	C ₉ H ₁₄ O	26.142	1.21±0.09a	ND	ND	ND	ND	0.95
85	4-Methyl-3,5-decandione	-	n.f.	-	C ₁₁ H ₂₀ O ₂	39.638	ND	ND	1.75±0.03a	ND	ND	1.13
86	6-Methyl-6-hepten-2-one	-	n.f.	10408-15-8	C ₈ H ₁₄ O	22.606	ND	ND	0.68±0.21a	ND	ND	1.09
	Total						322.7±13.62a	291.53±31.25a	240.89±19.17 b	138.78±9.95c	114.8±3.53c	

Terpenes

87	β-Myrcene	Fruity, clove-like ^f	13 ^A	123-35-3	C ₁₀ H ₁₆	14.667	12.23±1.69c	69.82±6.09a	59.74±5.15b	18.8±2.64c	12.98±1.65c	0.94
88	Neophytadiene	-	n.f.	504-96-1	C ₂₀ H ₃₈	45.065	35.94±13.65a	25.52±11.45ab	20.26±0.52ab	16.82±2.36b	10.84±5.75b	0.72
89	β-Ocimene	Citrus, terpenic, woody, green ^b	n.f.	13877-91-3	C ₁₀ H ₁₆	18.805	ND	ND	39.37±3.11a	12.03±1.9b	8.1±1.31c	1.17
90	(E)-β-Ocimene	Fruity ^f	34 ^A	3779-61-1	C ₁₀ H ₁₆	17.913	ND	29.45±1.72a	30.65±5.41a	ND	7.62±1.24b	0.94
91	(+)-Limonene	Lemon-like ^f	60 ^A	5989-27-5	C ₁₀ H ₁₆	16.265	5.06±0.73b	13.01±1.14a	11.73±0.91a	4.31±0.65b	2.81±0.35c	0.9
92	3-Ethyl-4,4-dimethyl-2-pentene	-	n.f.	53907-59-8	C ₉ H ₁₈	19.497	ND	ND	ND	12.72±2.43a	ND	1.27
93	(Z)-3,7-Dimethylocta-1,3,6,-triene	Warm, floral, herbal, sweet ^b	34 ^A	3338-55-4	C ₁₀ H ₁₆	18.724	ND	14.22±22.93a	ND	ND	ND	0.68
94	4,7-Dimethyl-1-propan-2-yl-1,2,3,5,6,8a-hexahydronaphthalene	-	n.f.	16729-01-4	C ₁₅ H ₂₄	40.85	5.38±0.85a	ND	ND	1.87±0.3b	1.2±0.08b	0.96
95	β-Farnesene	Citrus green ^b	n.f.	28973-97-9	C ₁₅ H ₂₄	37.283	6.99±0.39a	5.32±0.16b	ND	ND	ND	1.01
96	Sabinene	Woody, citrus, green ⁱ	37 ^A	3387-41-5	C ₁₀ H ₁₆	16.731	1.23±0.3b	3.57±0.68a	3.42±0.31a	1.07±0.2b	0.78±0.13b	0.88

97	7-Methylene-9-oxabicyclo[6.1.0]non-2-ene	-	n.f.	264628-23-1	C9H12O	44.844	8.82±0.63a	1.16±0.17b	ND	ND	ND	0.94
98	(E)-Calamenene	-	n.f.	73209-42-4	C15H22	43.378	1.54±0.15a	ND	1.12±0.05a	1.14±0.24a	1.02±0.55a	1.08
99	Terpinolene	Fresh, sweet ^b	woody, 41 ^A	586-62-9	C10H16	20.238	ND	4.56±0.29a	4.74±0.77a	ND	ND	0.9
100	1,7,7-Trimethylbicyclo[2.2.1]hept-2-ene	-	n.f.	464-17-5	C10H16	31.553	ND	5.15±0.56a	ND	ND	ND	1.21
101	3-Ethylcyclohexene	-	n.f.	2808-71-1	C8H14	30.334	ND	ND	ND	ND	1.43±0.13a	1.24
102	delta-2-Carene	-	4000 ^A	4497-92-1	C10H16	15.535	ND	ND	ND	0.87±0.09a	ND	1.28
103	Calamenene	Herb, spice ^e	n.f.	72937-55-4	C15H22	43.364	ND	2.01±0.09a	ND	ND	ND	1.21
104	Santolina triene	-	n.f.	2153-66-4	C10H16	38.473	ND	ND	4.05±0.87a	ND	ND	1.11
105	Farnesene	Woody, floral, herbal ^c	green, 87 ^C	502-61-4	C15H24	40.325	ND	ND	1.89±0.23a	ND	ND	1.12
106	γ-Terpinene	Oily, terpenic ^b	woody, 65 ^A	99-85-4	C10H16	18.557	ND	ND	1.79±0.25a	ND	ND	1.12
107	cis-Allocimene	Sweet, herbal, peppery ^c	floral, nutty, 34 ^C	7216-56-0	C10H16	24.5	ND	ND	1.34±0.16a	ND	ND	1.12
Total							77.19±10.3b	173.79±22.14a	180.09±16.04a	69.63±4.03bc	46.77±5.69c	
Hydrocarbons												
108	Eicosane	Waxy ^b	n.f.	112-95-8	C20H42	27.259	20.46±21.29a	24.02±8.65a	38.29±10.9a	33.55±17.17a	18.15±12.14	0.66
109	2,6,11-Trimethyldodecane	-	n.f.	31295-56-4	C15H32	17.809	14.69±13.08a	ND	ND	19.05±18.86a	3.07±1.55a	0.82
110	Heptadecane	-	n.f.	629-78-7	C17H36	34.256	10.06±3.75a	7.38±0.62a	7.88±0.68a	11.71±8.19a	4.63±1.57a	0.82
111	6-Ethyl-2-methyl-octane	-	n.f.	62016-19-7	C11H24	11.401	1.47±0.98ab	0.48±0.26b	1.73±0.42ab	2.79±1.46a	0.49±0.21b	1.08
112	3,3-Dimethylhexane	-	n.f.	563-16-6	C8H18	18.317	1.9±0.1b	1.61±1.37b	4.6±1.72a	1.94±1b	ND	0.94
113	2-Methylhexacosane	-	n.f.	1561-02-0	C27H56	42.579	ND	ND	ND	3.3±2.11a	ND	1.11

114	4-Methylheptadecane	-	n.f.	26429-11-8	C18H38	27.067	ND	1.06±0.3b	1.95±0.49a	1.98±0.5a	ND	1.18
115	2-Methyltetracosane	-	n.f.	1560-78-7	C25H52	41.75	ND	ND	ND	2.44±1.01a	ND	1.2
116	Hexadecane	Alkane ^c	13000000 c	544-76-3	C16H34	29.624	ND	ND	12.04±5.88a	ND	ND	1.03
117	Chlorooctadecane	-	n.f.	3386-33-2	C18H37Cl	41.758	5.81±0.64a	ND	ND	ND	ND	0.95
118	4-Methyldodecane	-	n.f.	6117-97-1	C13H28	20.453	ND	1.79±0.55b	6.46±5.17a	ND	ND	0.81
119	5-Methyl-5-propylnonane	-	n.f.	17312-75-3	C13H28	18.423	ND	ND	ND	1.53±0.52a	ND	1.23
120	5-Butyl-nonane	-	n.f.	17312-63-9	C13H28	19.005	ND	ND	ND	ND	0.55±0.48a	0.98
121	2,6,10,15-Tetramethylheptadecane	-	n.f.	54833-48-6	C21H44	25.308	ND	ND	2.68±0.26a	ND	ND	1.12
122	5-(2-methylpropyl)Nonane	-	n.f.	62185-53-9	C13H28	18.995	1.16±0.24a	ND	ND	ND	ND	0.93
123	2-Bromododecane	-	n.f.	13187-99-0	C12H25Br	23.771	0.99±0.62a	ND	ND	ND	ND	0.83
124	4,8-Dimethylundecane	-	n.f.	17301-33-6	C13H28	21.487	ND	ND	0.78±0.36a	ND	ND	1.04
Total							56.53±37.95a	36.34±9.95a	76.41±19.68a	78.28±44.56a	26.89±15.76a	

Heterocyclic Compounds

125	Dihydroactinidiolide	Sweet, faint floral, herbal ^h	n.f.	17092-92-1	C11H16O2	53.234	46.31±2.97a	52.58±9.45a	49.82±6.87a	18.58±6.43b	13.1±2.93b	0.8
126	1-(1H-pyrrol-2-yl)-Ethanone	Musty, cherry, nutty ^e	58585 ^A	1072-83-9	C6H7NO	46.491	4.18±0.08a	ND	3.95±0.32a	3.4±0.68a	2.22±0.88b	1.2
127	Coumarin	Sweet, hay ^b	50 ^A	91-64-5	C9H6O2	55.133	2.52±0.06a	2.4±0.37a	2.75±0.3a	1.87±0.05b	1.63±0.21b	0.79
128	Indole	Fecal, perfumey ^e	300 ^A	120-72-9	C8H7N	54.551	ND	1.35±0.37a	ND	ND	ND	1.18
Total							53.02±2.89a	56.33±9.39a	56.52±6.83a	23.85±6.16b	16.94±2.11b	

Acids

129	Nonanoic acid	Cheesy, fat ^e	3000 ^A	112-05-0	C9H18O2	49.366	50.37±4.6a	73.09±23.24a	54.38±11.36a	23.74±1.84b	18.5±8.74b	0.81
130	Hexadecanoic acid	Waxy, fatty ^b	n.f.	21096	C16H32O2	52.853	ND	ND	ND	66.72±29.03a	ND	1.2

131	Hexanoic acid	Sour, fatty, sweaty, cheesy ^b	3000 ^A	142-62-1	C6H12O2	43.635	29.31±0.61b	34.92±3.76a	17.57±1.1c	5.85±0.91d	2.22±1.48e	0.94
132	Geranic acid	Sour ^f	n.f.	4613-38-1	C10H16O2	51.957	14.85±1.7c	29.08±3.98a	21.11±1.8b	4.79±0.72d	2.9±1.01d	0.89
133	Octanoic acid	Sweat, cheese ^e	910 ^A	124-07-2	C8H16O2	47.74	21.65±0.25a	21.54±1.46a	11.83±0.94b	5.14±1.95c	4.01±0.48c	0.92
134	Decanoic acid	Rancid, sour, fatty, citrus ^b	1000 ^A	334-48-5	C10H20O2	50.869	ND	ND	ND	23.97±1.41a	ND	1.29
135	Heptanoic acid	Cheesy, fruity, fatty ^e	640 ^A	111-14-8	C7H14O2	45.871	18.4±1a	18.43±1.23a	ND	ND	ND	1.05
136	6-Octadecenoic acid	-	n.f.	544-74-1	C18H34O2	54.004	ND	ND	ND	ND	5.62±2.14a	1.18
137	Lauric acid	Fatty ^b	n.f.	143-07-7	C12H24O2	54.096	5.23±3.69a	ND	3.36±0.88a	2.21±0.4a	ND	0.91
138	3-Methylvaleric Acid	Sour, cheesy, fruity, sweaty ^b	46 ^A	105-43-1	C6H12O2	37.83	ND	ND	1.73±0.22a	ND	ND	1.12
139	Benzoic acid	Incense ⁱ	n.f.	65-85-0	C7H6O2	53.885	ND	ND	0.98±0.04a	ND	ND	1.13
	Total						139.81±1.87b	177.06±30.78a	110.95±12.74 b	132.41±26.07 b	33.26±8.06c	
Ethers												
140	4-tert-Butylphenyl epoxypropyl ether	2,3-	n.f.	3101-60-8	C13H18O2	51.414	6.67±0.74a	6.92±0.74a	5.88±0.49a	ND	ND	0.82
141	Dodecyl nonyl ether	-	n.f.	-	C21H44O	39.071	1.91±1.52a	ND	1.82±1.04a	ND	ND	0.87
	Total						8.57±0.54a	6.92±0.74b	7.7±1.32ab	ND	ND	
Lactones												
142	Dihydro-5-pentyl-2(3H)-furanone	Coconut, peach ^e	27 ^A	104-61-0	C9H16O2	47.573	9.19±0.79a	9.52±0.83a	9.03±1.31a	ND	ND	0.82
143	γ-Dodecalactone	Fatty, peach, sweet, fruity ^b	2 ^A	148051	C12H22O2	47.556	ND	ND	ND	ND	3.49±0.39a	1.24
	Total						9.19±0.79a	9.52±0.83a	9.03±1.31a	ND	3.49±0.39b	

Others

144	1-(1-methyl-1H-pyrazol-4-yl)-3-Piperidinamine	-	n.f.	1251330-45-6	C ₉ H ₁₆ N ₄	49.545	ND	ND	ND	26.11±1.13a	21.33±1.11b	0.85	
145	4-(2,6,6-trimethylcyclohexa-1,3-dienyl)But-3-en-2-one	-	n.f.	1203-08-3	C ₁₃ H ₁₈ O	46.911	9.59±0.43b	12.27±0.54a	10.89±1.15ab	ND	5.46±1.81c	0.96	
146	2-Ethyl-3-methylmaleimide	-	n.f.	20189-42-8	C ₇ H ₉ N ₂ O	51.282	5.26±1.26ab	6.86±1.81a	4.47±0.7b	ND	ND	0.84	
147	2,2',5,5'-Tetramethyl-1,1'-biphenyl	-	n.f.	3075-84-1	C ₁₆ H ₁₈	51.69	ND	ND	ND	3.14±0.25a	2.04±0.31b	0.89	
148	1,2-Epoxyoctadecane	-	n.f.	7390-81-0	C ₁₈ H ₃₆ O	49.813	ND	ND	ND	2.11±1.54a	ND	1.07	
149	(2,3-dimethyldecyl)Benzene	-	n.f.	55134-08-2	C ₁₈ H ₃₀	27.997	ND	ND	ND	ND	0.96±0.26a	1.21	
150	Cadalene	-	-	483-78-3	C ₁₅ H ₁₈	50.7	ND	ND	ND	ND	0.71±0.1a	1.23	
151	N,N-Dibutylformamide	-	n.f.	761-65-9	C ₉ H ₁₉ NO	41.363	ND	ND	ND	0.62±0.05a	ND	1.28	
152	Octyloxirane	-	n.f.	2404-44-6	C ₁₀ H ₂₀ O	26.806	1.13±0.11a	ND	ND	ND	ND	0.95	
Total								15.99±0.95b	19.13±2.24b	15.36±1.02b	31.98±2.61a	30.5±3.08a	

Note:

'-' , the odor description information for related volatile compounds not found in the literature.

'n.f.' , the odor threshold in water of volatile compounds not found in the literature.

Δ, odor description found in the literature and website: a^[13]; b, <https://www.thegoodscentscompany.com/search2.html>; c^[31]; d^[9]; e^[26]; f^[30]; g^[32]; h^[20]; i^[33]; j^[34].

ε, the odor threshold of all volatiles found in the literature: A, Compilations of Odor Threshold Values in Air, Water and Other media (Second Enlarged and Revised Edition); B^[9]; C^[31]; D^[33]; E^[32].

RT, Retention time.

YL, FH0, FH4, FH8 and GZ8 represented five GFWT samples during different manufacturing possess, respectively.

ND, not detected.

VIP, Variable important in projection values.

Values with different letters (a-e) in the same row indicated significant differences ($p < 0.05$).