Supplementary materials

Table S1. The composition of volatile compounds in thirteen cultivars by SPME-GC–MS

No.	Compound name	Molecular formula	RI/LRI	Semi-quantitative data (ng/g FW) of volatile compounds in thirteen cultivars by SPME-GC–MS												
				C1	C2	C3	D1	D2	D3	D4	D5	M1	M2	M3	M4	M5
Esters																
es1	Ethoxyethene	C_4H_8O	504/495	ND	ND	ND	16.06	ND	ND	ND	ND	ND	ND	ND	ND	ND
es2	Methyl acetate	$C_3H_6O_2$	524/526	ND	ND	6.87	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
es3	Ethyl acetate	$C_4H_8O_2$	611/612	49.66	73.59	ND	191.5	129.5	79.22	452.5	607.3	143.2	249.2	215.6	98.77	132.0
es4	Methyl isobutyrate	$C_6H_{12}O_2$	685/684	ND	ND	6.01	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
es5	Ethyl propanoate	$C_5H_{10}O_2$	708/705	3.14	3.61	ND	16.47	ND	ND	23.60	65.29	ND	ND	ND	ND	ND
es6	Ethyl isobutyrate	$C_6H_{12}O_2$	757/756	12.56	67.50	ND	159.8	26.74	4.39	333.5	798.2	ND	ND	ND	ND	ND
es7	Isobutyl acetate	$C_6H_{12}O_2$	772/771	ND	ND	ND	ND	ND	ND	ND	ND	2.97	ND	ND	ND	ND
es8	Ethyl butanoate	$C_6H_{12}O_2$	797/798	ND	ND	ND	12.56	ND	ND	15.09	27.97	ND	ND	ND	ND	2.86
es9	Butyl acetate	$C_6H_{12}O_2$	810/812	ND	ND	ND	ND	ND	ND	ND	ND	6.66	ND	14.00	ND	ND
es10	Ethyl 2-methyl butanoate	$C_7H_{14}O_2$	848/849	7.13	93.45	ND	15.44	16.65	ND	ND	760.4	ND	ND	ND	ND	ND
es11	Ethyl 3-methyl butanoate	$C_7H_{14}O_2$	852/856	3.89	21.19	ND	ND	ND	ND	ND	948.4	ND	ND	ND	ND	ND
es12	Isoamyl acetate	$C_7H_{14}O_2$	874/878	ND	ND	15.46	ND	6.60	ND	ND	ND	16.25	16.06	7.73	ND	3.26
es13	Ethyl isohexanoate	$C_{10}H_{20}O_2$	962/963	ND	ND	ND	ND	ND	ND	11.34	46.36	ND	ND	ND	ND	ND
es14	Ethyl caproate	$C_8H_{16}O_2$	993/1011	ND	ND	ND	41.04	7.10	12.91	15.15	4.06	4.07	ND	11.65	4.01	ND
es15	Ethyl benzoate	$C_9H_{10}O_2$	1186/1171	ND	ND	ND	6.57	1.75	ND	31.15	23.13	ND	ND	6.81	2.98	2.42
es16	Ethyl benzeneacetate	$C_{10}H_{12}O_2$	1234/1243	ND	ND	ND	ND	ND	ND	ND	24.56	ND	ND	ND	ND	ND
Alcohols																
al1	2-Methyl-1-propanol	$C_4H_{10}O$	628/624	ND	ND	ND	ND	ND	ND	ND	ND	7.21	15.78	4.84	5.44	4.46
al2	1-Butanol	$C_4H_{10}O$	664/658	ND	ND	ND	ND	ND	ND	ND	ND	28.84	47.79	71.55	26.40	16.55
al3	Acetal	$C_6H_{14}O_2$	727/730	ND	ND	ND	8.45	ND	ND	ND	ND	2.79	ND	ND	4.07	ND
al4	3-Methyl-1-butanol	$C_5H_{12}O$	734/736	ND	2.39	65.93	9.28	28.38	9.12	6.11	4.01	128.1	233.1	62.14	77.32	44.65
al5	2-Methyl-1-butanol	$C_5H_{12}O$	740/742	ND	ND	5.73	ND	ND	ND	ND	ND	24.44	41.82	17.28	16.13	9.59
al6	1-Hexanol	$C_6H_{14}O$	867/868	ND	6.19	ND	ND	ND	ND	ND	ND	ND	ND	ND	3.74	2.66
al7	2,5-Dimethyl-3-hexanol	$C_8H_{18}O$	953/971	ND	ND	5.12	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
al8	1-Octen-3-ol	$C_8H_{16}O$	979/980	ND	4.61	ND	ND	4.54	15.90	5.90	9.70	3.94	5.18	ND	3.35	ND
Acids																
ac1	Acetic acid	$C_2H_4O_2$	570/594	ND	ND	ND	ND	9.22	ND	8.67	3.40	ND	ND	ND	ND	ND
ac2	Vinyl acetate	$C_4H_6O_2$	586/570	3.66	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aldehydes																
ad1	2-Methyl-propanal	C_4H_8O	556/552	ND	ND	ND	8.22	12.38	4.55	2.29	ND	ND	3.63	7.35	ND	2.78
ad2	3-Methyl-butanal	$C_5H_{10}O$	659/647	5.87	4.48	5.48	101.7	83.99	40.90	18.53	7.06	11.60	34.56	47.60	24.53	24.52
ad3	2-Methyl-butanal	$C_5H_{10}O$	668/657	1.66	1.56	1.40	180.1	138.6	36.83	21.79	5.22	9.52	33.05	96.20	23.46	31.73

(continued)

No.	Compound name	Molecular formula	RI/LRI	Semi-quantitative data (ng/g FW) of volatile compounds in thirteen cultivars by SPME-GC–MS												
				C1	C2	C3	D1	D2	D3	D4	D5	M1	M2	M3	M4	M5
ad4	2-Methyl-2-hexenal	$C_7H_{12}O$	879/884	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	3.14	ND	ND
ad5	Benzeneacetaldehyde	C_8H_8O	1059/1045	ND	ND	ND	ND	3.07	3.15	ND	ND	ND	ND	3.00	ND	ND
Pyrazine																
py1	2,5-Dimethyl-pyrazine	$C_6H_8N_2$	918/917	55.16	53.86	80.94	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
py2	Trimethyl-pyrazine	$C_7H_{10}N_2$	1009/1004	13.17	5.93	26.60	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
py3	3-Ethyl-2,5-dimethyl-pyrazine	$C_8H_{12}N_2$	1085/1083	ND	ND	1.96	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
py4	Tetramethyl- pyrazine	$C_8H_{12}N_2$	1093/1089	2.55	ND	6.23	7.80	ND	3.44	10.22	ND	ND	ND	ND	ND	ND
Ketones																
ke1	2-Butanone	C_4H_8O	596/598	ND	ND	10.54	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ke2	Acetoin	$C_4H_8O_2$	707/713	ND	ND	3.45	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ke3	2-Methyl-3-pentanone	$C_6H_{12}O$	752/752	7.73	ND	ND	ND	8.10	ND	ND	ND	ND	ND	ND	ND	ND
ke4	3-Methyl-2-pentanone	$C_6H_{12}O$	755/747	ND	5.39	7.04	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ke5	5-Methyl-2-hexanone	$C_7H_{14}O$	857/862	2.95	2.84	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ke6	2-Heptanone	$C_7H_{14}O$	889/891	4.94	3.84	1.74	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ke7	6-Methyl-2-heptanone	$C_8H_{16}O$	955/954	6.71	6.08	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ke8	3-Octanone	$C_8H_{16}O$	986/992	ND	2.86	9.70	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Furans																
fu1	2-Methyl-furan	C_5H_6O	604/606	ND	ND	57.95	ND	5.26	ND	ND	5.57	ND	ND	ND	ND	2.61
fu2	2-Ethyl-furan	C_6H_8O	699/707	ND	ND	ND	18.00	18.65	12.04	3.64	ND	ND	ND	ND	ND	4.72
Hydrocarbons																
hc1	Toluene	C_7H_8	774/763	ND	ND	ND	786.2	170.6	99.17	53.36	ND	ND	ND	12.40	ND	ND
hc2	Octane	C_8H_{18}	800/800	ND	2.36	1.21	ND	ND	9.79	ND	ND	ND	4.04	ND	6.81	ND
hc3	Nonane	C_9H_{20}	900/900	3.01	3.52	2.42	ND	ND	7.88	ND	ND	ND	5.90	3.04	5.61	2.89
hc4	Decane	$C_{10}H_{22}$	999/1000	49.27	66.83	56.62	ND	29.69	91.40	57.32	59.55	50.14	91.48	65.60	93.81	63.40
hc5	Undecane	$C_{11}H_{24}$	1101/1100	1.73	1.97	2.75	ND	ND	3.13	ND	ND	ND	ND	ND	ND	ND
hc6	Dodecane	$C_{12}H_{26}$	1200/1200	2.36	2.80	2.54	ND	ND	8.57	3.64	ND	ND	ND	2.51	2.66	ND
hc7	Tetradecane	$C_{14}H_{30}$	1398/1400	5.08	6.51	6.76	4.69	3.08	29.55	7.28	6.98	4.85	6.02	6.12	5.92	3.95
hc8	Pentadecane	$C_{15}H_{32}$	1499/1500	5.07	6.13	6.50	ND	5.03	8.97	6.44	5.83	6.27	6.99	6.30	6.82	5.40

RI, retention index of unknown compounds on Elite-5MS column.
LRI, values of linear retention index found in literature (NIST Standard Reference Database, NIST Chemistry WebBook).
ND, this means that the target compound has not been detected.
FW, fresh weight.

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