

**Supplemental Data:****Table S1** Relative content of flavor compounds (%) in different Zhangqiu and Tenko organs. The data are from three replicated experiments (n=3) representing means± SD. —: not detectable.

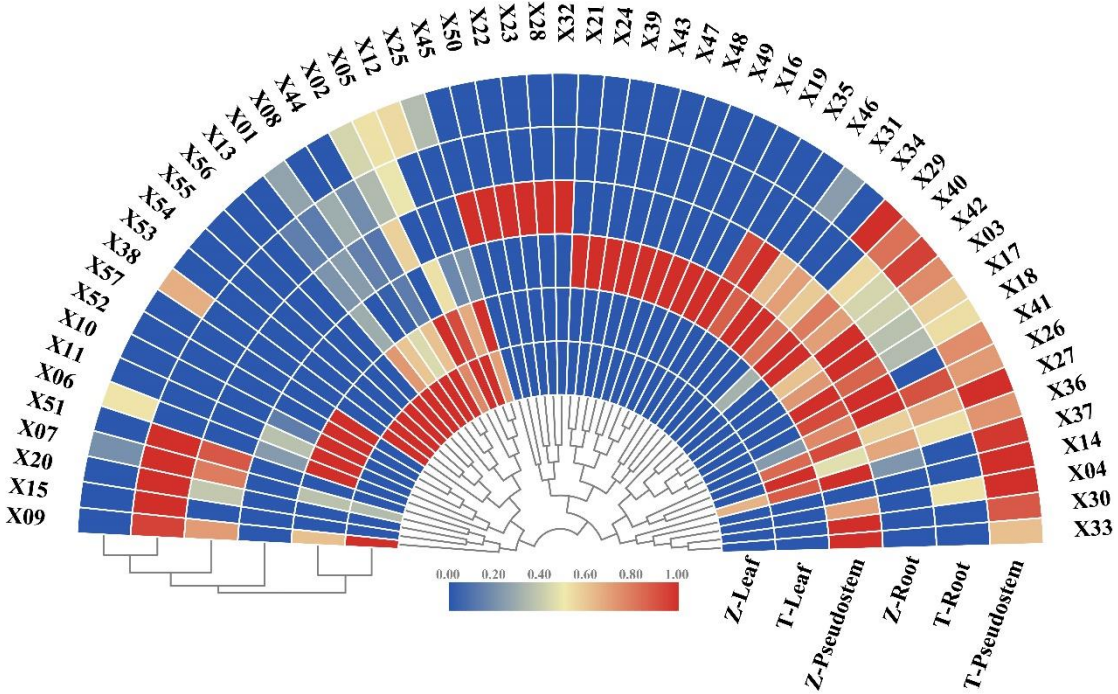
Volatile compounds	Codes	Z-Root	Z-Pseudostem	Z-Leaf	T-Root	T-Pseudostem	T-Leaf
Propionaldehyde	X01	1.17±0.31	0.65±0.05	4.33±0.5	0.91±0.24	1.24±0.2	2.31±0.49
Carbon disulfide	X02	1.37±0.11	—	2.18±0.37	0.67±0.03	0.93±0.28	3.58±0.46
Propylene sulfide	X03	1.06±0.13	0.55±0.25	—	0.35±0.02	0.72±0.05	—
Allyl mercaptan	X04	—	0.86±0.11	—	0.59±0.03	1.45±0.06	—
1-Sulfinylpropane	X06	—	0.6±0.56	—	—	1.86±0.25	6.69±1.27
Hexanal	X07	9.98±1.49	—	1.88±0.23	19.67±1.41	0.79±0.25	2.02±0.47
2-Methyl-2-pentenal	X08	12.26±0.93	10.32±5.33	44.58±9.52	15.59±0.94	9.85±4.19	19.63±5.39
(E)-2-Hexenal	X09	1.87±0.23	—	3.43±0.89	3.08±0.28	—	1.47±0.31
Ethylbenzene	X10	—	0.13±0.01	—	—	—	1.53±0.11
m-Xylene	X11	—	0.9±0.19	—	—	—	4.93±0.41
o-Xylene	X12	—	0.2±0.07	1.96±0.41	—	0.8±0.15	1.07±0.1
3,4-Dimethyl-thiophene	X13	1.51±0.03	1.95±1.55	10.79±3.81	1.17±0.07	0.67±0.41	5.78±0.85
2,4-Dimethyl-thiophene	X14	—	—	—	—	4.58±1.35	—
(E)-2-Hexenol	X15	—	—	—	1.05±0.13	—	—
Methoxy-phenyl-Oxime	X16	—	0.29±0.06	—	—	—	—
Methyl propyl disulfide	X17	4.28±0.45	2.31±0.44	—	0.82±0.17	1.59±0.22	—
(E)-Methyl-2-propenyl disulfane	X18	2.22±0.06	2.91±0.3	—	0.6±0.08	1.07±0.42	—
4-Ethyl-1-octyn-3-ol	X19	—	0.44±0.04	—	—	—	—
2-Ethyl-1-Hexanol	X20	0.19±0.05	—	—	0.57±0.09	—	—
Dimethyl silanediol	X05	—	1.53±0.6	4.85±0.54	1.37±0.18	1.52±0.42	4.06±1.34
1,8-Cineole	X21	—	0.24±0.03	—	—	—	—
6-Amino-6-oxo-hexanoic acid	X22	0.28±0.02	—	—	—	—	—
1-Nonen-4-ol	X23	0.21±0.1	—	—	—	—	—
5-Methyl-2-methylamino-2-thiazoline	X24	—	0.11±0.02	—	—	—	—
1-Nonanal	X25	—	0.16±0.13	0.62±0.04	—	0.27±0.04	1±0.1
Dipropyl disulfide	X26	34.9±1.21	21.8±7.22	4.46±0.97	29.06±1.8	19.75±4.98	7.42±2.96
(E)-Propenyl-2-propyl disulfane	X27	14.39±0.68	28.77±6.41	4.31±0.41	17.96±1.55	33.24±2.52	24.51±6.39
1-Allyl-3-(2-(allylthio)propyl) trisulfane	X28	0.65±0.05	—	—	—	—	—
1,2-Di((E)-propenyl) disulfane	X29	0.35±0.06	0.51±0.16	—	—	0.67±0.05	—
(E, Z)-Di-1-propenyl disulfide	X30	—	1.15±0.81	—	—	0.97±0.07	—
Methyl propyl trisulfide	X31	0.91±0.03	1.82±1.04	—	—	0.28±0.13	—
4-Methyl-1,2,3-trithiolane	X32	0.21±0.01	—	—	—	—	—
(E)-Propenyl propanedithioate	X33	—	0.94±0.17	—	—	0.5±0.16	—
(E)-Methyl propenyl trisulfide	X34	0.37±0.05	0.57±0.1	—	—	—	—
(Z)-Methyl propenyl trisulfide	X35	0.51±0.05	0.56±0.25	—	—	—	—

**Table S1** continued.

Volatile compounds	Codes	Z-Root	Z-Pseudostem	Z-Leaf	T-Root	T-Pseudostem	T-Leaf
2-Methoxy-3-sec-butyl pyrazine	X36	0.77±0.1	0.48±0.05	—	0.56±0.04	0.85±0.09	1.32±0.27
2-Mercapto-3,4-dimethyl-2,3-dihydrothiophene	X37	2.65±0.38	8.87±2.45	5.31±1.25	1.78±0.13	8.57±1.26	7.48±1.08
2-Undecanone	X38	—	—	0.95±0.15	—	0.55±0.05	—
Decyl aldehyde	X39	—	0.18±0.01	—	—	—	—
Dipropyl trisulfide	X40	3.14±0.33	5±1.24	—	1.67±0.13	3.34±1.06	0.74±0.03
(Z)-1-Propenyl propyl trisulfide	X41	0.45±0.05	0.41±0.39	—	—	0.32±0.12	—
(E)-1-propenyl propyl trisulfide	X42	1.99±0.32	3.78±1.37	—	0.97±0.03	3.42±0.54	—
2-Hexyl-5-methyl-3(2H)-furanone	X43	—	0.51±0.12	—	—	—	—
Dibenzofuran	X44	0.61±0.11	0.65±0.1	2.58±0.02	0.73±0.05	0.47±0.03	1.52±0.01
Methyl 1-(propylthio)propyl disulfide	X45	0.22±0.05	—	—	—	—	—
Methyl 1-(1-propenylthio) propyl disulfide	X46	0.51±0.11	0.43±0.39	—	—	—	—
5-Methyl-2-octyl-3(2H)-furanone	X47	—	0.23±0.09	—	—	—	—
3,4-Dimethyl-2-(propyl disulfanyl) thiophene	X48	—	0.19±0.07	—	—	—	—
3-Isopropyl-4-methyl-1-decen-4-ol	X49	—	0.33±0.23	—	—	—	—
2-Ethyl-1-decanol	X50	0.13±0.01	—	—	—	—	—
1-Hexanol	X51	1.05±0.07	—	—	1.24±0.07	—	—
trans-Z-, alpha. -Bis-abolene epoxide	X52	—	—	—	—	—	0.77±0.12
3,7,11,15-Tetramethyl- 2-hexadecen-1-ol	X53	—	—	0.9±0.22	—	—	—
3,7-Dimethyl-1,3,6-octatriene	X54	—	—	2.38±0.35	—	—	—
Linalool	X55	—	—	6.89±0.45	—	—	—
Farnesene	X56	—	—	3.43±0.41	—	—	—
Toluene	X57	—	—	—	—	—	1.02±0.08

**Table S2** The classes of volatile compounds in three organs of ‘Zhangqiu’ and ‘Tenko’. The data are from three replicated experiments (n=3) and represented as means± SD. –: not detectable. Different letters indicate significant differences between the same organ of two cultivars.

Organs	Cultivars	Classes of volatile compounds (%)						
		Alcohols	Aldehydes	Hydrocarbons	Ketones	Sulfur compounds	Pyrazines	Others
Root	Zhangqiu	1.58±0.19bB	25.28±2.52bB	—	—	71.68±2.58aA	0.77±0.1aA	0.89±0.1bA
	Tenko	2.86±0.18aA	39.25±2.45aA	—	—	55.64±3.42bB	0.56±0.04aA	2.1±0.2aA
Pseudostem	Zhangqiu	1±0.22aA	11.3±5.48aA	0.2±0.07bB	—	83.97±5.21aA	0.48±0.05bA	4.03±0.82aA
	Tenko	—	12.15±4.25aA	0.8±0.15aA	—	83.93±5.05aA	0.85±0.09aA	1.99±0.41aA
Leaf	Zhangqiu	7.79±0.28aA	54.83±8.81aA	7.76±0.74aA	0.95±0.15aA	27.04±5.87bA	—	7.43±0.52bA
	Tenko	—	26.43±6.15bA	1.07±0.1bB	0.55±0.05aA	56.2±9.56aA	1.32±0.27aA	13.83±1.45aA



**Figure S1.** Volatile compound contents extracted from three organs of ‘Zhangqiu’ and ‘Tenko’. The letter ‘Z’ represents ‘Zhangqiu’, and ‘T’ represents ‘Tenko’. The compound numbering is the same as the data provided in Table S1.