

Table S1. LOD and LOQ values (mg L⁻¹) of the external calibration curves.

	Compound	LOD	LOQ
1	ethyl acetate	0.022	0.074
2	hexanal	0.005	0.017
3	2-methyl-1-propanol	0.023	0.076
4	1-butanol	0.018	0.060
5	2+3 methyl butanol	0.006	0.205
6	(E)-2-hexenal	0.010	0.033
7	1-pentanol	0.616	2.052
8	hexyl acetate	0.007	0.025
9	1-hexanol	0.003	0.010
10	cis-3-hexen-1-ol	0.004	0.015
11	ethyl octanoate	0.009	0.029
12	1-heptanol	0.006	0.020
13	linalool	0.001	0.004
14	isobutyric acid	0.060	0.200
15	butyric acid	0.090	0.300
16	isovaleric acid	0.020	0.050
17	geranyl acetate	0.008	0.030
18	β -citronellol	0.004	0.012
19	nerol	0.005	0.020
20	phenyl ethyl acetate	0.020	0.070
21	β -damascenone	0.020	0.006
22	hexanoic acid	0.020	0.060
23	2-phenyl ethanol	0.010	0.050
24	β -ionone	0.003	0.010

Table S2. Multiple comparison test (Tukey HSD test) results considering the cultivar as independent variable.

Multiple comparisons: Tukey HSD test			
Dependent Variable	Cultivar	Cultivar	<i>p.</i>
ethyl hexanoate	Nero di Troia	Aglianico	0.002
		Primitivo	0.001
ethyl decanoate	Nero di Troia	Primitivo	0.028
diethyl succinate	Primitivo	Aglianico	0.015
		Nero di Troia	0.006
ethyl isopentyl succinate	Nero di Troia	Primitivo	0.038
butyric acid	Nero di Troia	Primitivo	0.012
1-hexanol	Primitivo	Aglianico	0.002
		Nero di Troia	0.000
cis-3-hexen-1-ol	Aglianico	Nero di Troia	0.000
		Primitivo	0.000
	Nero di Troia	Primitivo	0.000
linalool	Aglianico	Nero di Troia	0.034

Table S3. Standardized Canonical Discriminant Function Coefficients of 14-months aged Ctr and US VOC profile of wines.

Compound	Function 1
ethyl Acetate	-8.192
3-methyl-1-butyl acetate	2.078
ethyl hexanoate	2.852
ethyl octanoate	1.099
ethyl decanoate	16.619
diethyl succinate	2.720
ethyl isopentyl succinate	-8.168
monoethyl succinate	2.843
acetic acid	-3.408
isobutyric acid	11.847
butyric acid	-18.765
isovaleric acid	.013
1-butanol	-1.325
2+3 methyl Butanol	4.340
1-hexanol	-2.521