Aroma compounds were subjected to an identification process that involved two stages. Firstly, identification of metabolites according to the retention times of the standards injected in the same conditions than the samples. Secondly, a difference lower than 15 units was considered between the linear retention index obtained for each compound through Van Den Dool & Kraft method (LRIc) and those reported (LRIr) in the NIST webbook of Chemistry.
The quantification process was carried out through the internal standard quantification method, using calibration curves obtained with standard solutions subjected to the same analytical conditions as wine samples..

Table S1. *Major aroma compounds identified in the wines.*

Compound	Prv‡	CAS[c]	LRI[a]	LRI[b]	**Slope**	**Interception**	**R^2**	**LOD[d] (µg/L)**	**LOQ[e] (µg/L)**
Alcohols									
Methanol	M	67-56-1	925	879	5.04E-03	6.0E-03	0.995	5.7E+03	19E+03
Propanol	S	71-23-8	1068	1060	9.1E-03	5.0E-03	0.995	4.8E+03	16E+03
Isobutanol	S	78-83-1	1126	1108	9.5E-03	3.0E-03	0.999	1.8E+03	6.0E+03
Isoamyl alcohols	M	123-51-3	1243	1230	8.7E+03	9.0E-03	0.999	4.2E+03	14E+03
2- phenylethanol	S	60-12-8	2011	1892	11E-03	2E-03	0.999	3.6E+03	12E+03
Carbonyls									
Acetaldehyde	S	75-07-0	688	800	4.23E-03	-7.0E-04	0.999	7.8E+03	26E+03
Acetoin	S	513-86-0	1337	1309	5.08E-03	-1E-03	0.997	9.1E+02	3E+03
Esters									
Ethyl acetate	S	141-78-6	906	885	4.96E-03	-3.0E-04	0.998	2.1e+03	7E+03
Ethyl lactate	S	97-64-3	1354	1326	5.7E-03	3E-02	0.999	2.7E+03	9E+03
Diethyl succinate	S	123-25-1	1730	1702	5.8E-03	2.8E-02	0.996	3.0E+03	10E+03
Polyols									
2,3-butanediol (levo)	S	513-85-9	1608	1545	7.80E-03	-5.0E-02	0.997	18E+03	60E+03
2,3butanediol (meso)	S	5341-95-7	1647	1585	5.8E-03	-2.0E-02	0.997	19.3E+03	64E+03
Glycerol	S	56-81-5	2476	n.f.	2.1E-03	-4.4E-01	0.995	3.7E+05	1.2E+06

LRI: *Linear retention index* using definition of Van den Dool and Kratz (1963) in a CPWAX57-CB capillary column (60 m/0.25 mm/0.40 µm. He). [a]Calculated values [b]Data collected from the NIST Webbook of Chemistry. http://webbook.nist.gov/chemistry. [c]CAS: Chemical Abstracts Service number. [d] LOD: Limit of Detection. [e] LOQ: Limit of Quantification. ‡Prv: Standard providers: M: Merck; S: Sigma-Aldrich.

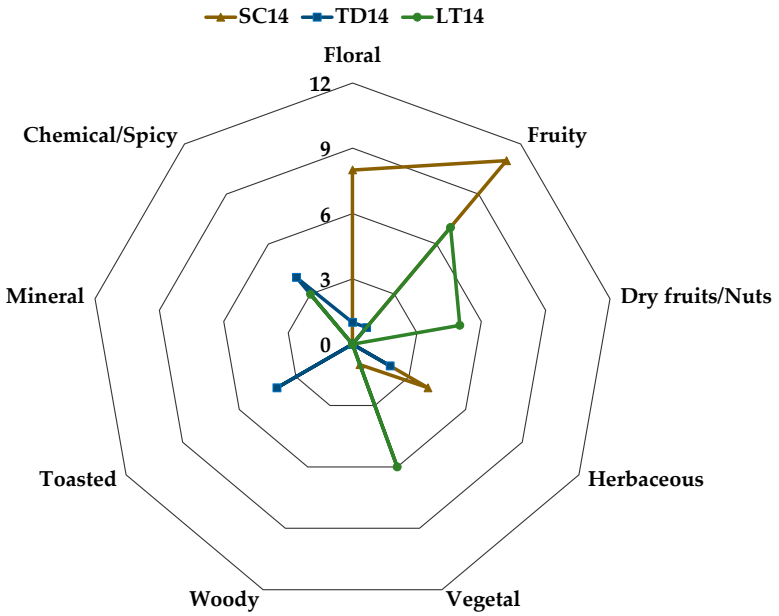

Figure S1. Aroma descriptors detected by the tasting panel in the wines produced at 14 ºC. It is shown the number of times that the tasters detected a given aroma note. Saccharomyces cerevisiae (SC); Torulaspora delbrueckii (TD); Lachancea thermotolerans (LT).

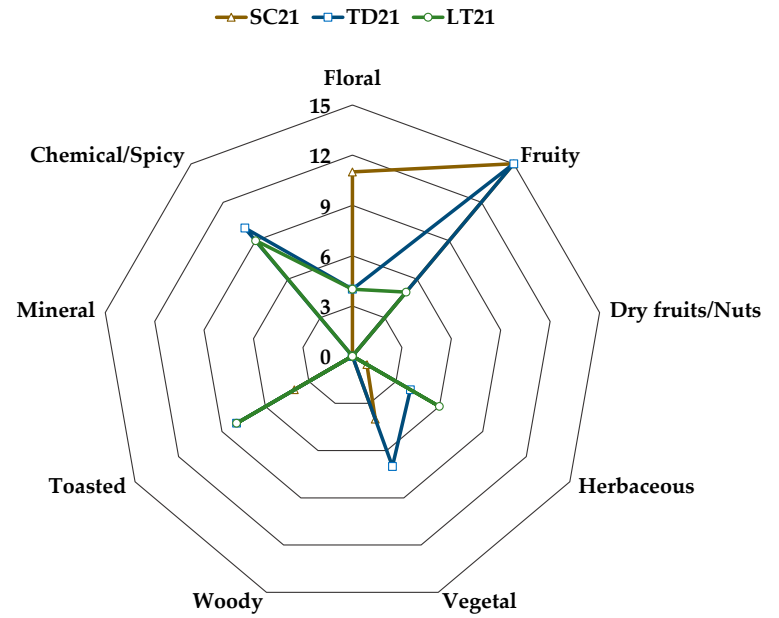

Figure S2. Aroma descriptors detected by the tasting panel in the wines produced at 14 ºC. It is shown the number of times that the tasters detected a given aroma note. *Saccharomyces cerevisiae* (SC); *Torulaspora delbrueckii* (TD); *Lachancea thermotolerans* (LT).