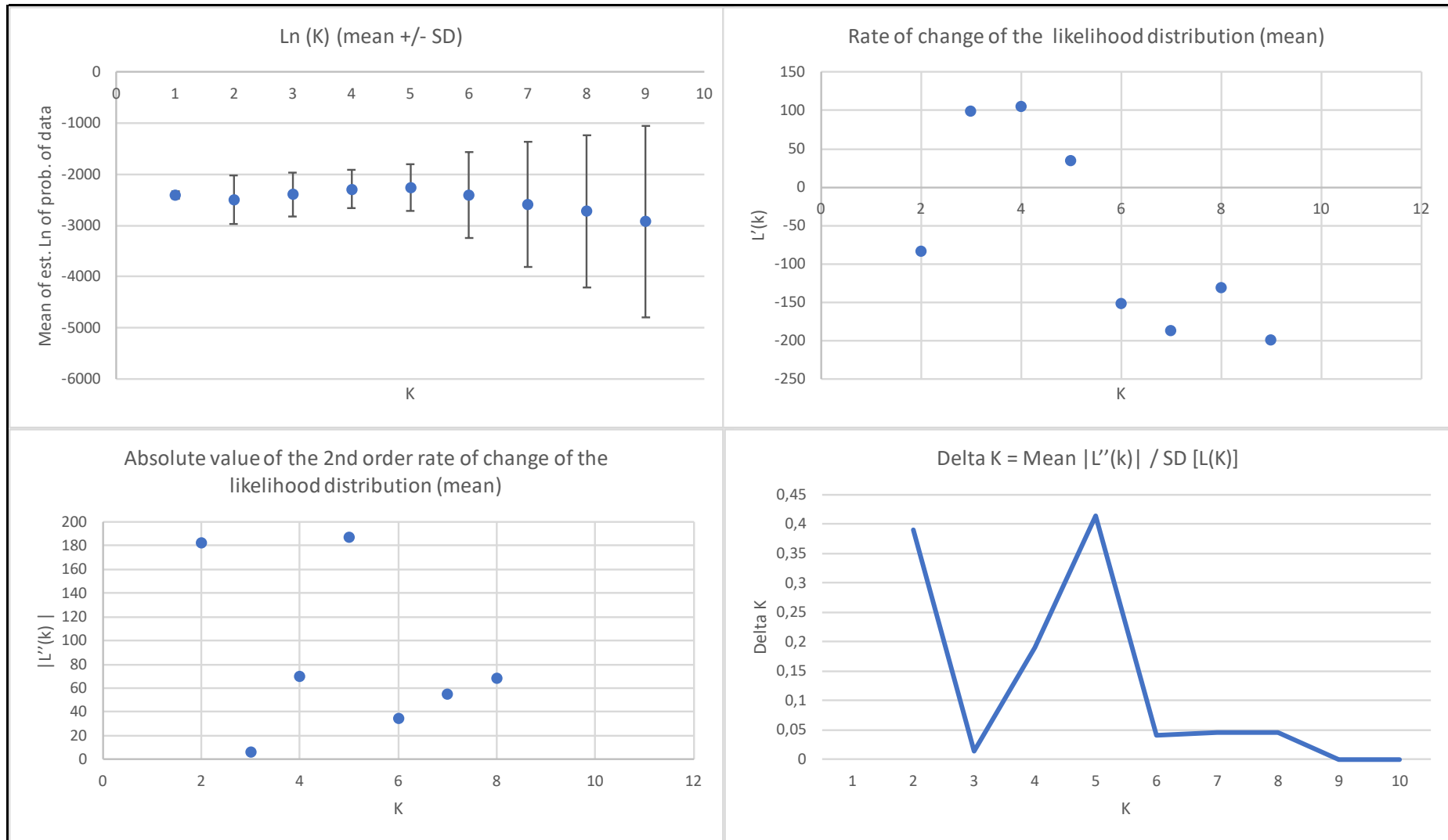
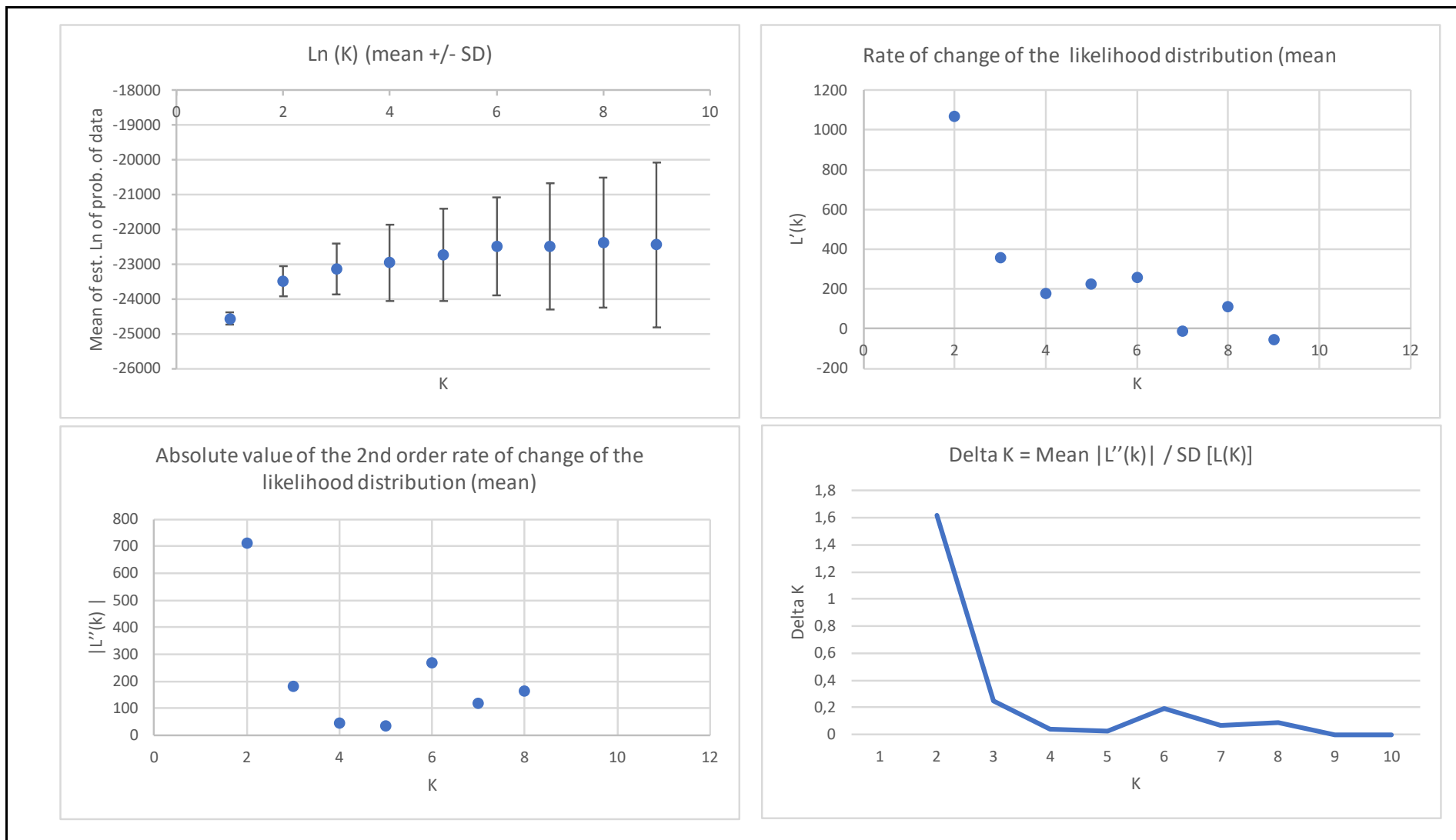


SUPPLEMENTARY DATA

Fort, F., Marsal, G., Mateao-Sanz, J. M., Pena, V., Canals, J. M., & Zamora, F. (2022). Molecular characterisation of the current cultivars of *Vitis vinifera* L. in Lanzarote (Canary Islands, Spain) reveals nine individuals which correspond to eight new varieties and two new sports. *OENO One*, 56(3).
<https://doi.org/10.20870/oeno-one.2022.56.3.5519>



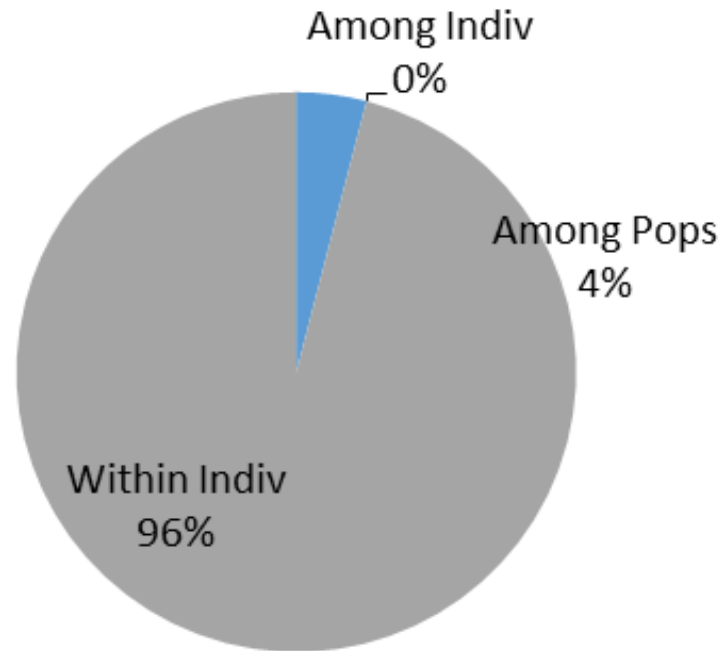
SUPPLEMENTARY FIGURE S1. The four steps of the graphical method of Evanno et al. (2005), allow the estimation of the true number of ancestral K groups for a population of 33 individuals from the Lanzarote collection (IC).



SUPPLEMENTARY FIGURE S2. The four steps of the graphical method of Evanno et al. (2005) allow the estimation of the true number of ancestral K groups for a population of 302 individuals.

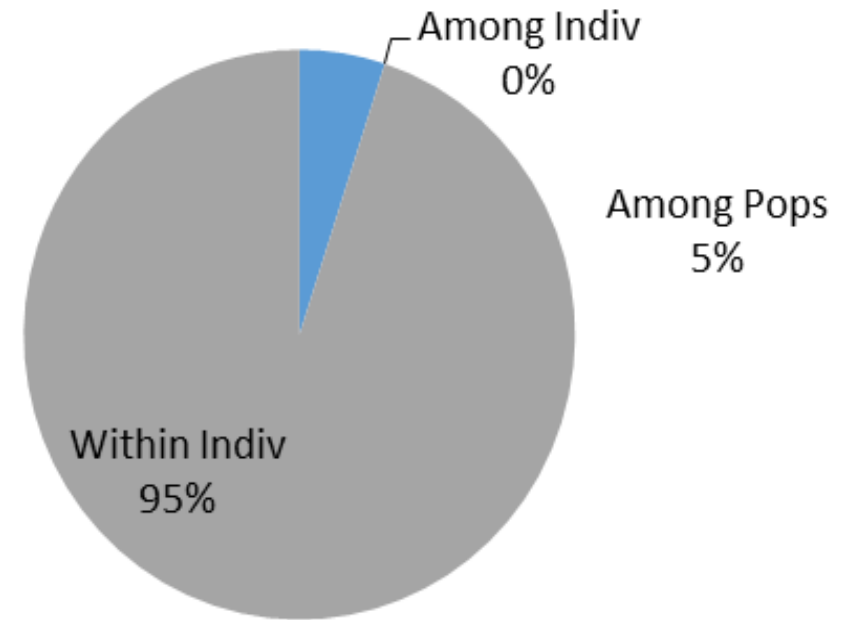
a) 2K-IC and LNZ (258 ind)

Percentages of Molecular Variance



b) 5POP-IC and LNZ (260 ind)

Percentages of Molecular Variance



SUPPLEMENTARY FIGURE S3. Analysis of Molecular Variance (AMOVA) in: a) 2K-IC and LNZ (258 ind) and b) 5POP-IC and LNZ (260 ind).

Accession name: accession names detected as mislabeling.

Accession name (in bold type): accession names proposed by the authors of this article, as new names to call the new local varieties.

Accession name (in bold type): accession names proposed by the authors of this article, as new names to call the sport mutation, proposed as local from Lanzarote.

MUTATION.

TRIALLELIC.

SUPPLEMENTARY TABLE S2. Characterization of the twenty microsatellite markers used in this study.

Locus	N	Na	Ne	Ho	He	<i>r</i>	PI
VVS2	99	11	3,9	0,667	0,745	0,0451	0,090
VVS3	99	3	1,9	0,657	0,464	-0,1314	0,382
VVS29	99	8	1,4	0,253	0,266	0,0109	0,546
VVMD5	99	9	6,2	0,970	0,838	-0,0715	0,046
VVMD6	99	9	3,8	0,535	0,736	0,1155	0,108
VVMD7	99	15	4,2	0,717	0,761	0,0251	0,093
VVMD27	99	14	7,9	0,949	0,874	-0,0403	0,029
VVMD28	99	24	9,5	0,929	0,895	-0,0183	0,020
VVMD36	99	17	7,1	0,929	0,860	-0,0374	0,033
ssrZAG21	99	7	2,3	0,657	0,565	-0,0582	0,218
ssrZAG47	99	14	7,5	0,949	0,866	-0,0447	0,032
ssrZAG62	99	7	2,7	0,707	0,629	-0,0478	0,175
ssrZAG64	99	13	4,0	0,848	0,750	-0,0564	0,095
ssrZAG79	99	14	5,9	0,939	0,831	-0,0593	0,047
ssrZAG83	99	11	2,4	0,495	0,583	-0,0554	0,208
UCH11	99	10	4,6	0,859	0,782	-0,0430	0,076
UCH12	99	10	2,4	0,778	0,591	-0,1177	0,211
UCH19	99	8	2,0	0,545	0,512	-0,0222	0,288
SCU6	99	5	3,3	0,505	0,696	0,1126	0,150
VChr19a	99	11	4,0	0,929	0,750	-0,1022	0,101
Mean		11,0	4,4	0,741	0,700		
Total alleles / Total Cumulative		220					1,3E-20

N (number of individuals), Na (number of alleles), Ne (effective number of alleles), Ho (observed heterozygosity), He (expected heterozygosity), *r* (probabilities of null alleles), PI (probability of identity).

SUPPLEMENTARY TABLE S4. Genetic structure of the Lanzarote population in a world population. Distribution K=2 (Individuals belonging to each group or population).

Prime-name-STRUCTURE	Code-Country	POP1	POP2	
Marzemino	ITA	0.995	0.005	
Ondarrabi-beltza	ESP	0.994	0.006	POP1 PURE VARIETIES (q ≥ 85%)
Vinhao	PRT	0.994	0.006	POP1 ADMIXED VARIETIES (q < 85%)
Cesanese-affile	ITA	0.993	0.007	POP2 PURE VARIETIES (q ≥ 85%)
Corvina-veronese	ITA	0.993	0.007	POP2 ADMIXED VARIETIES (q < 85%)
Freisa	ITA	0.993	0.007	
Malvasia-nera-Basilicata	ITA	0.993	0.007	
Nebbiolo	ITA	0.993	0.007	
Negrara-trentina	ITA	0.993	0.007	
Sagrantino	ITA	0.993	0.007	
Vernaccia-Solarussa	ITA	0.993	0.007	
Bequignol-noir	FRA	0.993	0.007	
Marsanne	FRA	0.993	0.007	
Ondenc	FRA	0.993	0.007	
Tannat	FRA	0.993	0.007	
Viosinho	PRT	0.993	0.007	
Unknown-13	UNKNOWN	0.993	0.007	
Blatina	BIH	0.992	0.008	
Bombino-bianco	ITA	0.992	0.008	
Fiano	ITA	0.992	0.008	
Refosco-nostrano	ITA	0.992	0.008	
Ribolla-gialla	ITA	0.992	0.008	
Counoise	FRA	0.992	0.008	
Folle-blanche	FRA	0.992	0.008	
Manseng-noir	FRA	0.992	0.008	
Melon	FRA	0.992	0.008	
Pinot-noir	FRA	0.992	0.008	
Riesling-weiss	DEU	0.992	0.008	
Saint-Laurent	FRA	0.992	0.008	
Alvarinho	PRT	0.992	0.008	
Prieto-picudo-tinto	ESP	0.992	0.008	
Sercial	PRT	0.992	0.008	
Vranac	MNE	0.991	0.009	
Vugava	HRV	0.991	0.009	
Barbera-nera	ITA	0.991	0.009	
Friulano	ITA	0.991	0.009	
Refosco-pedunculo-rosso	ITA	0.991	0.009	
Abouriou	FRA	0.991	0.009	
Cot	FRA	0.991	0.009	
Elbling-weiss	DEU	0.991	0.009	
Merlot-blanc	FRA	0.991	0.009	
Montils	FRA	0.991	0.009	

Prime-name-STRUCTURE	Code-Country	POP1	POP2
Piquepoul-negro	FRA	0.991	0.009
Valdiguie	FRA	0.991	0.009
Verdot-petit	FRA	0.991	0.009
Viognier	FRA	0.991	0.009
Maturana-blanca	ESP	0.991	0.009
Mencia	ESP	0.991	0.009
Negoska	GRC	0.990	0.010
Primitivo	HRV	0.990	0.010
Xynomavro	GRC	0.990	0.010
Croatina	ITA	0.990	0.010
Raboso-piave	ITA	0.990	0.010
Rossignola	ITA	0.990	0.010
Vernaccia-san-Gimignano	ITA	0.990	0.010
Teinturier	FRA	0.990	0.010
Fernao-pires	PRT	0.990	0.010
Jampal	PRT	0.990	0.010
Trobat	ESP	0.990	0.010
Kotsifali	GRC	0.989	0.011
Limnio	GRC	0.989	0.011
Pamid	BGR	0.989	0.011
Colorino	ITA	0.989	0.011
Cortese	ITA	0.989	0.011
Schiava-grossa	ITA	0.989	0.011
Teroldego	ITA	0.989	0.011
Verduzzo-friulano	ITA	0.989	0.011
Manseng-petit-blanc	FRA	0.989	0.011
Merlot-noir	FRA	0.989	0.011
Assyrtiko	GRC	0.988	0.012
Malagouzia	GRC	0.988	0.012
Ansonica	ITA	0.988	0.012
Calabrese	ITA	0.988	0.012
Garganega	ITA	0.988	0.012
Grignolino	ITA	0.988	0.012
Sangiovese	ITA	0.988	0.012
Verdicchio-bianco	ITA	0.988	0.012
Blaufraenkisch	SVN	0.988	0.012
Cabernet-sauvignon	FRA	0.988	0.012
Sauvignon-blanc	FRA	0.988	0.012
Aglianico	ITA	0.987	0.013
Glera	ITA	0.987	0.013
Montonico-bianco	ITA	0.987	0.013
Piediroso	ITA	0.987	0.013
Sciaccarello	ITA	0.987	0.013
Vernachia-oristano	ITA	0.987	0.013
Kadarka-kek	HUN	0.987	0.013
Okatac	HRV	0.986	0.014

Prime-name-STRUCTURE	Code-Country	POP1	POP2
Canaiolo-nero	ITA	0.986	0.014
Negro-amaro	ITA	0.986	0.014
Carmenere	FRA	0.986	0.014
Gamay-noir	FRA	0.986	0.014
Mondeuse-noire	FRA	0.986	0.014
Loureiro-blanco	ESP	0.986	0.014
Aramon-noir	FRA	0.985	0.015
Bourboulenc	FRA	0.985	0.015
Cabernet-franc	FRA	0.985	0.015
Mandilaria	GRC	0.984	0.016
Uva-Troia	ITA	0.984	0.016
Calitor-noir	FRA	0.984	0.016
Colombard	FRA	0.984	0.016
Portugieser-blau	SVN	0.984	0.016
Touriga-franca	PRT	0.984	0.016
Razaki-Kirmizi	TUR	0.983	0.017
Zilavka	BIH	0.983	0.017
Jaoumet	FRA	0.983	0.017
Roditis	GRC	0.982	0.018
Vilanova	ESP	0.982	0.018
Unknown-5	UNKNOWN	0.982	0.018
Brachetto	ITA	0.981	0.019
Terret-noir	FRA	0.981	0.019
Alfrocheiro	PRT	0.981	0.019
Ahmeur-bou-ahmeur	DZA	0.980	0.020
Liatiko	GRC	0.980	0.020
Erbaluce-bianca	ITA	0.979	0.021
Unknown-9	UNKNOWN	0.979	0.021
Garnacha-tinta	ESP	0.978	0.022
Trajadura	ESP	0.978	0.022
Trincadeira	PRT	0.978	0.022
Rkatsiteli	GEO	0.977	0.023
Bicane	FRA	0.977	0.023
Unknown-10	UNKNOWN	0.977	0.023
Chardonnay-blanc	FRA	0.974	0.026
Thrapsathiri	GRC	0.973	0.027
Moravia-Agria	ESP	0.973	0.027
Valenci-tinto	ESP	0.972	0.028
Doradilla	ESP	0.971	0.029
Tarragoni	ESP	0.971	0.029
Dolcetto	ITA	0.969	0.031
Picolit-nero	ITA	0.969	0.031
Grolleau-noir	FRA	0.969	0.031
Berbecel	BGR	0.968	0.032
Pardillo	ESP	0.968	0.032
Xarello	ESP	0.968	0.032

Prime-name-STRUCTURE	Code-Country	POP1	POP2
Morellone	ITA	0.967	0.033
Furmint	HUN	0.967	0.033
Rufete	PRT	0.966	0.034
Touriga-nacional	PRT	0.966	0.034
Agiorgitiko	GRC	0.965	0.035
Invernenga	ITA	0.965	0.035
Mauzac-blanc	FRA	0.961	0.039
Peu-garsa	ESP	0.961	0.039
Carignan-noir	FRA	0.960	0.040
Garrido-fino	ESP	0.960	0.040
Moro-negre	ESP	0.958	0.042
Parraleta	ESP	0.958	0.042
Tinta-barroca	PRT	0.956	0.044
Zalema	ESP	0.956	0.044
Malvasia-istriana	HRV	0.955	0.045
Pascal-blanc	FRA	0.955	0.045
Dabouki	ISR	0.945	0.055
Morenillo	ESP	0.939	0.061
Tenerone	ITA	0.937	0.063
Parellada	ESP	0.935	0.065
Rojal-tinta	ESP	0.934	0.066
Chasselas-blanc	CHE	0.929	0.071
Malvasia-nera-di-Brindi	ITA	0.909	0.091
Cep-Maria	ESP	0.909	0.091
Malvasia-bianca-Candia	ITA	0.903	0.097
Lambrusco-marani	ITA	0.898	0.102
Coda-Volpe-bianca	ITA	0.870	0.130
Chenin-blanc	FRA	0.859	0.141
Syrah	FRA	0.824	0.176
Castelao	PRT	0.822	0.178
Pampolat-girat	UNKNOWN	0.811	0.189
Cinsaut	FRA	0.808	0.192
Vitouska-garganija	SVN	0.802	0.198
Ophtalmo	CYP	0.800	0.200
Cornichon-blanc	ITA	0.798	0.202
Listan-prieto	ESP	0.798	0.202
Albana	ITA	0.759	0.241
Unknown-8	UNKNOWN	0.737	0.263
Pedro-Ximenes	ESP	0.733	0.267
Graciano	ESP	0.729	0.271
Trebbiano-toscano	ITA	0.711	0.289
Canari-noir	FRA	0.686	0.314
Tinto-cao	PRT	0.665	0.335
Sultanina	TUR	0.652	0.348
Borracal	PRT	0.635	0.365
Verdelho-branco	PRT	0.613	0.387
Cayetana-blanca	ESP	0.579	0.421
Trousseau-noir	FRA	0.539	0.461

Prime-name-STRUCTURE	Code-Country	POP1	POP2
Giro-ros	ESP	0.006	0.994
Molinera	ESP	0.006	0.994
Valent-blanc	ESP	0.006	0.994
Unknown-6IB	UNKNOWN	0.006	0.994
Ginebra	ESP	0.007	0.993
Huevo-gallo	ESP-IC	0.007	0.993
Manses-tibbus	ESP	0.008	0.992
UVA-AÑO	ESP-LNZ	0.008	0.992
Verijadiego-negro	ESP-IC	0.008	0.992
Unknown-3	UNKNOWN	0.008	0.992
Beba	ESP	0.010	0.990
Callet-cas-Concos-negro	ESP	0.010	0.990
Manto-negro	ESP	0.010	0.990
Sumoll	ESP	0.010	0.990
Bienmesabe-tinto	ESP-IC	0.010	0.990
Aleatico	ITA	0.011	0.989
Miguel-Arco-Aragon	ESP	0.011	0.989
Pensal-blanca	ESP	0.011	0.989
Planta-fina	ESP	0.011	0.989
Argamusa	ESP	0.012	0.988
Gafarro	ESP	0.012	0.988
Greco-bianco-Tufo	ITA	0.013	0.987
Barbarossa	ITA	0.015	0.985
Callet	ESP	0.015	0.985
Vinyater	ESP	0.016	0.984
BLANCA-GRA-CAB	ESP-LNZ	0.016	0.984
Queibratinajas-tinto	ESP	0.017	0.983
Palomino-fino	ESP	0.018	0.982
Albillo-M-Lentiscal	ESP-IC	0.018	0.982
LEMES-CABEZO	ESP-LNZ	0.018	0.982
Unknown-7	UNKNOWN	0.018	0.982
Afus-ali	LBN	0.019	0.981
Vallera	ESP-IC	0.019	0.981
Mavrodaphni	GRC	0.020	0.980
Sabro	ESP	0.020	0.980
Burra-volcanica	ESP-IC	0.020	0.980
Excursac	ESP	0.021	0.979
Dobricic	HRV	0.022	0.978
Unknown-14	UNKNOWN	0.022	0.978
Unknown-4IB	UNKNOWN	0.022	0.978
Terrano	ITA	0.023	0.977
Fogoneau	ESP	0.023	0.977
DIEGO-CHINIJA	ESP-LNZ	0.023	0.977
Tamjanika-crna	SRB	0.024	0.976
Roussanne	FRA	0.025	0.975
Unknown-5IB	UNKNOWN	0.025	0.975
Santa-Magdalena	ESP	0.026	0.974

Prime-name-STRUCTURE	Code-Country	POP1	POP2
Verjadiego	ESP-IC	0.028	0.972
VIJARIEGO-B-GRA	ESP-LNZ	0.028	0.972
Unknown-3IC	UNKNOWN	0.029	0.971
Ferral	ESP	0.030	0.970
Mollar-cano	ESP	0.030	0.970
BURRA-CHINIJA	ESP-LNZ	0.031	0.969
Unknown-2IB	UNKNOWN	0.031	0.969
Muscat-petits-grains-blancs	GRC	0.032	0.968
Sabate	ESP	0.034	0.966
Lambrusco-maestri	ITA	0.035	0.965
Ancellotta	ITA	0.036	0.964
Alarije	ESP	0.038	0.962
Muscat-Alexandria	GRC	0.040	0.960
Dimyat	BGR	0.044	0.956
Gouveio	PRT	0.045	0.955
SINFORIANO-CHANO	ESP-LNZ	0.046	0.954
De-rey	ESP	0.049	0.951
Vermentino	ITA	0.051	0.949
Alphonse-lavallee	FRA	0.052	0.948
Merseguera	ESP	0.056	0.944
Epero-gall	ESP	0.057	0.943
MALVASIA-VOLCANICA	ESP-LNZ	0.057	0.943
Montepulciano	ITA	0.058	0.942
Vijariego-blanco	ESP	0.058	0.942
Muscadelle	FRA	0.059	0.941
Listan-negro	ESP-IC	0.060	0.940
Malvar	ESP	0.063	0.937
TORRONTES-V	ESP-LNZ	0.064	0.936
Gorgollasa	ESP	0.067	0.933
Bermejuela	ESP-IC	0.068	0.932
Trepas	ESP	0.070	0.930
Malvasia-Sardegna	UNKNOWN	0.074	0.926
Alvarelhao	PRT	0.082	0.918
Grillo	ITA	0.084	0.916
Fernandella	ESP	0.084	0.916
Quigat	ESP	0.084	0.916
Tempranillo-tinto	ESP	0.090	0.910
Semillon	FRA	0.096	0.904
Pignolo	ITA	0.110	0.890
UVILLON-N	ESP-LNZ	0.110	0.890
Muscat-fleur-oranger	FRA	0.121	0.879
BREVAL-NEGR	ESP-LNZ	0.122	0.878
Albillo-forastero	ESP-IC	0.122	0.878
Unknown-1IB	UNKNOWN	0.125	0.875
Molinara	ITA	0.138	0.862
Giro-nero	ITA	0.140	0.860
MALVASIA-AL-FINA	ESP-LNZ	0.140	0.860

Prime-name-STRUCTURE	Code-Country	POP1	POP2
Unknown-4	UNKNOWN	0.141	0.859
Planta-nova	ESP	0.142	0.858
Bobal-SU	ESP	0.155	0.845
Verdejo-blanco	ESP	0.168	0.832
Garro	ESP	0.178	0.822
Falanghina-beneventana-1-	ITA	0.179	0.821
Monastrell	ESP	0.192	0.808
Moristel	ESP	0.194	0.806
Viura	ESP	0.221	0.779
Gewuerztraminer	ITA	0.222	0.778
Malvasia-bianca-lunga	ITA	0.236	0.764
Muscat-Istambul	TUN	0.246	0.754
Albillo-criollo	ESP-IC	0.282	0.718
Catarratto-bianco-comune-	ITA	0.288	0.712
Malvasia-fina	PRT	0.321	0.679
Rouge-pays	CHE	0.331	0.669
Tinto-velasco	ESP	0.332	0.668
Sylvaner-gruen	AUT	0.349	0.651
Baga	PRT	0.367	0.633
Airen	ESP	0.404	0.596
Unknown-2IC	UNKNOWN	0.410	0.590
Durella	ITA	0.424	0.576
Lambrusco-foglia-frastagliata	ITA	0.463	0.537
Samarrinho	PRT	0.475	0.525
Molar	PRT	0.481	0.519

SUPPLEMENTARY TABLE S5. Analysis of Molecular Variance (AMOVA) and Fst and Rst Statistics.

a)

2K-IC and LNZ (258 ind)			
VARIANCE SOURCE	VARIANCE SOURCE	Fst	Rst
POP1	POP2	0,038 ***	0,020 ***
POP1	IC	0,059 ***	0,034 **
POP2	IC	0,021 **	0,007 **
POP1	LNZ	0,052 ***	0,044 **
POP2	LNZ	0,028 ***	0,008 **
IC	LNZ	0,028 **	0,006 **
GLOBAL VARIANCE		0,041***	0,023**

*P<0,05, **P<0,01, ***P<0,001, ns no significative

b)

5POP-IC and LNZ (260 ind)			
VARIANCE SOURCE	VARIANCE SOURCE	Fst	Rst
EASTMED-CAU	BP	0,068***	0 *
EASTMED-CAU	ITA	0,059***	0,005 *
BP	ITA	0,041***	0,031 **
EASTMED-CAU	FRA-CE	0,097***	0,032 **
BP	FRA-CE	0,041***	0,034 **
ITA	FRA-CE	0,041***	0,032 **
EASTMED-CAU	IP	0,066***	0,063 *
BP	IP	0,044***	0,046***
ITA	IP	0,061***	0,065***
FRA-CE	IP	0,059***	0,082***
EASTMED-CAU	IC	0,091***	0,072 *
BP	IC	0,056***	0,043 **
ITA	IC	0,079***	0,054 **
FRA-CE	IC	0,076***	0,073***
IP	IC	0,048***	0,057***
EASTMED-CAU	LNZ	0,111***	0,051 **
BP	LNZ	0,071***	0,064 **
ITA	LNZ	0,088***	0,066 **
FRA-CE	LNZ	0,091***	0,084 **
IP	LNZ	0,057***	0,034 **
IC	LNZ	0,050***	0,045 **
GLOBAL VARIANCE		0,055***	0,052***

*P<0,05, **P<0,01, ***P<0,001, ns no significative