Table S1. Description of SSR Markers and Corresponding Primer Sequences

Locus	Forward primer (5′–3′)	Reverse primer (5′–3′)
TAA27 (23)	F: FAM- GGATGAAAAATGCTCAAAATG	R : TAGTACCCACAGGGAAGAGAGC
TAA33 (23)	F :VIC-GGTACTGATAGTACTGCGGCG	R : GCTAATCGCTACGTCTTCGC
CAC23 (24)	F :NED- ATCACAATTACTAGCAGCGCC	R : TTGCCATTGTAGCATGTTGG
CCSM17 (24)	F : FAM- AATGCGTGGGCAATAACTTC	R : TTCAATATCGGCCCAAACTC
TAA1 (24)	F : VIC- GACAACATCAACAACAGCAAGAGC	R : AAGAAGAAGAGCCCCCATTAGC
CAC33 (23)	F : NED-GGTGATGCTGCTACTGATGC	R : CAATTGTGAATTTGTGATTCCG
CCSM18 (24)	F : VIC-GTGATTGCTGGTGTCGTT	R : AACAGTTGATGAAGAGGAAG
TAA41 (23)	F : FAM-AGGTCTACATTGGCATTGTC	R : ACATGCAGTGCTATAATGAATG

Table S2. Case of synonymy

Case of synonymy (Jaccard similarity =1)	Synonyms/duplication	Botanical group
Clem sans pepin1 Monreal2	Synonyms	Clementine
Clem san pepin 2 Clem sans pepin 3 Ecole Cordina1 Ecole Cordina2 Monreal 1	Duplication Duplication Synonym	Celmentine
S.boufarik1 S.boufarik2 Tabouni1 Tabouni2 Ecole1	Duplication Duplication Duplication	Orange
Raguel1 Raguel2	Duplication	Orange
W.navel 2 W.navel3 Thomson navel Portugaise 3	Duplication Synonym	Orange
Navel sanguine Longue sangre	Synonym	Orange
Vernia 3 Pineappele 2 Jaffa 3	 Synonym	Orange
Valencia late 1 Valencia late 2 Portugaise 1 Portugaise 2 Ruby 3 Pineappele 2 Double fine1	Duplication Duplication Synonym	Orange

W.navel1 Hamelin 2 Taroko 2 Sanguinell1 Sanguinelli2 Double fine sec 1 Double fine sec2	 Duplication Duplication	
Pomelo Royal Sang biskra Lue ging gong1 Lue ging gong 2 Seddouk bougie 1 Seddouk bougie 2 Vernia 1 Vernia 2 Ruby 2 W sanguine 1 Homosassa 1 Homossassa 2 Homossassa 3 Jaffa2 Cadamera 2 Cadamera3 Sanguinelli3	Synonym Duplication Duplication Duplication Synonym Duplication Synonym Duplication Synonym	Orange
Pinappele 1 Maltaise oblong 1 Maltaise oblong2	Synonym Duplication	Orange
Thomson nave2 Thomson navel 3 Hamelin 1 Taroko3	Duplication Synonym	Orange
Jaffa1 Cadamero1	Synonym	Orange
Pomelo seedless 3 Pomelo	Synonym	Pomelo

Table S3. Case of homonymy

Cultivar Name	Accession Codes	Observed Pattern	Interpretation
Wilking	Eureka	Eureka 1–2 vs Eureka 3	Probable mislabeling
Citronnier Eureka	Eureka 1–2 vs Eureka 3	Different genetic clusters	Mislabeling or graft mix-up
Pommelo Marsh Seedless	1vs 3 not clustering together	Different clusters	Possible labeling error

Mandarine Commune	1 vs 2	Slight allelic differences	Intra-varietal variation
Cedratdigide	Single accession clustering with Orange	Unexpected grouping	Misidentification