

Supplementary Table 1. Details of the grapevine virus L genomes from this study, which includes the *Vitis* species or cultivar (of *V. vinifera*) that was sampled. “H” indicates an interspecific hybrid/cultivar. The *number of reps* indicates how many replicate plants were associated with each species/cultivar.

Species/cultivars	Number of reps per sample	Contig length (nt)	Average coverage (x)	Variant name	GenBank accession
<i>Vitis shuttleworthii</i>	2	7637	8.7	02-09 V shuttleworthii	MW309713
Abdjouch	5	7644	12	03-01 Abdjouch	MW309714
Agawam (H)	2	7644	90	03-04 Agawam	MW309715
Agostenga	3	7576	7.9	03-05 Agostenga	MW309716
Aigiorgitiko	4	7586	98.3	03-06 Aigiorgitiko	MW309717
Alicante bouchet	3	7654	10	03-15 Alicante bouchet	MW309718
Aglianico	4	7593	22	04-08 Anglianico	MW309719
Aligote	5	7615	8	04-15 Aligote	MW309720
Barbera	5	7591	9.5	05-06 Barbera	MW309721
Baroque	5	7641	40.2	05-08 Baroque	MW309722
Barrocal	4	7638	10.5	05-09 Barrocal	MW309723
Bastardo de Castello	4	7649	6.2	05-10 Bastardo de Castello	MW309724
Beauty seedless	5	7649	21	05-11 Beauty seedless	MW309725
Blauer Limberger	4	7635	25.1	06-08 Blauer Limberger	MW309726
Carignan noir	4	7630	21	07-14 Carignan-noir	MW309727
Cataratto 1	2	7644	9.1	07-15 Cataratto 1	MW309728
Cataratto 2	2	7598	97.7	07-15 Cataratto 2	MW309729
Chasselas blanc 1	4	7622	18.7	08-08 Chasselas Blanc 1	MW309730
Chasselas blanc 2	4	7594	11.8	08-08 Chasselas Blanc 2	MW309731
Cinsault noir	3	7635	10.1	09-04 Cinsault Noir	MW309732
Clairette Egreneuse	1	7594	51.2	09-06 Clairette Egreneuse	MW309733
Colombard	5	7648	15.4	09-11 Colombard 1	MW309734
Colombard	5	7644	8.8	09-11 Colombard 2	MW309735
Concord	4	7620	15.7	09-13 Concord	MW309736
Cornichon violet	3	7594	30.5	10-07 Cornichon violet	MW309737
Zante Corinthe	3	7641	29.6	10-13 Zante Corinthe	MW309738
Dauphine	4	7647	9.3	11-02 Dauphine	MW309739
Delight	3	7640	58.1	11-05 Delight	MW309740
Donhepski Muscat	5	7646	24.6	11-12 Donhepski Muscat 1	MW309741
Donhepski Muscat	5	7618	24.1	11-12 Donhepski Muscat 2	MW309742
Fernao Pires	5	7642	52.3	12-02 Fernao Pires	MW309743
Farbtraube	3	7624	34.8	12-04 Farbtraube	MW309744
Faberrebe	3	7640	27.1	12-06 Faberrebe	MW309745
Emerald Riesling	4	7618	48.1	12-10 Emerald Riesling	MW309746
Folle blanche	5	7650	17.6	13-08 Folle blanche	MW309747
Grenache noir	5	7639	22.4	15-05 Grenache Noir	MW309748
Grillo	5	7637	29.4	15-07 Grillo	MW309749
Gruner Veltliner	5	7537	20.8	15-10 Gruner Veltliner	MW309750
Harslevelu	4	7610	11.3	15-13 Harslevelu	MW309751
Huxelrebe	4	7619	28.3	16-09 Huxelrebe 1	MW309752
Huxelrebe	4	7636	30.2	16-09 Huxelrebe 2	MW309753
Kadarka	2	7642	48.4	17-07 Kadarka	MW309754
Kandari	2	7592	7.8	17-09 Kandari 1	MW309755
Kandari	2	7633	12.2	17-09 Kandari 2	MW309756
Kerner	4	7624	26.4	17-11 Kerner 1	MW309757
Kerner	4	7618	54.5	17-11 Kerner 2	MW309758
Lindley (H)	3	7639	65.6	18-01 Lindley	MW309759
Lambrusco	5	7620	14.3	18-09 Lambrusco	MW309760
Malbec	4	7638	9.7	19-13 Malbec	MW309761
Malvasia bianca	5	7582	13.1	19-14 Malvasia Bianca	MW309762
Mansenc blanc	1	7634	15.4	20-12 Mansenc Blanc	MW309763
Mazuelo nero	3	7651	29.6	21-03 Mazuelo Nero	MW309764
Merlot	2	7643	28.7	21-05 Merlot	MW309765
Morio Muscat	5	7614	9.9	21-13 Morio Muscat	MW309766

Moscatel negro	2	7635	15.6	21-14 Moscatel Negro	MW309767
Mourisco tinto	3	7671	19.6	22-14 Mourisco Tinto	MW309768
Muscat d Alexandrie blanc	3	7645	40	23-01 Muscat d Alexandrie blanc	MW309769
Muscat St Laurent	5	7594	151.4	23-15 Muscat St Laurent	MW309770
Nebbiolo	5	7645	38.3	24-03 Nebbiolo 1	MW309771
Nebbiolo	5	7648	12.2	24-03 Nebbiolo 2	MW309772
Noir Hatiff de Marseilles	3	7581	25.4	24-10 Noir Hatiff de Marseilles	MW309773
Optenhorst	2	7644	15.9	24-15 Optenhorst	MW309774
Palomino	3	7651	47	25-01 Palomino	MW309775
Poulsaid	1	7619	54.6	25-09 Poulsaid 1	MW309776
Poulsaid	1	7616	15.4	25-09 Poulsaid 2	MW309777
Palomino de Jerez	5	7639	20.2	25-12 Palomino de Jerez	MW309778
Reichensteiner	3	7637	9.6	27-03 Reichensteiner	MW309779
Roobernet	3	7645	7.6	28-07 Roobernet	MW309780
Rotberger	1	7645	19.6	28-10 Rotberger	MW309781
Rotgipfler	5	7645	28.5	28-13 Rotgipfler	MW309782
Sangiovese	5	7645	16.9	29-04 Sangiovese	MW309783
Savatiano	2	7645	21.5	30-01 Savatiano	MW309784
Scheurebe	1	7594	37	30-03 Scheurebe	MW309785
Schonberger	4	7637	11.3	30-05 Schonberger	MW309786
Semillon	3	7594	16.3	30-08 Semillon	MW309787
Sercial de Madeira	5	7636	9.7	31-09 Sercial de Madeira 1	MW309788
Sercial de Madeira	5	7587	7.3	31-09 Sercial de Madeira 2	MW309789
Seneca	5	7645	23.8	31-11 Seneca	MW309790
Sultana	3	7596	9.2	32-11 Sultana	MW309791
Teroldego	4	7637	37.6	33-07 Teroldego	MW309792
Tibouren	3	7637	31.8	33-10 Tibouren	MW309793
Tinta Barroca	4	7629	8.1	33-12 Tinta Barroca 1	MW309794
Tinta Barroca	4	7636	27.9	33-12 Tinta Barroca 2	MW309795
Tribotu bianca	2	7638	46.6	34-05 Tribotu Bianca	MW309796
Tinta Cao	4	7686	31.9	34-12 Tinta Cao	MW309797
Valse Inzolia	2	7594	27	35-02 Valse Inzolia	MW309798
Verdelho	4	7613	12.7	35-05 Verdelho	MW309799
Vital	4	7644	18.5	35-08 Vital	MW309800
Viura	4	7646	17.9	35-09 Viura	MW309801
Weisser Vernatsch	3	7594	13.9	35-15 Weisser Vernatsch	MW309802
Zinfandel	3	7594	24.8	36-06 Zinfandel	MW309803
Welschriesling	3	7641	27.2	36-13 Welschriesling	MW309804
Villard blanc	5	7594	70.7	38-08 Villard Blanc	MW309805
Marechal Foch	2	7645	23.3	38-10 Marechal Foch	MW309806
Tannat	2	7655	11.6	50-05 Tannat	MW309807
Staufer	3	7614	11.6	55-01 Staufer	MW309808
Phoenix	2	7642	8.6	55-02 Phoenix	MW309809