Supplementary Material Figures

A diverse virome of grapevine leafroll-infected leaves unveiled by dsRNA sequencing

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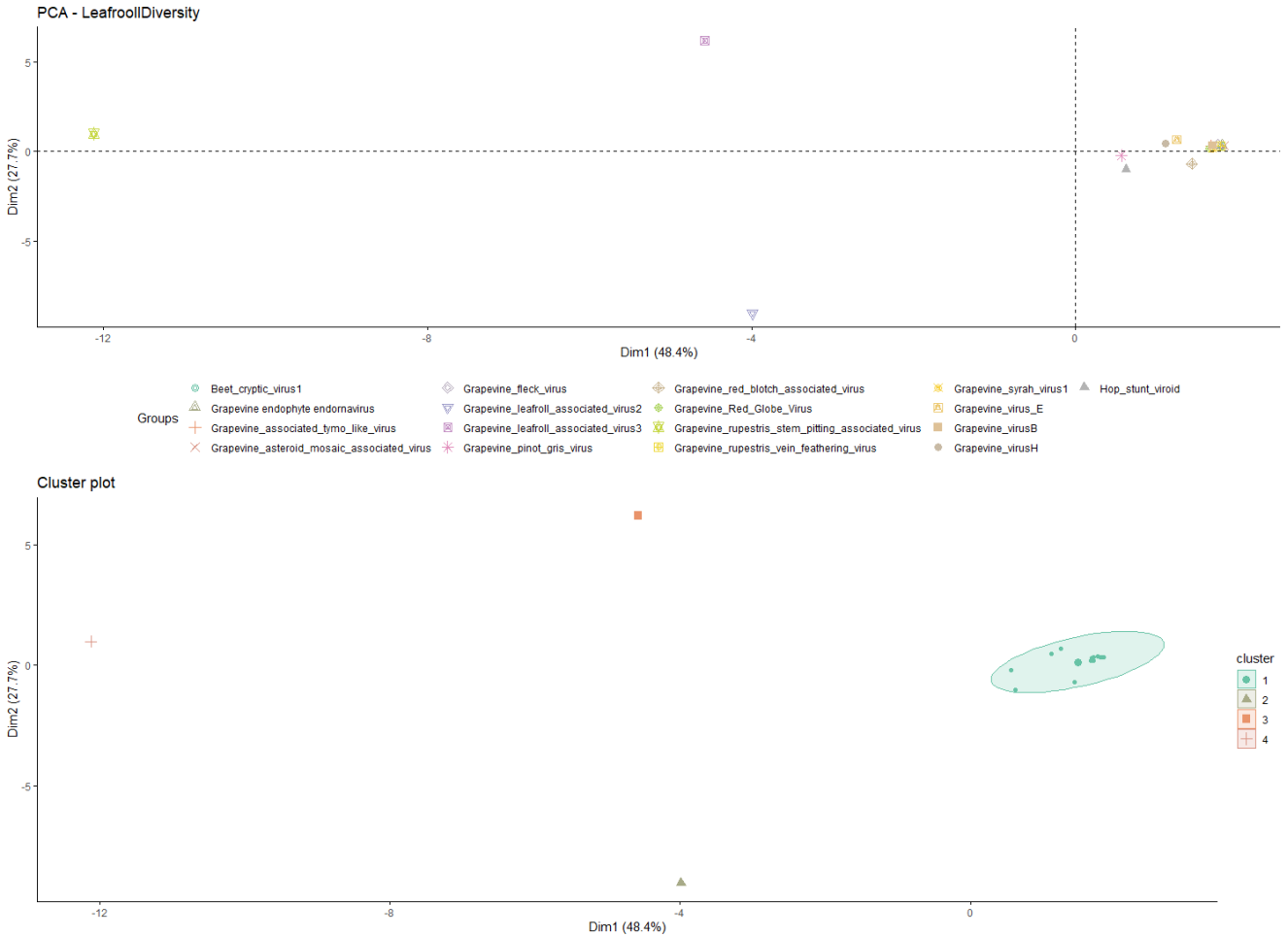

Figure S1. Discriminant principal component analysis of the virome and association between detected viruses and the mean proportion of viral read that mapped for a given virus (MPVR), total number of symptomatic leaf (TNSL) associated with a given virus, mean depth (MD), mean depth relative to the depth of the positive control virus (MDRC), mean relative abundance (MRA), the mean weight and genome size (GS). Showing groups of species that induce similar response.

13 **Table S1**. Co-occurence table displaying association between all events

Event_1	Event_2	Event1_inc	Event2_inc	obs_cooccur	prob_cooccur	exp_cooccur	p_lt	p_gt
BCV1	GLR3	2	38	2	0.017	1.2	1	0.32774
BCV1	GRSP	2	65	2	0.03	2	1	0.9697
BCV1	Symptom	2	47	0	0.022	1.4	0.07972	1
BCV1	V.vinifera.var	2	41	0	0.019	1.2	0.13986	1
GEE	GLR3	2	38	2	0.017	1.2	1	0.32774
GEE	GRSP	2	65	2	0.03	2	1	0.9697
GEE	Symptom	2	47	0	0.022	1.4	0.07972	1
GEE	V.vinifera.var	2	41	0	0.019	1.2	0.13986	1
GTLV	GLR2	4	30	3	0.028	1.8	0.96198	0.24082
GTLV	GLR3	4	38	4	0.035	2.3	1	0.10242
GTLV	GPG	4	26	4	0.024	1.6	1	0.02074
GTLV	GRSP	4	65	4	0.06	3.9	1	0.93939
GTLV	GVB	4	17	1	0.016	1	0.72855	0.70602
GTLV	HSVd	4	24	0	0.022	1.5	0.1553	1
GTLV	Symptom	4	47	0	0.043	2.8	0.00538	1
GTLV	V.vinifera.var	4	41	0	0.038	2.5	0.01755	1
GFV	GLR2	14	30	6	0.096	6.4	0.53488	0.69723
GFV	GLR3	14	38	9	0.122	8.1	0.80874	0.39821
GFV	GPG	14	26	4	0.084	5.5	0.26914	0.89456
GFV	GRB	14	9	2	0.029	1.9	0.71294	0.61597
GFV	GRG	14	11	6	0.035	2.3	0.99907	0.0082
GFV	GRSP	14	65	14	0.209	13.8	1	0.78788
GFV	GRVF	14	16	5	0.051	3.4	0.92672	0.21464
GFV	GSyV1	14	12	2	0.039	2.5	0.50614	0.7863
GFV	GVE	14	6	0	0.019	1.3	0.22407	1
GFV	GVB	14	17	5	0.055	3.6	0.90128	0.26295
GFV	GVH	14	9	0	0.029	1.9	0.0994	1

GFV	HSVd	14	24	3	0.077	5.1	0.15994	0.95198
GFV	Symptom	14	47	12	0.151	10	0.96106	0.15436
GFV	V.hybrid.Vidal	14	9	1	0.029	1.9	0.38403	0.9006
GFV	V.vinifera.var	14	41	11	0.132	8.7	0.96324	0.13062
GFV	V.sp.var	14	8	2	0.026	1.7	0.77968	0.54288
GLR2	GLR3	30	38	20	0.262	17.3	0.94735	0.13253
GLR2	GPG	30	26	13	0.179	11.8	0.80258	0.36471
GLR2	GRB	30	9	9	0.062	4.1	1	0.00039
GLR2	GRG	30	11	6	0.076	5	0.84	0.36841
GLR2	GRSP	30	65	30	0.448	29.5	1	0.54545
GLR2	GRVF	30	16	5	0.11	7.3	0.15329	0.9468
GLR2	GSyV1	30	12	5	0.083	5.5	0.51412	0.72753
GLR2	GVE	30	6	1	0.041	2.7	0.14591	0.97856
GLR2	GVB	30	17	11	0.117	7.7	0.98378	0.05851
GLR2	GVH	30	9	7	0.062	4.1	0.99392	0.04073
GLR2	HSVd	30	24	7	0.165	10.9	0.03898	0.98905
GLR2	Symptom	30	47	19	0.324	21.4	0.15451	0.94103
GLR2	V.hybrid.Vidal	30	9	8	0.062	4.1	0.99961	0.00608
GLR2	V.vinifera.var	30	41	19	0.282	18.6	0.66927	0.52841
GLR2	V.hybrid.var.	30	4	0	0.028	1.8	0.08173	1
GLR2	V.sp.var	30	8	2	0.055	3.6	0.19639	0.95113
GLR3	GPG	38	26	15	0.227	15	0.60536	0.59547
GLR3	GRB	38	9	2	0.079	5.2	0.02587	0.99662
GLR3	GRG	38	11	7	0.096	6.3	0.78003	0.46055
GLR3	GRSP	38	65	38	0.567	37.4	1	0.42424
GLR3	GRVF	38	16	7	0.14	9.2	0.15988	0.94202
GLR3	GSyV1	38	12	5	0.105	6.9	0.18121	0.93951
GLR3	GVE	38	6	5	0.052	3.5	0.96962	0.18507
GLR3	GVB	38	17	14	0.148	9.8	0.99742	0.01517
GLR3	GVH	38	9	9	0.079	5.2	1	0.0044

GLR3	HSVd	38	24	7	0.209	13.8	5e-04	0.99994
GLR3	Symptom	38	47	25	0.41	27.1	0.19603	0.92187
GLR3	V.hybrid.Vidal	38	9	8	0.079	5.2	0.9956	0.0414
GLR3	V.vinifera.var	38	41	20	0.358	23.6	0.05437	0.98352
GLR3	V.hybrid.var.	38	4	2	0.035	2.3	0.56984	0.79886
GLR3	V.sp.var	38	8	4	0.07	4.6	0.46198	0.80116
GPG	GRB	26	9	4	0.054	3.5	0.7605	0.50527
GPG	GRG	26	11	2	0.066	4.3	0.10541	0.97733
GPG	GRSP	26	65	26	0.388	25.6	1	0.60606
GPG	GRVF	26	16	6	0.096	6.3	0.55024	0.6779
GPG	GSyV1	26	12	6	0.072	4.7	0.8759	0.30361
GPG	GVE	26	6	2	0.036	2.4	0.55744	0.76946
GPG	GVB	26	17	2	0.101	6.7	0.00588	0.99932
GPG	GVH	26	9	8	0.054	3.5	0.99992	0.00177
GPG	HSVd	26	24	13	0.143	9.5	0.98275	0.05576
GPG	Symptom	26	47	15	0.281	18.5	0.04747	0.98688
GPG	V.hybrid.Vidal	26	9	8	0.054	3.5	0.99992	0.00177
GPG	V.vinifera.var	26	41	14	0.245	16.2	0.19534	0.91544
GPG	V.hybrid.var.	26	4	1	0.024	1.6	0.48323	0.8732
GPG	V.sp.var	26	8	0	0.048	3.2	0.01339	1
GRB	GRG	9	11	1	0.023	1.5	0.53362	0.82822
GRB	GRSP	9	65	9	0.134	8.9	1	0.86364
GRB	GRVF	9	16	1	0.033	2.2	0.29976	0.93231
GRB	GSyV1	9	12	1	0.025	1.6	0.48099	0.85633
GRB	GVB	9	17	2	0.035	2.3	0.57825	0.73737
GRB	GVH	9	9	0	0.019	1.2	0.24305	1
GRB	HSVd	9	24	6	0.05	3.3	0.99108	0.05067
GRB	Symptom	9	47	8	0.097	6.4	0.96319	0.19823
GRB	V.hybrid.Vidal	9	9	0	0.019	1.2	0.24305	1
GRB	V.vinifera.var	9	41	9	0.085	5.6	1	0.00947

GRB	V.sp.var	9	8	0	0.017	1.1	0.2877	1
GRG	GRSP	11	65	11	0.164	10.8	1	0.83333
GRG	GRVF	11	16	5	0.04	2.7	0.9815	0.08312
GRG	GSyV1	11	12	4	0.03	2	0.97799	0.10363
GRG	GVE	11	6	1	0.015	1	0.74023	0.68094
GRG	GVB	11	17	5	0.043	2.8	0.97375	0.10682
GRG	GVH	11	9	1	0.023	1.5	0.53362	0.82822
GRG	HSVd	11	24	2	0.061	4	0.15144	0.96314
GRG	Symptom	11	47	8	0.119	7.8	0.67525	0.60845
GRG	V.hybrid.Vidal	11	9	2	0.023	1.5	0.83516	0.46638
GRG	V.vinifera.var	11	41	7	0.104	6.8	0.66851	0.59627
GRG	V.sp.var	11	8	1	0.02	1.3	0.60063	0.78801
GRSP	GRVF	65	16	16	0.239	15.8	1	0.75758
GRSP	GSyV1	65	12	11	0.179	11.8	0.18182	1
GRSP	GVE	65	6	6	0.09	5.9	1	0.90909
GRSP	GVB	65	17	16	0.254	16.7	0.25758	1
GRSP	GVH	65	9	9	0.134	8.9	1	0.86364
GRSP	HSVd	65	24	23	0.358	23.6	0.36364	1
GRSP	Symptom	65	47	46	0.701	46.3	0.71212	1
GRSP	V.hybrid.Vidal	65	9	9	0.134	8.9	1	0.86364
GRSP	V.vinifera.var	65	41	41	0.612	40.4	1	0.37879
GRSP	V.hybrid.var.	65	4	4	0.06	3.9	1	0.93939
GRSP	V.sp.var	65	8	7	0.119	7.9	0.12121	1
GRVF	GSyV1	16	12	6	0.044	2.9	0.99443	0.03142
GRVF	GVE	16	6	0	0.022	1.5	0.17489	1
GRVF	GVB	16	17	4	0.062	4.1	0.60803	0.64867
GRVF	GVH	16	9	1	0.033	2.2	0.29976	0.93231
GRVF	HSVd	16	24	8	0.088	5.8	0.94386	0.15761
GRVF	Symptom	16	47	11	0.173	11.4	0.51714	0.71962
GRVF	V.hybrid.Vidal	16	9	1	0.033	2.2	0.29976	0.93231

GRVF	V.vinifera.var	16	41	13	0.151	9.9	0.98567	0.06171
GRVF	V.sp.var	16	8	1	0.029	1.9	0.37172	0.90653
GSyV1	GVE	12	6	0	0.017	1.1	0.28426	1
GSyV1	GVB	12	17	4	0.047	3.1	0.84819	0.36983
GSyV1	GVH	12	9	1	0.025	1.6	0.48099	0.85633
GSyV1	HSVd	12	24	6	0.066	4.4	0.92006	0.22337
GSyV1	Symptom	12	47	7	0.129	8.5	0.2265	0.92206
GSyV1	V.hybrid.Vidal	12	9	2	0.025	1.6	0.79678	0.51901
GSyV1	V.vinifera.var	12	41	6	0.113	7.5	0.26219	0.89957
GSyV1	V.sp.var	12	8	2	0.022	1.5	0.84795	0.44883
GVE	GVB	6	17	3	0.023	1.5	0.96572	0.17217
GVE	HSVd	6	24	2	0.033	2.2	0.62244	0.71756
GVE	Symptom	6	47	4	0.065	4.3	0.56105	0.77464
GVE	V.vinifera.var	6	41	1	0.056	3.7	0.02592	0.99805
GVB	GVH	17	9	2	0.035	2.3	0.57825	0.73737
GVB	HSVd	17	24	4	0.094	6.2	0.16282	0.94496
GVB	Symptom	17	47	14	0.183	12.1	0.93647	0.19511
GVB	V.hybrid.Vidal	17	9	2	0.035	2.3	0.57825	0.73737
GVB	V.vinifera.var	17	41	9	0.16	10.6	0.26715	0.88346
GVB	V.hybrid.var.	17	4	3	0.016	1	0.9967	0.04953
GVB	V.sp.var	17	8	3	0.031	2.1	0.88965	0.33611
GVH	HSVd	9	24	0	0.05	3.3	0.01205	1
GVH	Symptom	9	47	0	0.097	6.4	0	1
GVH	V.hybrid.Vidal	9	9	6	0.019	1.2	1	7e-05
GVH	V.vinifera.var	9	41	0	0.085	5.6	6e-05	1
GVH	V.sp.var	9	8	0	0.017	1.1	0.2877	1
HSVd	Symptom	24	47	20	0.259	17.1	0.97594	0.08465
HSVd	V.hybrid.Vidal	24	9	0	0.05	3.3	0.01205	1
HSVd	V.vinifera.var	24	41	19	0.226	14.9	0.99343	0.02739
HSVd	V.hybrid.var.	24	4	3	0.022	1.5	0.98526	0.13269

HSVd	V.sp.var	24	8	1	0.044	2.9	0.13328	0.97945
Symptom	V.hybrid.Vidal	47	9	0	0.097	6.4	0	1
Symptom	V.vinifera.var	47	41	38	0.442	29.2	1	0
Symptom	V.hybrid.var.	47	4	3	0.043	2.8	0.75252	0.67495
Symptom	V.sp.var	47	8	5	0.086	5.7	0.41752	0.84127
V.hybrid.Vidal	V.vinifera.var	9	41	0	0.085	5.6	6e-05	1
V.hybrid.Vidal	V.sp.var	9	8	0	0.017	1.1	0.2877	1
V.vinifera.var	V.hybrid.var.	41	4	0	0.038	2.5	0.01755	1
V.vinifera.var	V.sp.var	41	8	0	0.075	5	0.00019	1

Table S2. GenBank accession numbers of grapevine leafroll-associated virus 2 and their nucleotide positions of sequences used for generation of concatenated sequences in this study

Sample*	Isolate	GB acc.	Positions of sequence segments used								
	12G4102	MH814500	1313-2212	3635-4346	5147-5358	6125-6302	6720-6967	10495-10645	12316-13117	13582-14309	14586-16442

	12G4103	MH814498	1298-2212	3635-4346	5147-5358	6125-6302	6720-6967	10492-10644	12315-13116	13581-14308	14582-16436
	ISA-BR	KX774192	1323-2237	3660-4371	5172-5383	6147-6324	6742-6989	10488-10645	12316-13117	13582-14309	14564-16433
	Goldfinger	KU508672	1320-2219	3642-4353	5154-5365	6132-6309	6727-6974	10502-10652	12323-13124	13589-14316	14593-16449
DSJPN1	DSIPN1_GLRaV2-01	MT899925	103-1002	2425-3136	3937-4148	4915-5092	5510-5757	9285-9435	11106-11907	12372-13099	13376-15232
DSJPN2	DSIPN2_GLRaV2-01	MT899926	1278-2177	3600-4311	5112-5323	6090-6267	6685-6932	10460-10610	12281-13082	13547-14274	14551-16407
DSJPN3	DSIPN3_GLRaV2-01	MT899927	1128-2027	3450-4161	4962-5173	5940-6117	6535-6782	10310-10460	12131-12932	13397-14124	14401-16257
DSJPN4	DSIPN4_GLRaV2-01	MT899928	1276-2175	3598-4309	5110-5321	6088-6265	6683-6930	10458-10608	12279-13080	13545-14272	14549-16405
DSJPN5	DSIPN5_GLRaV2-01	MT899929	519-1418	2841-3552	4353-4564	5331-5508	5926-6173	9701-9851	11522-12323	12788-13515	13792-15648
DSJPN9	DSIPN9_GLRaV2-01	MT899930	491-1390	2813-3524	4325-4536	5303-5480	5898-6145	9673-9823	11492-12295	12760-13487	13764-15620

*collected in this study.

Table S3. GenBank accession numbers of grapevine rupestris stem pitting-associated virus and their nucleotide positions of sequences used for generation of concatenated sequences used in this study

Sample/GB acc.#	Isolate/Strain	Positions of Sequence segments/GB acc.#				
MG938295	28	379-854	1056-1757	2165-3045	3357-6569	7191-8326
AY368590	Syrah	392-867	1069-1771	2179-3058	3370-6582	7204-8339
MG938303	24	394-869	1071-1772	2180-3060	3372-6584	7206-8341
BacPN4*	BacPN4_RSP-01	MT832848	MT832859	MT832870	MT832881	MT855968
BacPN8*	BacPN8_RSP-01	MT832849	MT832860	MT832871	MT832882	MT855969

BacPN9*	BacPN9_RSP-01	MT832850	MT832861	MT832872	MT832883	MT855970
BacSB11*	BacSB11_RSP-01	MT832851	MT832862	MT832873	MT832884	MT855971
BacVd11*	BacVd11_RSP-01	MT832852	MT832863	MT832874	MT832885	MT855972
BIO3_36J*	BIO3_36J_RSP-01	MT832853	MT832864	MT832875	MT832886	MT855973
CO15_56J*	CO15_56J_RSP-01	MT832854	MT832865	MT832876	MT832887	MT855974
DM_85*	DM_85_RSP-01	MT832855	MT832866	MT832877	MT832888	MT855975
BacMF3*	BacMF3_RSP-01	MT832856	MT832867	MT832878	MT832889	MT855976
BacMF6*	BacMF6_RSP-01	MT832857	MT832868	MT832879	MT832890	MT855977
FrTM6_75J*	FrTM6_75J_RSP-01	MT832858	MT832869	MT832880	MT832891	MT855978

*collected in this study.