Supplementary Material Figures

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

Dong Xu1, Pierre Lemoyne1, Issam E. Ben Moussa1,2, Carole Beaulieu2 and Odile Carisse1, Mamadou L. Fall 1*

1 Centre de recherche et de développement de Saint-Jean-sur-Richelieu, Agriculture et Agroalimentaire Canada, St-Jean-sur-Richelieu, Qc, Canada J3B 3E6; pierre.lemoyne@canada.ca; dong.xu@canada.ca; odile.carisse@canada.ca
2 Département de Biologie, Université de Sherbrooke, Canada, J1K 2R1; Issam.Eddine.Ben.Moussa@USherbrooke.ca; Carole.Beaulieu@USherbrooke.ca
* Correspondence: mamadouamine.fall@canada.ca; Tel.: 579-224-3024 (M.L.F.)
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.
Table S1. Co-occurrence table displaying association between all events

<table>
<thead>
<tr>
<th>Event_1</th>
<th>Event_2</th>
<th>Event1_inc</th>
<th>Event2_inc</th>
<th>obs_cooccur</th>
<th>prob_cooccur</th>
<th>exp_cooccur</th>
<th>p_lt</th>
<th>p_gt</th>
</tr>
</thead>
<tbody>
<tr>
<td>BCV1</td>
<td>GLR3</td>
<td>2</td>
<td>38</td>
<td>2</td>
<td>0.017</td>
<td>1.2</td>
<td>1</td>
<td>0.32774</td>
</tr>
<tr>
<td>BCV1</td>
<td>GRSP</td>
<td>2</td>
<td>65</td>
<td>2</td>
<td>0.03</td>
<td>2</td>
<td>1</td>
<td>0.9697</td>
</tr>
<tr>
<td>BCV1</td>
<td>Symptom</td>
<td>2</td>
<td>47</td>
<td>0</td>
<td>0.022</td>
<td>1.4</td>
<td>0.07972</td>
<td>1</td>
</tr>
<tr>
<td>BCV1</td>
<td>V.vinifera.var</td>
<td>2</td>
<td>41</td>
<td>0</td>
<td>0.019</td>
<td>1.2</td>
<td>0.13986</td>
<td>1</td>
</tr>
<tr>
<td>GEE</td>
<td>GLR3</td>
<td>2</td>
<td>38</td>
<td>2</td>
<td>0.017</td>
<td>1.2</td>
<td>1</td>
<td>0.32774</td>
</tr>
<tr>
<td>GEE</td>
<td>GRSP</td>
<td>2</td>
<td>65</td>
<td>2</td>
<td>0.03</td>
<td>2</td>
<td>1</td>
<td>0.9697</td>
</tr>
<tr>
<td>GEE</td>
<td>Symptom</td>
<td>2</td>
<td>47</td>
<td>0</td>
<td>0.022</td>
<td>1.4</td>
<td>0.07972</td>
<td>1</td>
</tr>
<tr>
<td>GEE</td>
<td>V.vinifera.var</td>
<td>2</td>
<td>41</td>
<td>0</td>
<td>0.019</td>
<td>1.2</td>
<td>0.13986</td>
<td>1</td>
</tr>
<tr>
<td>GTLV</td>
<td>GLR2</td>
<td>4</td>
<td>30</td>
<td>3</td>
<td>0.028</td>
<td>1.8</td>
<td>0.96198</td>
<td>0.24082</td>
</tr>
<tr>
<td>GTLV</td>
<td>GLR3</td>
<td>4</td>
<td>38</td>
<td>4</td>
<td>0.035</td>
<td>2.3</td>
<td>1</td>
<td>0.10242</td>
</tr>
<tr>
<td>GTLV</td>
<td>GPG</td>
<td>4</td>
<td>26</td>
<td>4</td>
<td>0.024</td>
<td>1.6</td>
<td>1</td>
<td>0.02074</td>
</tr>
<tr>
<td>GTLV</td>
<td>GRSP</td>
<td>4</td>
<td>65</td>
<td>4</td>
<td>0.06</td>
<td>3.9</td>
<td>1</td>
<td>0.93939</td>
</tr>
<tr>
<td>GTLV</td>
<td>GVB</td>
<td>4</td>
<td>17</td>
<td>1</td>
<td>0.016</td>
<td>1</td>
<td>0.72855</td>
<td>0.70602</td>
</tr>
<tr>
<td>GTLV</td>
<td>HSVd</td>
<td>4</td>
<td>24</td>
<td>0</td>
<td>0.022</td>
<td>1.5</td>
<td>0.1553</td>
<td>1</td>
</tr>
<tr>
<td>GTLV</td>
<td>Symptom</td>
<td>4</td>
<td>47</td>
<td>0</td>
<td>0.043</td>
<td>2.8</td>
<td>0.00538</td>
<td>1</td>
</tr>
<tr>
<td>GTLV</td>
<td>V.vinifera.var</td>
<td>4</td>
<td>41</td>
<td>0</td>
<td>0.038</td>
<td>2.5</td>
<td>0.01755</td>
<td>1</td>
</tr>
<tr>
<td>GFV</td>
<td>GLR2</td>
<td>14</td>
<td>30</td>
<td>6</td>
<td>0.096</td>
<td>6.4</td>
<td>0.53488</td>
<td>0.69723</td>
</tr>
<tr>
<td>GFV</td>
<td>GLR3</td>
<td>14</td>
<td>38</td>
<td>9</td>
<td>0.122</td>
<td>8.1</td>
<td>0.80874</td>
<td>0.39821</td>
</tr>
<tr>
<td>GFV</td>
<td>GPG</td>
<td>14</td>
<td>26</td>
<td>4</td>
<td>0.084</td>
<td>5.5</td>
<td>0.26914</td>
<td>0.89456</td>
</tr>
<tr>
<td>GFV</td>
<td>GRB</td>
<td>14</td>
<td>9</td>
<td>2</td>
<td>0.029</td>
<td>1.9</td>
<td>0.71294</td>
<td>0.61597</td>
</tr>
<tr>
<td>GFV</td>
<td>GRG</td>
<td>14</td>
<td>11</td>
<td>6</td>
<td>0.035</td>
<td>2.3</td>
<td>0.99907</td>
<td>0.0082</td>
</tr>
<tr>
<td>GFV</td>
<td>GRSP</td>
<td>14</td>
<td>65</td>
<td>14</td>
<td>0.209</td>
<td>13.8</td>
<td>1</td>
<td>0.8788</td>
</tr>
<tr>
<td>GFV</td>
<td>GRVF</td>
<td>14</td>
<td>16</td>
<td>5</td>
<td>0.051</td>
<td>3.4</td>
<td>0.92672</td>
<td>0.21464</td>
</tr>
<tr>
<td>GFV</td>
<td>GSyV1</td>
<td>14</td>
<td>12</td>
<td>2</td>
<td>0.039</td>
<td>2.5</td>
<td>0.50614</td>
<td>0.7863</td>
</tr>
<tr>
<td>GFV</td>
<td>GVE</td>
<td>14</td>
<td>6</td>
<td>0</td>
<td>0.019</td>
<td>1.3</td>
<td>0.22407</td>
<td>1</td>
</tr>
<tr>
<td>GFV</td>
<td>GVB</td>
<td>14</td>
<td>17</td>
<td>5</td>
<td>0.055</td>
<td>3.6</td>
<td>0.90128</td>
<td>0.26295</td>
</tr>
<tr>
<td>GFV</td>
<td>GVH</td>
<td>14</td>
<td>9</td>
<td>0</td>
<td>0.029</td>
<td>1.9</td>
<td>0.8994</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.077</td>
<td></td>
<td>0.15994</td>
<td>0.95198</td>
</tr>
<tr>
<td>----------------</td>
<td>----------------</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>-------</td>
<td>-----</td>
<td>----------</td>
<td>----------</td>
</tr>
<tr>
<td>GFV</td>
<td>HSVd</td>
<td>14</td>
<td>24</td>
<td>3</td>
<td>0.151</td>
<td>12</td>
<td>0.15106</td>
<td>0.15436</td>
</tr>
<tr>
<td>GFV</td>
<td>Symptom</td>
<td>14</td>
<td>47</td>
<td>5</td>
<td>0.029</td>
<td>9</td>
<td>0.38403</td>
<td>0.9006</td>
</tr>
<tr>
<td>GFV</td>
<td>V.hybrid.Vidal</td>
<td>14</td>
<td>9</td>
<td>1</td>
<td>0.132</td>
<td>41</td>
<td>0.96324</td>
<td>0.13062</td>
</tr>
<tr>
<td>GFV</td>
<td>V.vinifera.var</td>
<td>14</td>
<td>9</td>
<td>1</td>
<td>0.026</td>
<td>8</td>
<td>0.77968</td>
<td>0.54288</td>
</tr>
<tr>
<td>GLR2</td>
<td>GLR3</td>
<td>30</td>
<td>38</td>
<td>20</td>
<td>0.262</td>
<td>11</td>
<td>0.94735</td>
<td>0.13253</td>
</tr>
<tr>
<td>GLR2</td>
<td>GPG</td>
<td>30</td>
<td>26</td>
<td>13</td>
<td>0.179</td>
<td>10</td>
<td>0.80258</td>
<td>0.36471</td>
</tr>
<tr>
<td>GLR2</td>
<td>GRB</td>
<td>30</td>
<td>9</td>
<td>9</td>
<td>0.062</td>
<td>9</td>
<td>1</td>
<td>0.00039</td>
</tr>
<tr>
<td>GLR2</td>
<td>GRG</td>
<td>30</td>
<td>11</td>
<td>6</td>
<td>0.076</td>
<td>6</td>
<td>0.84</td>
<td>0.36841</td>
</tr>
<tr>
<td>GLR2</td>
<td>GRSP</td>
<td>30</td>
<td>65</td>
<td>30</td>
<td>0.448</td>
<td>5</td>
<td>1</td>
<td>0.54545</td>
</tr>
<tr>
<td>GLR2</td>
<td>GVH</td>
<td>30</td>
<td>16</td>
<td>5</td>
<td>0.11</td>
<td>7</td>
<td>0.15329</td>
<td>0.9468</td>
</tr>
<tr>
<td>GLR2</td>
<td>HSVd</td>
<td>30</td>
<td>24</td>
<td>7</td>
<td>0.165</td>
<td>19</td>
<td>0.51412</td>
<td>0.72753</td>
</tr>
<tr>
<td>GLR2</td>
<td>Symptom</td>
<td>30</td>
<td>47</td>
<td>19</td>
<td>0.324</td>
<td>15</td>
<td>0.15451</td>
<td>0.94103</td>
</tr>
<tr>
<td>GLR2</td>
<td>V.hybrid.Vidal</td>
<td>30</td>
<td>9</td>
<td>8</td>
<td>0.062</td>
<td>9</td>
<td>0.99961</td>
<td>0.00608</td>
</tr>
<tr>
<td>GLR2</td>
<td>V.vinifera.var</td>
<td>30</td>
<td>41</td>
<td>19</td>
<td>0.282</td>
<td>15</td>
<td>0.66927</td>
<td>0.52841</td>
</tr>
<tr>
<td>GLR2</td>
<td>V.hybrid.var.</td>
<td>30</td>
<td>4</td>
<td>0</td>
<td>0.028</td>
<td>2</td>
<td>0.08173</td>
<td>1</td>
</tr>
<tr>
<td>GLR2</td>
<td>V.sp.var</td>
<td>30</td>
<td>8</td>
<td>2</td>
<td>0.055</td>
<td>19</td>
<td>0.19639</td>
<td>0.95113</td>
</tr>
<tr>
<td>GLR3</td>
<td>GPG</td>
<td>38</td>
<td>26</td>
<td>15</td>
<td>0.227</td>
<td>15</td>
<td>0.60536</td>
<td>0.59547</td>
</tr>
<tr>
<td>GLR3</td>
<td>GRB</td>
<td>38</td>
<td>9</td>
<td>2</td>
<td>0.079</td>
<td>5</td>
<td>0.32987</td>
<td>0.99662</td>
</tr>
<tr>
<td>GLR3</td>
<td>GRG</td>
<td>38</td>
<td>11</td>
<td>7</td>
<td>0.096</td>
<td>5</td>
<td>0.78003</td>
<td>0.46085</td>
</tr>
<tr>
<td>GLR3</td>
<td>GRSP</td>
<td>38</td>
<td>65</td>
<td>38</td>
<td>0.567</td>
<td>37.4</td>
<td>0.42424</td>
<td></td>
</tr>
<tr>
<td>GLR3</td>
<td>GRVF</td>
<td>38</td>
<td>16</td>
<td>7</td>
<td>0.14</td>
<td>9</td>
<td>0.15988</td>
<td>0.94202</td>
</tr>
<tr>
<td>GLR3</td>
<td>GSyV1</td>
<td>38</td>
<td>12</td>
<td>5</td>
<td>0.105</td>
<td>9</td>
<td>0.18121</td>
<td>0.93951</td>
</tr>
<tr>
<td>GLR3</td>
<td>GVE</td>
<td>38</td>
<td>6</td>
<td>5</td>
<td>0.052</td>
<td>3.5</td>
<td>0.96962</td>
<td>0.18507</td>
</tr>
<tr>
<td>GLR3</td>
<td>GVB</td>
<td>38</td>
<td>17</td>
<td>14</td>
<td>0.148</td>
<td>9.8</td>
<td>0.99742</td>
<td>0.01517</td>
</tr>
<tr>
<td>GLR3</td>
<td>GVH</td>
<td>38</td>
<td>9</td>
<td>9</td>
<td>0.079</td>
<td>5.2</td>
<td>1</td>
<td>0.0044</td>
</tr>
<tr>
<td>GLR3</td>
<td>HSVd</td>
<td>38</td>
<td>24</td>
<td>7</td>
<td>0.209</td>
<td>13.8</td>
<td>0e-04</td>
<td>0.99994</td>
</tr>
<tr>
<td>GLR3</td>
<td>Symptom</td>
<td>38</td>
<td>47</td>
<td>25</td>
<td>0.41</td>
<td>27.1</td>
<td>0.19603</td>
<td>0.92187</td>
</tr>
<tr>
<td>GLR3</td>
<td>V.hybrid.Vidal</td>
<td>38</td>
<td>9</td>
<td>8</td>
<td>0.079</td>
<td>5.2</td>
<td>0.9956</td>
<td>0.0414</td>
</tr>
<tr>
<td>GLR3</td>
<td>V.vinifera.var</td>
<td>38</td>
<td>41</td>
<td>20</td>
<td>0.358</td>
<td>23.6</td>
<td>0.05437</td>
<td>0.98352</td>
</tr>
<tr>
<td>GLR3</td>
<td>V.hybrid.var.</td>
<td>38</td>
<td>4</td>
<td>2</td>
<td>0.035</td>
<td>2.3</td>
<td>0.56984</td>
<td>0.79886</td>
</tr>
<tr>
<td>GLR3</td>
<td>V.sp.var</td>
<td>38</td>
<td>8</td>
<td>4</td>
<td>0.07</td>
<td>4.6</td>
<td>0.46198</td>
<td>0.80116</td>
</tr>
<tr>
<td>GPG</td>
<td>GRB</td>
<td>26</td>
<td>9</td>
<td>4</td>
<td>0.054</td>
<td>3.5</td>
<td>0.7605</td>
<td>0.50527</td>
</tr>
<tr>
<td>GPG</td>
<td>GRG</td>
<td>26</td>
<td>11</td>
<td>2</td>
<td>0.066</td>
<td>4.3</td>
<td>0.10541</td>
<td>0.97733</td>
</tr>
<tr>
<td>GPG</td>
<td>GRSP</td>
<td>26</td>
<td>65</td>
<td>26</td>
<td>0.388</td>
<td>25.6</td>
<td>1</td>
<td>0.60606</td>
</tr>
<tr>
<td>GPG</td>
<td>GRYF</td>
<td>26</td>
<td>16</td>
<td>6</td>
<td>0.096</td>
<td>6.3</td>
<td>0.55024</td>
<td>0.6779</td>
</tr>
<tr>
<td>GPG</td>
<td>GSyV1</td>
<td>26</td>
<td>12</td>
<td>6</td>
<td>0.072</td>
<td>4.7</td>
<td>0.8759</td>
<td>0.30361</td>
</tr>
<tr>
<td>GPG</td>
<td>GVE</td>
<td>26</td>
<td>6</td>
<td>2</td>
<td>0.036</td>
<td>2.4</td>
<td>0.55744</td>
<td>0.76946</td>
</tr>
<tr>
<td>GPG</td>
<td>GVB</td>
<td>26</td>
<td>17</td>
<td>2</td>
<td>0.101</td>
<td>6.7</td>
<td>0.00588</td>
<td>0.99932</td>
</tr>
<tr>
<td>GPG</td>
<td>GVH</td>
<td>26</td>
<td>9</td>
<td>8</td>
<td>0.054</td>
<td>3.5</td>
<td>0.99992</td>
<td>0.00177</td>
</tr>
<tr>
<td>GPG</td>
<td>HSVd</td>
<td>26</td>
<td>24</td>
<td>13</td>
<td>0.143</td>
<td>9.5</td>
<td>0.98275</td>
<td>0.05576</td>
</tr>
<tr>
<td>GPG</td>
<td>Symptom</td>
<td>26</td>
<td>47</td>
<td>15</td>
<td>0.281</td>
<td>18.5</td>
<td>0.04747</td>
<td>0.98688</td>
</tr>
<tr>
<td>GPG</td>
<td>V.hybrid.Vidal</td>
<td>26</td>
<td>9</td>
<td>8</td>
<td>0.054</td>
<td>3.5</td>
<td>0.99992</td>
<td>0.00177</td>
</tr>
<tr>
<td>GPG</td>
<td>V.vinifera.var</td>
<td>26</td>
<td>41</td>
<td>14</td>
<td>0.245</td>
<td>16.2</td>
<td>0.19534</td>
<td>0.91544</td>
</tr>
<tr>
<td>GPG</td>
<td>V.hybrid.var.</td>
<td>26</td>
<td>4</td>
<td>1</td>
<td>0.024</td>
<td>1.6</td>
<td>0.48323</td>
<td>0.8732</td>
</tr>
<tr>
<td>GPG</td>
<td>V.sp.var</td>
<td>26</td>
<td>8</td>
<td>0</td>
<td>0.048</td>
<td>3.2</td>
<td>0.01339</td>
<td>1</td>
</tr>
<tr>
<td>GRB</td>
<td>GRG</td>
<td>9</td>
<td>11</td>
<td>1</td>
<td>0.023</td>
<td>1.5</td>
<td>0.53362</td>
<td>0.82822</td>
</tr>
<tr>
<td>GRB</td>
<td>GRSP</td>
<td>9</td>
<td>65</td>
<td>9</td>
<td>0.134</td>
<td>8.9</td>
<td>1</td>
<td>0.86364</td>
</tr>
<tr>
<td>GRB</td>
<td>GRYF</td>
<td>9</td>
<td>16</td>
<td>1</td>
<td>0.033</td>
<td>2.2</td>
<td>0.29976</td>
<td>0.93231</td>
</tr>
<tr>
<td>GRB</td>
<td>GSyV1</td>
<td>9</td>
<td>12</td>
<td>1</td>
<td>0.025</td>
<td>1.6</td>
<td>0.48099</td>
<td>0.85633</td>
</tr>
<tr>
<td>GRB</td>
<td>GVB</td>
<td>9</td>
<td>17</td>
<td>2</td>
<td>0.035</td>
<td>2.3</td>
<td>0.57825</td>
<td>0.73737</td>
</tr>
<tr>
<td>GRB</td>
<td>GVH</td>
<td>9</td>
<td>9</td>
<td>0</td>
<td>0.019</td>
<td>1.2</td>
<td>0.24305</td>
<td>1</td>
</tr>
<tr>
<td>GRB</td>
<td>HSVd</td>
<td>9</td>
<td>24</td>
<td>6</td>
<td>0.05</td>
<td>3.3</td>
<td>0.99108</td>
<td>0.05067</td>
</tr>
<tr>
<td>GRB</td>
<td>Symptom</td>
<td>9</td>
<td>47</td>
<td>8</td>
<td>0.097</td>
<td>6.4</td>
<td>0.96319</td>
<td>0.19823</td>
</tr>
<tr>
<td>GRB</td>
<td>V.hybrid.Vidal</td>
<td>9</td>
<td>9</td>
<td>0</td>
<td>0.019</td>
<td>1.2</td>
<td>0.24305</td>
<td>1</td>
</tr>
<tr>
<td>GRB</td>
<td>V.vinifera.var</td>
<td>9</td>
<td>41</td>
<td>9</td>
<td>0.085</td>
<td>5.6</td>
<td>1</td>
<td>0.00947</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-----</td>
<td>-------</td>
<td>-----</td>
<td>-------</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td></td>
</tr>
<tr>
<td>GRB</td>
<td>V.sp.var</td>
<td>9</td>
<td>8</td>
<td>0</td>
<td>0.017</td>
<td>1.1</td>
<td>0.2877</td>
<td>1</td>
</tr>
<tr>
<td>GRG</td>
<td>GRSP</td>
<td>11</td>
<td>65</td>
<td>11</td>
<td>0.164</td>
<td>10.8</td>
<td>1</td>
<td>0.83333</td>
</tr>
<tr>
<td>GRG</td>
<td>GRVF</td>
<td>11</td>
<td>16</td>
<td>5</td>
<td>0.04</td>
<td>2.7</td>
<td>0.9815</td>
<td>0.08312</td>
</tr>
<tr>
<td>GRG</td>
<td>GSyV1</td>
<td>11</td>
<td>12</td>
<td>4</td>
<td>0.03</td>
<td>2</td>
<td>0.97799</td>
<td>0.10363</td>
</tr>
<tr>
<td>GRG</td>
<td>GVE</td>
<td>11</td>
<td>6</td>
<td>1</td>
<td>0.015</td>
<td>1</td>
<td>0.74023</td>
<td>0.68094</td>
</tr>
<tr>
<td>GRG</td>
<td>GVB</td>
<td>11</td>
<td>17</td>
<td>5</td>
<td>0.043</td>
<td>2.8</td>
<td>0.97375</td>
<td>0.10682</td>
</tr>
<tr>
<td>GRG</td>
<td>GVH</td>
<td>11</td>
<td>9</td>
<td>1</td>
<td>0.023</td>
<td>1.5</td>
<td>0.53362</td>
<td>0.82822</td>
</tr>
<tr>
<td>GRG</td>
<td>HSVd</td>
<td>11</td>
<td>24</td>
<td>2</td>
<td>0.061</td>
<td>4</td>
<td>0.15144</td>
<td>0.96314</td>
</tr>
<tr>
<td>GRG</td>
<td>Symptom</td>
<td>11</td>
<td>47</td>
<td>8</td>
<td>0.119</td>
<td>7.8</td>
<td>0.67525</td>
<td>0.60845</td>
</tr>
<tr>
<td>GRG</td>
<td>V.hybrid.Vidal</td>
<td>11</td>
<td>9</td>
<td>2</td>
<td>0.023</td>
<td>1.5</td>
<td>0.83516</td>
<td>0.46638</td>
</tr>
<tr>
<td>GRG</td>
<td>V.vinifera.var</td>
<td>11</td>
<td>41</td>
<td>7</td>
<td>0.104</td>
<td>6.8</td>
<td>0.66851</td>
<td>0.59627</td>
</tr>
<tr>
<td>GRG</td>
<td>V.sp.var</td>
<td>11</td>
<td>8</td>
<td>1</td>
<td>0.02</td>
<td>1.3</td>
<td>0.60063</td>
<td>0.78801</td>
</tr>
<tr>
<td>GRSP</td>
<td>GRVF</td>
<td>65</td>
<td>16</td>
<td>16</td>
<td>0.239</td>
<td>15.8</td>
<td>1</td>
<td>0.75758</td>
</tr>
<tr>
<td>GRSP</td>
<td>GSyV1</td>
<td>65</td>
<td>12</td>
<td>11</td>
<td>0.179</td>
<td>11.8</td>
<td>0.18182</td>
<td>1</td>
</tr>
<tr>
<td>GRSP</td>
<td>GVE</td>
<td>65</td>
<td>6</td>
<td>6</td>
<td>0.09</td>
<td>5.9</td>
<td>1</td>
<td>0.90909</td>
</tr>
<tr>
<td>GRSP</td>
<td>GVB</td>
<td>65</td>
<td>17</td>
<td>16</td>
<td>0.254</td>
<td>16.7</td>
<td>0.25758</td>
<td>1</td>
</tr>
<tr>
<td>GRSP</td>
<td>GVH</td>
<td>65</td>
<td>9</td>
<td>9</td>
<td>0.134</td>
<td>8.9</td>
<td>1</td>
<td>0.86364</td>
</tr>
<tr>
<td>GRSP</td>
<td>HSVd</td>
<td>65</td>
<td>24</td>
<td>23</td>
<td>0.358</td>
<td>23.6</td>
<td>0.36364</td>
<td>1</td>
</tr>
<tr>
<td>GRSP</td>
<td>Symptom</td>
<td>65</td>
<td>47</td>
<td>46</td>
<td>0.701</td>
<td>46.3</td>
<td>0.71212</td>
<td>1</td>
</tr>
<tr>
<td>GRSP</td>
<td>V.hybrid.Vidal</td>
<td>65</td>
<td>9</td>
<td>9</td>
<td>0.134</td>
<td>8.9</td>
<td>1</td>
<td>0.86364</td>
</tr>
<tr>
<td>GRSP</td>
<td>V.vinifera.var</td>
<td>65</td>
<td>41</td>
<td>41</td>
<td>0.612</td>
<td>40.4</td>
<td>1</td>
<td>0.37879</td>
</tr>
<tr>
<td>GRSP</td>
<td>V.hybrid.var.</td>
<td>65</td>
<td>4</td>
<td>4</td>
<td>0.06</td>
<td>3.9</td>
<td>1</td>
<td>0.93939</td>
</tr>
<tr>
<td>GRSP</td>
<td>V.sp.var</td>
<td>65</td>
<td>8</td>
<td>7</td>
<td>0.119</td>
<td>7.9</td>
<td>0.12121</td>
<td>1</td>
</tr>
<tr>
<td>GRVF</td>
<td>GSyV1</td>
<td>16</td>
<td>12</td>
<td>6</td>
<td>0.044</td>
<td>2.9</td>
<td>0.99443</td>
<td>0.03142</td>
</tr>
<tr>
<td>GRVF</td>
<td>GVE</td>
<td>16</td>
<td>6</td>
<td>0</td>
<td>0.022</td>
<td>1.5</td>
<td>0.17489</td>
<td>1</td>
</tr>
<tr>
<td>GRVF</td>
<td>GVB</td>
<td>16</td>
<td>17</td>
<td>4</td>
<td>0.062</td>
<td>4.1</td>
<td>0.60803</td>
<td>0.64867</td>
</tr>
<tr>
<td>GRVF</td>
<td>GVH</td>
<td>16</td>
<td>9</td>
<td>1</td>
<td>0.033</td>
<td>2.2</td>
<td>0.29976</td>
<td>0.93231</td>
</tr>
<tr>
<td>GRVF</td>
<td>HSVd</td>
<td>16</td>
<td>24</td>
<td>8</td>
<td>0.088</td>
<td>5.8</td>
<td>0.94386</td>
<td>0.15761</td>
</tr>
<tr>
<td>GRVF</td>
<td>Symptom</td>
<td>16</td>
<td>47</td>
<td>11</td>
<td>0.173</td>
<td>11.4</td>
<td>0.51714</td>
<td>0.71962</td>
</tr>
<tr>
<td>GRVF</td>
<td>V.hybrid.Vidal</td>
<td>16</td>
<td>9</td>
<td>1</td>
<td>0.033</td>
<td>2.2</td>
<td>0.29976</td>
<td>0.93231</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td></td>
</tr>
<tr>
<td>GRVF</td>
<td>V.vinifera.var</td>
<td>16</td>
<td>41</td>
<td>13</td>
<td>0.151</td>
<td>9.9</td>
<td>0.98567</td>
<td>0.06171</td>
</tr>
<tr>
<td>GRVF</td>
<td>V.sp.var</td>
<td>16</td>
<td>8</td>
<td>1</td>
<td>0.029</td>
<td>1.9</td>
<td>0.37172</td>
<td>0.90653</td>
</tr>
<tr>
<td>GSyV1</td>
<td>GVE</td>
<td>12</td>
<td>6</td>
<td>0</td>
<td>0.017</td>
<td>1.1</td>
<td>0.28426</td>
<td>1</td>
</tr>
<tr>
<td>GSyV1</td>
<td>GVB</td>
<td>12</td>
<td>17</td>
<td>4</td>
<td>0.047</td>
<td>3.1</td>
<td>0.84819</td>
<td>0.36983</td>
</tr>
<tr>
<td>GSyV1</td>
<td>GVH</td>
<td>12</td>
<td>9</td>
<td>1</td>
<td>0.025</td>
<td>1.6</td>
<td>0.48099</td>
<td>0.85633</td>
</tr>
<tr>
<td>GSyV1</td>
<td>HSVd</td>
<td>12</td>
<td>24</td>
<td>6</td>
<td>0.066</td>
<td>4.4</td>
<td>0.92006</td>
<td>0.22337</td>
</tr>
<tr>
<td>GSyV1</td>
<td>Symptom</td>
<td>12</td>
<td>47</td>
<td>7</td>
<td>0.129</td>
<td>8.5</td>
<td>0.2265</td>
<td>0.92006</td>
</tr>
<tr>
<td>GSyV1</td>
<td>V.hybrid.Vidal</td>
<td>12</td>
<td>9</td>
<td>2</td>
<td>0.025</td>
<td>1.6</td>
<td>0.79678</td>
<td>0.51901</td>
</tr>
<tr>
<td>GSyV1</td>
<td>V.vinifera.var</td>
<td>12</td>
<td>41</td>
<td>6</td>
<td>0.113</td>
<td>7.5</td>
<td>0.26219</td>
<td>0.89957</td>
</tr>
<tr>
<td>GSyV1</td>
<td>V.sp.var</td>
<td>12</td>
<td>8</td>
<td>2</td>
<td>0.022</td>
<td>1.5</td>
<td>0.84795</td>
<td>0.44883</td>
</tr>
<tr>
<td>GVE</td>
<td>GVB</td>
<td>6</td>
<td>17</td>
<td>3</td>
<td>0.023</td>
<td>1.5</td>
<td>0.96572</td>
<td>0.17217</td>
</tr>
<tr>
<td>GVE</td>
<td>HSVd</td>
<td>6</td>
<td>24</td>
<td>2</td>
<td>0.033</td>
<td>2.2</td>
<td>0.62244</td>
<td>0.71756</td>
</tr>
<tr>
<td>GVE</td>
<td>Symptom</td>
<td>6</td>
<td>47</td>
<td>4</td>
<td>0.065</td>
<td>4.3</td>
<td>0.56105</td>
<td>0.77464</td>
</tr>
<tr>
<td>GVE</td>
<td>V.vinifera.var</td>
<td>6</td>
<td>41</td>
<td>1</td>
<td>0.056</td>
<td>3.7</td>
<td>0.02592</td>
<td>0.99805</td>
</tr>
<tr>
<td>GVB</td>
<td>GVH</td>
<td>17</td>
<td>9</td>
<td>2</td>
<td>0.035</td>
<td>2.3</td>
<td>0.57825</td>
<td>0.73737</td>
</tr>
<tr>
<td>GVB</td>
<td>HSVd</td>
<td>17</td>
<td>24</td>
<td>4</td>
<td>0.094</td>
<td>6.2</td>
<td>0.16282</td>
<td>0.94496</td>
</tr>
<tr>
<td>GVB</td>
<td>Symptom</td>
<td>17</td>
<td>47</td>
<td>14</td>
<td>0.183</td>
<td>12.1</td>
<td>0.93647</td>
<td>0.19511</td>
</tr>
<tr>
<td>GVB</td>
<td>V.hybrid.Vidal</td>
<td>17</td>
<td>9</td>
<td>2</td>
<td>0.035</td>
<td>2.3</td>
<td>0.57825</td>
<td>0.73737</td>
</tr>
<tr>
<td>GVB</td>
<td>V.vinifera.var</td>
<td>17</td>
<td>41</td>
<td>9</td>
<td>0.16</td>
<td>10.6</td>
<td>0.26715</td>
<td>0.88346</td>
</tr>
<tr>
<td>GVB</td>
<td>V.hybrid.var.</td>
<td>17</td>
<td>4</td>
<td>3</td>
<td>0.016</td>
<td>1</td>
<td>0.9967</td>
<td>0.04953</td>
</tr>
<tr>
<td>GVB</td>
<td>V.sp.var</td>
<td>17</td>
<td>8</td>
<td>3</td>
<td>0.031</td>
<td>2.1</td>
<td>0.88965</td>
<td>0.33611</td>
</tr>
<tr>
<td>GVH</td>
<td>HSVd</td>
<td>9</td>
<td>24</td>
<td>0</td>
<td>0.05</td>
<td>3.3</td>
<td>0.01205</td>
<td>1</td>
</tr>
<tr>
<td>GVH</td>
<td>Symptom</td>
<td>9</td>
<td>47</td>
<td>0</td>
<td>0.097</td>
<td>6.4</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>GVH</td>
<td>V.hybrid.Vidal</td>
<td>9</td>
<td>9</td>
<td>6</td>
<td>0.019</td>
<td>1.2</td>
<td>1</td>
<td>7e-05</td>
</tr>
<tr>
<td>GVH</td>
<td>V.vinifera.var</td>
<td>9</td>
<td>41</td>
<td>0</td>
<td>0.085</td>
<td>5.6</td>
<td>6e-05</td>
<td>1</td>
</tr>
<tr>
<td>GVH</td>
<td>V.sp.var</td>
<td>9</td>
<td>8</td>
<td>0</td>
<td>0.017</td>
<td>1.1</td>
<td>0.2877</td>
<td>1</td>
</tr>
<tr>
<td>HSVd</td>
<td>Symptom</td>
<td>24</td>
<td>47</td>
<td>20</td>
<td>0.259</td>
<td>17.1</td>
<td>0.97594</td>
<td>0.08465</td>
</tr>
<tr>
<td>HSVd</td>
<td>V.hybrid.Vidal</td>
<td>24</td>
<td>9</td>
<td>0</td>
<td>0.05</td>
<td>3.3</td>
<td>0.01205</td>
<td>1</td>
</tr>
<tr>
<td>HSVd</td>
<td>V.vinifera.var</td>
<td>24</td>
<td>41</td>
<td>19</td>
<td>0.226</td>
<td>14.9</td>
<td>0.99343</td>
<td>0.02739</td>
</tr>
<tr>
<td>HSVd</td>
<td>V.hybrid.var.</td>
<td>24</td>
<td>4</td>
<td>3</td>
<td>0.022</td>
<td>1.5</td>
<td>0.98526</td>
<td>0.13269</td>
</tr>
<tr>
<td>Sample*</td>
<td>Isolate</td>
<td>GB acc.</td>
<td>Positions of sequence segments used</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>---------</td>
<td>----------</td>
<td>---------</td>
<td>-----------------------------------</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>12G4102</td>
<td>1313-2212</td>
<td>3635-4346</td>
<td>5147-5358</td>
<td>6125-6302</td>
<td>6720-6967</td>
</tr>
</tbody>
</table>

**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.
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

<table>
<thead>
<tr>
<th>Sample/GB acc.#</th>
<th>Isolate/Strain</th>
<th>Positions of Sequence segments/GB acc.#</th>
</tr>
</thead>
<tbody>
<tr>
<td>MG938295</td>
<td>28</td>
<td>379-854</td>
</tr>
<tr>
<td>AY368590</td>
<td>Syrah</td>
<td>392-867</td>
</tr>
<tr>
<td>MG938303</td>
<td>24</td>
<td>394-869</td>
</tr>
<tr>
<td>BacPN4*</td>
<td>BacPN4_RSP-01</td>
<td>MT832848 MT832859 MT832870 MT832881</td>
</tr>
<tr>
<td>BacPN8*</td>
<td>BacPN8_RSP-01</td>
<td>MT832849 MT832860 MT832871 MT832882</td>
</tr>
</tbody>
</table>

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

*collected in this study.