Table S5. Functional characterization of monoterpene synthases from A) lodgepole pine and B) jack pine. Products representing more than 5% of the total amount of monoterpenes produced by the enzyme are listed as percent of total product +/- SE.

A) Lodgepole pine

<table>
<thead>
<tr>
<th>Product</th>
<th>PcTPS(+)αpin1</th>
<th>PcTPS(−)αpin1</th>
<th>PcTPS(−)βpin1</th>
<th>PcTPS(+)3car1</th>
<th>PcTPS(−)βphell1</th>
<th>PcTPS(−)βphell2</th>
</tr>
</thead>
<tbody>
<tr>
<td>tricylene</td>
<td>88.2 ± 0.48</td>
<td>76.6 ± 2.2</td>
<td>9.03 ± 0.05</td>
<td>67.6 ± 0.89</td>
<td>5.14 ± 0.08</td>
<td>81.8 ± 0.30</td>
</tr>
<tr>
<td>(+)α-pinene</td>
<td></td>
<td>9.88 ± 1.8</td>
<td>79.0 ± 0.16</td>
<td></td>
<td>87.5 ± 0.27</td>
<td></td>
</tr>
<tr>
<td>(−)α-pinene</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>12.5 ± 0.14</td>
<td></td>
</tr>
<tr>
<td>(−)camphene</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>87.5 ± 0.27</td>
<td></td>
</tr>
<tr>
<td>(−)β-pinene</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>5.73 ± 0.42</td>
<td></td>
</tr>
<tr>
<td>(−)sabinene</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>32.4 ± 0.34</td>
<td></td>
</tr>
<tr>
<td>(−)3-carene</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>36.8 ± 0.20</td>
<td></td>
</tr>
<tr>
<td>(+)α-terpineol</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>8.58 ± 0.20</td>
<td></td>
</tr>
<tr>
<td>(+)β-terpineol</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>8.06 ± 0.15</td>
<td></td>
</tr>
</tbody>
</table>

PcTPS(+)αpin1
PcTPS(−)αpin1
PcTPS(−)βpin1
PcTPS(+)3car1
PcTPS(−)βphell1
PcTPS(−)βphell2
PcTPS(−)ylp/cmp/(+)αpin1
PcTPS-αterp/1,8cin
B) Jack pine

<table>
<thead>
<tr>
<th></th>
<th>% of total products</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(+)-α-pinene</td>
</tr>
<tr>
<td>PbTPS- (+)αpin1</td>
<td>91.7 ± 0.48</td>
</tr>
<tr>
<td>PbTPS- (--)αpin1</td>
<td>77.9 ± 0.17</td>
</tr>
<tr>
<td>PbTPS- (--)βpin1</td>
<td>8.42 ± 0.16</td>
</tr>
<tr>
<td>PbTPS- (--)βpin2</td>
<td>13.1 ± 0.13</td>
</tr>
<tr>
<td>PbTPS- (+)3car1</td>
<td>55.6 ± 3.5</td>
</tr>
<tr>
<td>PbTPS- (+)3car2</td>
<td>69.6 ± 0.31</td>
</tr>
<tr>
<td>PbTPS- (--)βphell1</td>
<td>85.9 ± 0.14</td>
</tr>
<tr>
<td>PbTPS- (--)α/βpin1</td>
<td>39.4 ± 0.99</td>
</tr>
<tr>
<td>PbTPS-αterp</td>
<td>5.26 ± 0.13</td>
</tr>
</tbody>
</table>