**Table S7:**

**The accession numbers of PVY samples used in Clasnip database building**

|  |  |
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| **PVY Phylogroup** | **NCBI Accession ID** |
| C | AF237963.1 |
| C | AF463399.1 |
| C | AJ439544.1 |
| C | AJ439545.1 |
| C | AJ890348.1 |
| C | DQ309028.1 |
| C | EU482153.1 |
| C | EU563512.1 |
| C | KF770835.1 |
| C | KP063211.1 |
| C | KP691320.1 |
| C | KP691321.1 |
| C | KP691324.1 |
| C | KP691329.1 |
| C | KR528584.1 |
| C | KX580384.1 |
| Chile3 | FJ214726.1 |
| N | AB331515.1 |
| N | AB331516.1 |
| N | AB331517.1 |
| N | AB331518.1 |
| N | AB331519.1 |
| N | AB711144.1 |
| N | AB714135.1 |
| N | AJ585197.1 |
| N | AJ585198.1 |
| N | AJ890346.1 |
| N | AM268435.1 |
| N | AY166866.1 |
| N | AY166867.1 |
| N | AY884983.1 |
| N | AY884984.1 |
| N | CS434575.1 |
| N | DQ157180.1 |
| N | HQ912867.1 |
| N | JN936422.1 |
| N | JQ969036.1 |
| N | JQ971975.1 |
| N | KR270797.1 |
| N | KT290511.1 |
| N | KT290512.1 |
| N | KU724101.1 |
| N | KX531041.1 |
| N | KY847984.1 |
| N | KY847985.1 |
| N | KY847986.1 |
| N | KY847988.1 |
| N | X97895.1 |
| N:O | AJ584851.1 |
| N:O | AJ889868.1 |
| N:O | AJ890349.1 |
| N:O | AJ890350.1 |
| N:O | AM113988.1 |
| N:O | AY745491.1 |
| N:O | AY745492.1 |
| N:O | AY884985.1 |
| N:O | DQ008213.1 |
| N:O | DQ157178.1 |
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| N:O | EF026076.1 |
| N:O | HE608963.1 |
| N:O | HE608964.1 |
| N:O | HM991454.1 |
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| N:O | HQ912866.1 |
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| N:O | HQ912896.1 |
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| NTN | AB461450.1 |
| NTN | AB461451.1 |
| NTN | AB461452.1 |
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| NTN | AB461454.1 |
| NTN | AB702945.1 |
| NTN | AB711143.1 |
| NTN | AB711145.1 |
| NTN | AB711146.1 |
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| NTN | AJ889867.1 |
| NTN | AJ890342.1 |
| NTN | AJ890343.1 |
| NTN | AJ890344.1 |
| NTN | AJ890345.1 |
| NTN | AJ890347.1 |
| NTN | AY884982.1 |
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| NTN | EF026075.1 |
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| NTN | HG810952.1 |
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| NTN | HQ631374.1 |
| NTN | HQ912869.1 |
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| NTN | JF928460.1 |
| NTN | JQ673517.1 |
| NTN | JQ924287.1 |
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| NTN | JQ969034.1 |
| NTN | JQ969035.1 |
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| NTN | KC614702.1 |
| NTN | KC634004.1 |
| NTN | KC634005.1 |
| NTN | KC634006.1 |
| NTN | KC634007.1 |
| NTN | KC634008.1 |
| NTN | KC634009.1 |
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| O | AB714134.1 |
| O | AF522296.1 |
| O | AJ585195.1 |
| O | AJ585196.1 |
| O | CS434577.1 |
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| O | EF026074.1 |
| O | EF558545.1 |
| O | FJ643477.1 |
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| O | JQ924285.1 |
| O | JX424837.1 |
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| O | KY848004.1 |
| O | KY848012.1 |
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| O | U09509.1 |
| O | X12456.1 |
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| Poha | MF134862.1 |
| Poha | MF134863.1 |
| Poha | MF134864.1 |
| Poha | MF134865.1 |
| Poha | MF134866.1 |