**Additional file 7**

Accession numbers of terpene synthase proteins used in the phylogenetic analysis:

|  |  |  |
| --- | --- | --- |
| Enzyme name | Accession No. | Species |
| TPS-aSITPS32SITPS31NtARIsSITPS9TwTPS12TwTPS11SITPS5SITPS4SITPS3PIOCIs | JN412081JN412082AAA19216JN408289[KY193788.1](https://www.ncbi.nlm.nih.gov/nucleotide/KY193788.1?report=genbank&log$=nuclalign&blast_rank=1&RID=UYCCHS5X01R)[KU948705.1](https://www.ncbi.nlm.nih.gov/nucleotide/KU948705.1?report=genbank&log$=nucltop&blast_rank=1&RID=UYCREZ3701R)JN408286JN408285JN408284ABY65110 | *Solanum lycopersicum**Solanum lycopersicum**Nicotiana tabacum**Solanum lycopersicum**Tripterygium wilfordii* *Tripterygium wilfordii**Solanum lycopersicum**Solanum lycopersicum**Solanum lycopersicum**Phaseolus lunatus* |
| TPS-bVvTPS35VvTPS50 | AM461327.2AM462718.2 | *Vitis vinifera**Vitis vinifera* |
| TPS-cZmCDsSITPS40SITPS41PpCPS | L37750JN412074JN412073BAF61135 | *Zea mays**Solanum lycopersicum**Solanum lycopersicum**Physcomitrella patens* |
| TPS-dPsLIMsAgPHEsPaMYRsPaFARsPaLINsPaCARsAgLIMsAgMYRs | DQ195275.1AAF61453AAS47696AAS47697AAS47693AAO73863AAB70907AAB71084 | *Picea sitchensis**Abies grandis**Picea abies**Picea abies**Picea abies**Picea abies**Abies grandis* *Abies grandis* |
| TPS-e/fSITPS21SITPS18SITPS24CsKS1 | JN412087JN412088JN412086AB045310 | *Solanum lycopersicum**Solanum lycopersicum**Solanum lycopersicum**Cucumis sativus* |
| TPS-gSITPS39SITPS37AmMARs | JN412075JN412077AY195609 | *Solanum lycopersicum**Solanum lycopersicum**Antirrhinum majus* |

Accession numbers of CYP450 proteins used in the phylogenetic analysis:

|  |  |  |
| --- | --- | --- |
| Enzyme name | Accession No. | Species |
| CYP71CYP71A1CYP71A2CYP71A5CYP71A32CYP71BL1CYP71BL2CYP71BL3GAO5GAO4GAO3GAO2GAO1CYP71D55CYP71D20CYP71D18CYP71D15CYP71D13 | P24465.2Q947B7.1CAA70575.1AAL06397.1F8S1H3.1F8S1I0.1G3GBK0.1ADF43083.1ADF43082.1ADF43081.1ADF43080.1ADF32078.1A6YIH8.1Q94FM7.2Q9XHE8.1Q9XHE6.1Q9XHE7.1 | *Persea americana**Mentha x piperita**Nepeta racemosa**Mentha x piperita**Helianthus annuus**Lactuca sativa**Cichorium intybus**Barnadesia spinosa**Helianthus annuus**Saussurea costus**Cichorium intybus**Lactuca sativa**Hyoscyamus muticus**Nicotiana tabacum**Mentha spicata**Mentha x piperita**Mentha x piperita* |
| CYP72CYP72A1CYP72A154 | Q05047.1.2BAL45207.1 | *Catharanthus roseus**Glycyrrhiza uralensis* |
| CYP76CYP76B1CYP76B6CYP76B10 | AAK60517.1Q8VWZ7.1D1MI46.1 | *Gossypium arboretum**Catharanthus roseus**Swertia mussotii* |
| CYP88CYP88A1CYP88A2CYP88A3CYP88A4CYP88A6CYP88D6CYP887 | Q43246.1AAG41777.1O23051.1Q9C5Y2.2AAO23063.1B5BSX1.1AAO23064.1 | *Zea mays**Cucurbita maxima**Arabidopsis thaliana**Arabidopsis thaliana**Pisum sativum**Glycyrrhiza uralensis**Pisum sativum* |
| CYP93CYP93E1CYP93E2CYP93E3 | Q9XHC6.1ABC59085.1BAG68930.1 | *Glycine max**Medicago truncatula**Glycyrrhiza uralensis* |
| CYP97CYP97A3CYP97C1 | Q93VK5.1Q6TBX7.1 | *Arabidopsis thaliana**Arabidopsis thaliana* |
| CYP701CYP701A1CYP701A3 | AAG41776.1Q93ZB2.2 | *Cucurbita maxima**Arabidopsis thaliana* |
| CYP716CYP16A12 | ABC59076.1 | *Medicago truncatula* |
| CYP720CYP720B1 | Q50EK6.1 | *Pinus taeda* |
| CYP725CYP725ACYP725A1CYP725A2CYP725A3 | Q6WG30.2Q9AXM6.1Q8W4T9.1Q84KI1.1 | *Taxus cuspidate**Taxus cuspidate**Taxus cuspidate**Taxus cuspidate* |
| CYP735CYP735A1CYP735A2 | Q9FF18.1Q9ZW95.1 | *Arabidopsis thaliana**Arabidopsis thaliana* |