S1 Table. Amino acid sequences of the different SPPs displayed in phylogenetic tree of Figure 6.

| Protein | UniProtKB | Organism                        | Phylogeny     | Reference |
|---------|-----------|---------------------------------|---------------|-----------|
| CyaSPP  | B8HKQ6    | Cyanothece sp. PCC 7425         | Cyanobacteria |           |
| SynSPP  | Q7B113    | Synechocystis sp. PCC 6803      | Cyanobacteria | (19)      |
| PleSPP  | K9T8Y4    | Pleurocapsa sp. PCC 7327        | Cyanobacteria |           |
| OscSPP  | K9TSQ1    | Oscillatoria acuminata PCC 6304 | Cyanobacteria |           |
| NosSPP  | Q8YZT1    | Nostoc sp. PCC 7120             | Cyanobacteria |           |
| FisSPP  | G6FWC7    | Fischerella sp. JSC-11          | Cyanobacteria |           |
| GloSPP  | Q7NEP0    | Gloeobacter violaceus PCC 7421 | Cyanobacteria |           |
| AcaSPP  | B0CAE8    | Acaryochloris marina MBIC 11017 | Cyanobacteria |           |
| MpuSPP  | C1N9B1    | Micromonas pusilla CCMP1545     | Chlorophyta   |           |
| OtauSPP | Q01GF9    | Ostreococcus tauri              | Chlorophyta   |           |
| OlucSPP | A4RR69    | Ostreococcus lucimarinus        | Chlorophyta   |           |
| BpraSPP | K8EHT2    | Bathycoccus prasinos            | Chlorophyta   |           |
| PpSPP1  | Q45FX0    | Physcomitrella patens subsp. patens (Moss) | Bryophyta | (11)      |
| PpSPP2  | A9T1H8    | Physcomitrella patens subsp. patens (Moss) | Bryophyta | (11)      |
| PpSPP3  | A9S9K4    | Physcomitrella patens subsp. patens (Moss) | Bryophyta | (11)      |
| PpSPP4  | A9TQV3    | Physcomitrella patens subsp. patens (Moss) | Bryophyta | (11)      |
| PpSPP5  | A9RNF9    | Physcomitrella patens subsp. patens (Moss) | Bryophyta | (11)      |
| CcSPP   | A7IZK6    | Coffea canephora (Robusta coffee) | Tracheophyta |           |
| GmSPP1  | C6T8I9    | Glycine max (Soybean)           | Tracheophyta |           |
| GmSPP2  | C6TK02    | Glycine max (Soybean)           | Tracheophyta |           |
| GmSPP3  | I1L9P5    | Glycine max (Soybean)           | Tracheophyta |           |
| GmSPP4  | I1NED3    | Glycine max (Soybean)           | Tracheophyta |           |
| GmSPP5  | I1NED5    | Glycine max (Soybean)           | Tracheophyta |           |
| MdSPP1  | Q5J3N9    | Malus domestica (Apple)         | Tracheophyta |           |
| MdSPP2  | Q5J3P0    | Malus domestica (Apple)         | Tracheophyta |           |
| NtSPP1  | Q5IH14    | Nicotiana tabacum (Common tobacco) | Tracheophyta | (23)      |
| NtSPP2  | Q5IH13    | Nicotiana tabacum (Common tobacco) | Tracheophyta | (23)      |
| PtSPP1  | B9H9N0    | Populus trichocarpa (Western balsam poplar) | Tracheophyta |           |
| PtSPP2  | B9HKJ9    | Populus trichocarpa (Western balsam poplar) | Tracheophyta |           |
| PtSPP3  | B9HH11    | Populus trichocarpa (Western balsam poplar) | Tracheophyta |           |
| RcSPP1  | B9SDM9    | Ricinus communis (Castor bean)  | Tracheophyta |           |
| RcSPP2  | Q4FCW2    | Ricinus communis (Castor bean)  | Tracheophyta |           |
| SbSPP1  | C5XSH9    | Sorghum bicolor (Sorghum)       | Tracheophyta |           |
| SbSSP2  | C5Z001    | Sorghum bicolor (Sorghum)       | Tracheophyta |           |
| SbSPP3  | C5Z002    | Sorghum bicolor (Sorghum)       | Tracheophyta |           |
| SbSPP | V5M3J8  | Sorghum bicolor (Sorghum) | Tracheophyta |
|-------|---------|--------------------------|-------------|
| SoSPP | Q4FCW1  | Saccharum officinarum (Sugarcane) | Tracheophyta |
| StSPP1| A7LH88  | Solanum tuberosum (Potato) | Tracheophyta (27) |
| StSPP2| A7LH87  | Solanum tuberosum (Potato) | Tracheophyta (27) |
| StSPP3| M1CQ12  | Solanum tuberosum (Potato) | Tracheophyta |
| StSPP4| M1CQ13  | Solanum tuberosum (Potato) | Tracheophyta |
| TaSPP1| Q9AXK6  | Triticum aestivum (Wheat) | Tracheophyta |
| TaSPP2| Q9AXK5  | Triticum aestivum (Wheat) | Tracheophyta |
| TaSPP3| Q9ARG8  | Triticum aestivum (Wheat) | Tracheophyta |
| ZmSPP1| Q9FQ11  | Zea mays (Maize) | Tracheophyta (19) |
| ZmSPP2| Q84ZX8  | Zea mays (Maize) | Tracheophyta (11) |
| ZmSPP3| B4FDG9  | Zea mays (Maize) | Tracheophyta |
| ZmSPP4| C0P5Y2  | Zea mays (Maize) | Tracheophyta |
| ZmSPP5| K7TRN1  | Zea mays (Maize) | Tracheophyta |
| ZmSPP6| K7VW75  | Zea mays (Maize) | Tracheophyta |
| SPP1  | Q9C8J4  | Arabidopsis thaliana (Mouse-ear cress) | Tracheophyta This study |
| SPP2  | Q9SJ66  | Arabidopsis thaliana (Mouse-ear cress) | Tracheophyta This study |
| SPP3a | Q93WU4  | Arabidopsis thaliana (Mouse-ear cress) | Tracheophyta This study |
| SPP3b | Q93XN8  | Arabidopsis thaliana (Mouse-ear cress) | Tracheophyta This study |

*Most of the SPP proteins listed are putative and were selected based on the S6PP-S6PPc domains assignment recorded in the UniProtKG database.*