

Table S3: The characteristics of the 32 SmUSP proteins

| Gene | Gene length (bp) | CDs length (bp) | Protein(aa) | Mw (Da) | PI | Subcellular location |
|---------|---------------------|--------------------|-------------|----------|-------|----------------------|
| SmUSP1 | 1882 | 669 | 222 | 24705.22 | 6.81 | other |
| SmUSP2 | 750 | 750 | 249 | 26513.96 | 10.69 | chloroplast |
| SmUSP3 | 3583 | 2274 | 757 | 83958.85 | 6.08 | other |
| SmUSP4 | 1067 | 579 | 192 | 20958.36 | 6.08 | other |
| SmUSP5 | 5478 | 1749 | 582 | 64848.89 | 5.49 | chloroplast |
| SmUSP6 | 759 | 501 | 166 | 18356.15 | 6.81 | other |
| SmUSP7 | 3199 | 2265 | 754 | 83109.59 | 5.20 | other |
| SmUSP8 | 963 | 714 | 237 | 27260.38 | 10.20 | mitochondrion |
| SmUSP9 | 897 | 492 | 163 | 17683.62 | 9.27 | other |
| SmUSP10 | 1516 | 546 | 181 | 20173.33 | 5.78 | other |
| SmUSP11 | 362 | 279 | 92 | 10361.16 | 9.30 | secretory pathway |
| SmUSP12 | 1294 | 720 | 239 | 26430.74 | 9.14 | other |
| SmUSP13 | 1067 | 579 | 129 | 20958.36 | 6.08 | other |
| SmUSP14 | 1997 | 489 | 162 | 17546.36 | 9.16 | other |
| SmUSP15 | 954 | 306 | 101 | 10740.33 | 7.76 | mitochondrion |
| SmUSP16 | 711 | 711 | 236 | 25679.81 | 4.87 | chloroplast |
| SmUSP17 | 969 | 597 | 198 | 21795.30 | 9.36 | other |
| SmUSP18 | 1161 | 486 | 161 | 17723.45 | 6.72 | other |
| SmUSP19 | 841 | 483 | 160 | 18005.87 | 6.29 | other |
| SmUSP20 | 856 | 399 | 132 | 14830.45 | 9.73 | chloroplast |
| SmUSP21 | 1677 | 477 | 158 | 17648.63 | 9.61 | secretory pathway |
| SmUSP22 | 3469 | 2091 | 696 | 76039.63 | 6.00 | other |
| SmUSP23 | 1041 | 492 | 163 | 18121.86 | 7.07 | other |
| SmUSP24 | 1124 | 540 | 179 | 19555.58 | 8.58 | other |
| SmUSP25 | 958 | 483 | 160 | 17442.09 | 6.18 | other |
| SmUSP26 | 614 | 408 | 135 | 15323.64 | 6.14 | other |
| SmUSP27 | 1388 | 594 | 197 | 21771.16 | 6.33 | mitochondrion |
| SmUSP28 | 819 | 654 | 217 | 23668.86 | 9.93 | mitochondrion |
| SmUSP29 | 830 | 531 | 176 | 17813.38 | 9.89 | chloroplast |
| SmUSP30 | 2263 | 1134 | 377 | 40372.12 | 11.16 | other |
| SmUSP31 | 1709 | 249 | 82 | 9019.26 | 8.01 | other |
| SmUSP32 | 2021 | 627 | 208 | 23136.63 | 8.27 | other |