

Table S1. The primers used in this study.

| Genes | Forward | Reverse | Melting Temperature |
|-------------------|--------------------------|---------------------------|---------------------|
| <i>StSPS I</i> | GTTTATTGTCAAAATGGGAG | ATTCCTCGTCCGCTTGGATG | 84°C |
| <i>StSPS II</i> | GCAATATATTGCCAAAGCGG | CTCAAGAGGGTAGTTCCTGT | 83°C |
| <i>StSPS III</i> | ATGTATTGCAGGAATTCAAC | TTCTCTTAGGTAGCTCCCT | 84°C |
| <i>StSPS IV</i> | TGTCTACACACATGCTGCA | GTTGAAGCTGTCTTCATTG | 84°C |
| <i>StSUS I a</i> | TCCAAAGAAGATCCAAGTT | AACTTTCTCAGCAGATTTTC | 82°C |
| <i>StSUS I b</i> | TTGAGAAATGTAAGGTAGA | CAAGTTGAGCCAGCTTGC | 84°C |
| <i>StSUS I c</i> | AAATGCAAGAAAGATCCTTC | ACAGCTTCAGCCATCTTAC | 84°C |
| <i>StSUS II</i> | CCAACGATGCGAACAAAAT | GAACAGATTTTACCAACTC | 83°C |
| <i>StSUS IIIa</i> | ATGGAAGATCTATGCAAC | ATGACTGGCTGTTGATGA | 84°C |
| <i>StSUS IIIb</i> | ATGAAGAGCCCTTGCCAGCT | TCATTCAACTATACGGTACA | 84°C |
| <i>Elf3e</i> | GGAGCACAGGAGAAGATGAAGGAG | CGTTGGTGAATGCGGCAGTAGG | 83°C |

Table S2. Variance analysis of the relative expression level of the *StSUSs* and *StSPSs* genes under 1%, 3%, and 5% sucrose, glucose and fructose treatments.

| | Source of variation | SS | df | MS | F | P-value |
|----------------|---------------------|----------|----|---------|--------|---------|
| <i>SUS Ia</i> | Treatment | 8.02 | 8 | 1.00 | 105.79 | 0.00 |
| | Error | 0.17 | 18 | 0.01 | | |
| <i>SUS Ib</i> | Treatment | 132.73 | 8 | 16.59 | 7.48 | 0.00 |
| | Error | 39.92 | 18 | 2.22 | | |
| <i>SUS Ic</i> | Treatment | 54781.52 | 8 | 6847.69 | 379.42 | 0.00 |
| | Error | 324.86 | 18 | 18.05 | | |
| <i>SUS II</i> | Treatment | 42.16 | 8 | 5.27 | 9.41 | 0.00 |
| | Error | 10.08 | 18 | 0.56 | | |
| <i>SUSIIIa</i> | Treatment | 0.76 | 8 | 0.09 | 5.48 | 0.00 |
| | Error | 0.31 | 18 | 0.02 | | |
| <i>SUSIIIb</i> | Treatment | 1.06 | 8 | 0.13 | 3.75 | 0.01 |
| | Error | 0.63 | 18 | 0.04 | | |
| <i>SPS I</i> | Treatment | 1.99 | 8 | 0.25 | 3.89 | 0.01 |
| | Error | 1.15 | 18 | 0.06 | | |
| <i>SPS II</i> | Treatment | 5.87 | 8 | 0.73 | 4.50 | 0.00 |
| | Error | 2.93 | 18 | 0.16 | | |
| <i>SPSIII</i> | Treatment | 2.94 | 8 | 0.37 | 7.33 | 0.00 |
| | Error | 0.90 | 18 | 0.05 | | |
| <i>SPSIV</i> | Treatment | 1.48 | 8 | 0.18 | 1.77 | 0.15 |
| | Error | 1.88 | 18 | 0.10 | | |