

# Additional file 1: Codon usages of melon and Arabidopsis coding sequences

| Codon | Amino acid | Fraction of codon usage <sup>a</sup> |             | Percentage of codon usage <sup>b</sup> |             |
|-------|------------|--------------------------------------|-------------|----------------------------------------|-------------|
|       |            | Melon                                | Arabidopsis | Melon                                  | Arabidopsis |
| GCA   | A          | 0.271                                | 0.281       | 2.061                                  | 1.785       |
| GCC   | A          | 0.216                                | 0.152       | 1.646                                  | 0.967       |
| GCG   | A          | 0.098                                | 0.132       | 0.742                                  | 0.839       |
| GCT   | A          | 0.415                                | 0.435       | 3.161                                  | 2.761       |
| TGC   | C          | 0.466                                | 0.402       | 0.748                                  | 0.733       |
| TGT   | C          | 0.534                                | 0.598       | 0.858                                  | 1.089       |
| GAC   | D          | 0.327                                | 0.31        | 1.747                                  | 1.678       |
| GAT   | D          | 0.673                                | 0.69        | 3.602                                  | 3.729       |
| GAA   | E          | 0.532                                | 0.525       | 3.362                                  | 3.544       |
| GAG   | E          | 0.468                                | 0.475       | 2.960                                  | 3.207       |
| TTC   | F          | 0.464                                | 0.471       | 2.013                                  | 1.990       |
| TTT   | F          | 0.536                                | 0.529       | 2.323                                  | 2.234       |
| GGA   | G          | 0.346                                | 0.368       | 2.490                                  | 2.356       |
| GGC   | G          | 0.19                                 | 0.139       | 1.372                                  | 0.888       |
| GGG   | G          | 0.173                                | 0.159       | 1.245                                  | 1.017       |
| GGT   | G          | 0.291                                | 0.335       | 2.097                                  | 2.145       |
| CAC   | H          | 0.386                                | 0.373       | 0.826                                  | 0.845       |
| CAT   | H          | 0.614                                | 0.627       | 1.315                                  | 1.422       |
| ATA   | I          | 0.203                                | 0.252       | 1.067                                  | 1.327       |
| ATC   | I          | 0.302                                | 0.336       | 1.591                                  | 1.770       |
| ATT   | I          | 0.495                                | 0.413       | 2.606                                  | 2.176       |
| AAA   | K          | 0.449                                | 0.493       | 2.877                                  | 3.133       |
| AAG   | K          | 0.551                                | 0.507       | 3.533                                  | 3.224       |
| CTA   | L          | 0.091                                | 0.108       | 0.827                                  | 1.019       |
| CTC   | L          | 0.166                                | 0.162       | 1.507                                  | 1.537       |
| CTG   | L          | 0.118                                | 0.108       | 1.076                                  | 1.019       |
| CTT   | L          | 0.266                                | 0.258       | 2.421                                  | 2.445       |
| TTA   | L          | 0.113                                | 0.139       | 1.031                                  | 1.321       |
| TTG   | L          | 0.245                                | 0.225       | 2.232                                  | 2.135       |
| ATG   | M          | 1                                    | 1           | 2.318                                  | 2.452       |
| AAC   | N          | 0.425                                | 0.467       | 1.778                                  | 2.041       |
| AAT   | N          | 0.575                                | 0.533       | 2.406                                  | 2.328       |
| CCA   | P          | 0.326                                | 0.338       | 1.709                                  | 1.628       |
| CCC   | P          | 0.174                                | 0.108       | 0.910                                  | 0.519       |
| CCG   | P          | 0.137                                | 0.167       | 0.717                                  | 0.803       |
| CCT   | P          | 0.363                                | 0.388       | 1.899                                  | 1.869       |
| CAA   | Q          | 0.565                                | 0.564       | 1.918                                  | 1.992       |
| CAG   | Q          | 0.435                                | 0.436       | 1.475                                  | 1.540       |
| AGA   | R          | 0.303                                | 0.358       | 1.539                                  | 1.932       |

|     |   |       |       |       |       |
|-----|---|-------|-------|-------|-------|
| AGG | R | 0.22  | 0.204 | 1.118 | 1.099 |
| CGA | R | 0.136 | 0.118 | 0.694 | 0.638 |
| CGC | R | 0.094 | 0.069 | 0.480 | 0.373 |
| CGG | R | 0.087 | 0.09  | 0.441 | 0.486 |
| CGT | R | 0.16  | 0.161 | 0.813 | 0.871 |
| AGC | S | 0.123 | 0.126 | 1.024 | 1.149 |
| AGT | S | 0.143 | 0.161 | 1.191 | 1.468 |
| TCA | S | 0.186 | 0.21  | 1.544 | 1.905 |
| TCC | S | 0.182 | 0.121 | 1.508 | 1.099 |
| TCG | S | 0.097 | 0.1   | 0.803 | 0.910 |
| TCT | S | 0.269 | 0.282 | 2.233 | 2.562 |
| ACA | T | 0.275 | 0.317 | 1.359 | 1.608 |
| ACC | T | 0.243 | 0.194 | 1.198 | 0.982 |
| ACG | T | 0.125 | 0.145 | 0.617 | 0.735 |
| ACT | T | 0.357 | 0.344 | 1.761 | 1.743 |
| GTA | V | 0.141 | 0.155 | 0.962 | 1.032 |
| GTC | V | 0.191 | 0.184 | 1.299 | 1.221 |
| GTG | V | 0.255 | 0.255 | 1.739 | 1.696 |
| GTT | V | 0.412 | 0.406 | 2.806 | 2.701 |
| TGG | W | 1     | 1     | 1.158 | 1.235 |
| TAC | Y | 0.462 | 0.466 | 1.335 | 1.310 |
| TAT | Y | 0.538 | 0.534 | 1.555 | 1.501 |
| TAA | * | 0.372 | 0.36  | 0.134 | 0.088 |
| TAG | * | 0.179 | 0.204 | 0.064 | 0.050 |
| TGA | * | 0.449 | 0.436 | 0.162 | 0.106 |

<sup>a</sup>Fraction of codon usage indicates the fraction of codon usages for each individual amino acids

<sup>b</sup>Percentage of codon usage indicates the percentage of codon usages among all codons