|  | 5' Addition                              | 5' Trimming                                 | 3' Addition                              | 3' Trimming   | 3' non-template addition          |
|--|--|---|--|---|-----------------------------------|
| Anther   | 12.9%<br>17.1%<br>39.2%                  | 22.4% <sup>1</sup> 1.3%<br>35.8%            | 8.9%<br>23.1%<br>35.8%<br>32.3%          | 11.9% 7.4%<br>42.5% 28.3%                                 | 10.4% 32.3% A U C                 |
| Ear_6week  | 16.7%.6%<br>40.7%<br>37.0%               | 23.1% 25.0%<br>1.9%                         | 15.9% <sup>9.1</sup> %<br>36.4%          | 12.1%<br>32.8%<br>51.7%                                   | 55.6%<br>44.4%                    |
| Ear_8week  | 6.0%5.7%<br>41.0%<br>37.4%               | 14.4%<br>39.4%<br>15.4%<br>30.8%            | 26.0% 24.0%<br>20.0% 30.0%               | 16.6%.1%<br>16.0%<br>58.3%                                | 44.4% 55.6%                       |
| Ear_9week  | 9.4%7%<br>40.2% 42.7%                    | 24.4% 7.5%<br>18.8% 49.4%                   | 11.4% <sub>19.3%</sub> 39.3% 30.0%       | 16.6%.3%<br>18.4%<br>56.7%                                | 23.2% 29.3%<br>13.4%<br>34.1%     |
| Ear_10week                                       | 24.1%<br>75.9%                           | 4.5%%<br>50.0%<br>40.9%                     | 10.0% <sub>20.0%</sub><br>23.3%<br>46.7% | 8.5% <sup>10.6</sup> %<br>18.1%<br>62.8%                  | 25.0%<br>12.5% 62.5%              |
| Early prophase meiocytes                         | 8.4%<br>18.3% 29.2%<br>44.1%             | 17.0% 1.7%<br>25.5%<br>45.7%                | 7.6%<br>23.4%<br>35.4%                   | 8.6%1.5%<br>44.8% 35.0%                                   | 12.0%16.0%<br>72.0%               |
| Embryo_1d  | 12.4% 0.3%<br>38.1% 39.2%                | 9.1%%<br>16.4%<br>72.7%                     | 9.8%.2%<br>37.7% 44.3%                   | 14.3%.2%<br>16.8%   | 19.3% 17.5%<br>24.6%<br>38.6%     |
| Embryo_3week                                     | 6.4%<br>23.8%<br>39.4%                   | 25.6% 13.9%<br>27.9% 32.6%                  | 10.2%<br>4.1%<br>40.8%                   | 9.9%8%<br>71.6%   | 13.3%                             |
| Embryo_9DAP                                      | 11.6% <sub>19.6%</sub><br>29.1%<br>39.7% | 28.9% 12.1%<br>35.6%<br>23.5%               | 6.3% <sub>21.8%</sub><br>33.8%           | 14.9%<br>20.8%<br>57.5%                                   | 11.9%<br>29.8%<br>35.8%           |
| Embryo_15DAP                                     | 15.1%14.0%<br>31.9%<br>38.9%             | 33.5%<br>16.3%<br>28.2%<br>22.0%            | 7.7% 6.7% 41.0% 34.6%                    | 13.3%.3%<br>18.2%   | 3.2%<br>32.3%<br>41.9%            |
| Embryo_20DAP                                     | 8.8% 6.8% 31.4% 43.1%                    | 6.6%<br>39.6%<br>33.0%                      | 8.2%<br>23.5%<br>37.6%                   | 10.8% % 20.0% 65.8%                                       | 3.8%<br>25.0%<br>34.6%            |
| Endosperm_9DAP                                   | 6.0%<br>21.1%<br>29.3%<br>43.6%          | 17.5%<br>34.3%<br>31.4%                     | 8.1% <sub>19.2%</sub> 36.4%              | 9.5% 5.3%<br>43.9% 31.2%                                  | 18.2% 18.2%<br>22.7%<br>40.9%     |
| Endosperm_15DAP                                  | 5.9%<br>8.3%<br>29.7%<br>46.0%           | 17.8%<br>23.1%<br>23.1%                     | 9.0%18.1% 39.4% 33.5%                    | 15.0%15.3%<br>25.8%<br>43.9%                              | 15.3%<br>31.8%<br>14.1%           |
| Endosperm_20DAP                                  | 8.0%<br>24.6%<br>43.3%                   | 35.5%<br>20.2%<br>23.6%<br>20.7%            | 8.8% <sub>21.2%</sub> 36.5% 33.6%        | 15.0%15.7%<br>25.5%<br>43.7%                              | 16.7%<br>29.5%<br>20.5%           |
| Leaf1_2week                                      | 15.1%<br>19.9%<br>28.1%<br>36.8%         | 27.15% 22.19%<br>25.59% 25.07%              | 22.35% 23.06%<br>23.06%<br>31.53%        | 24.1% 19.1%<br>17.9%<br>38.9%                             | 8.1%<br>15.2%<br>36.0%            |
| Leaf2_2week                                      | 19.4% 35.7% 43.4%                        | 30.7% 16.1%<br>5.8%<br>47.4%                | 24.46% 25.90%<br>28.78% 20.86%           | 20.2% 13.9%<br>23.2%<br>42.8%                             | 11.5%<br>18.4%<br>46.0%           |
| Leaf1_3week                                      | 14.7%<br>27.6%<br>28.8%                  | 19.6%<br>11.3%<br>23.7%                     | 16.8% 27.2%<br>33.6% 22.4%               | 26.1% 13.6%<br>18.8%<br>41.5%                             | 3.9%<br>22.1% 28.6%<br>45.4%      |
| Leaf2_3week                                      | 4.2%<br>28.0%<br>36.4%                   | 20.2% <sup>8.7</sup> % 36.5% 34.6%          | 15.4% 2.0%<br>34.2% 38.5%                | 13.3% 7%<br>22.6%<br>56.4%                                | 8.0%<br>20.4%<br>28.9%            |
| Leaf3_3week                                      | 15.2% 25.0%<br>25.0%<br>34.8%            | 16.6%<br>17.9%<br>22.5%                     | 11.6% <sub>24.0%</sub> 45.4% 19.0%       | 11.4%3.7%<br>19.5%<br>55.3%                               | 4.8%<br>25.3%<br>39.8%            |
| Leaf_4week                                       | 8.1%<br>23.0%<br>35.6%                   | 8.1%<br>33.3%<br>28.3%                      | 18.4% 14.6%<br>29.1% 37.9%               | 16.1%.1%<br>22.3%<br>54.5%                                | 25.0% 30.8%                       |
| Leaf_5week                                       | 6.9%<br>27.6%<br>34.5%                   | 27.4% 8.3%<br>29.8%<br>34.5%                | 19.5% <sup>7</sup> .8%<br>28.6%<br>44.2% | 15.5% 1% 18.9% 61.5%                                      | 76.0%                             |
| Leaf_6week                                       | 3.2%<br>28.4%<br>48.4%                   | 32.9%<br>19.0%<br>27.8%                     | 10.3%<br>14.9%<br>36.8%                  | 12.5% <sub>20.1%</sub> 20.6%                              | 3.1%<br>24.6% 30.8%<br>41.5%      |
| Leaf_9week                                       | 4.5%<br>29.7%<br>41.4%                   | 20.2% 13.2%<br>13.2%<br>53.5%               | 16.4% 22.1%<br>31.2%<br>30.3%            | 15.7% 2.6%<br>26.5%<br>45.1%                              | 7.3%<br>25.0%<br>28.1%<br>39.6%   |
| Leaf_expanded_4week                              | 5.9%<br>28.2%<br>34.6%                   | 28.9% 11.4%<br>30.3%<br>29.4%               | 14.1% <sub>19.8%</sub> 32.8% 33.3%       | 12.8%.5%<br>22.9%<br>55.7%                                | 17.2% 28.0%<br>50.5%              |
| Leaf_immature_5week                              | 7.8%<br>23.8%<br>30.1%                   | 30.6%<br>15.8%<br>24.9%<br>28.7%            | 10.2%2.6%<br>38.8%<br>38.4%              | 15.2% 8%<br>18.6%   | 5.6%<br>21.3% 27.8%<br>45.4%      |
| Leaf_mature_5week                                | 6.4%<br>22.0% 34.0%<br>37.6%             | 31.6%<br>37.3%<br>20.2%                     | 18.3% <sup>1</sup> 2.8%<br>33.8%         | 13.0%.7%<br>22.0%<br>56.2%                                | 8.3%<br>20.4%<br>50.0%            |
| Leaf_wrapped_4week                               | 4.3%<br>27.0%<br>38.0%                   | 30.7%<br>27.3%<br>28.7%                     | 13.6%17.1%<br>32.1%<br>37.1%             | 12.3%9%<br>26.8%<br>54.0%                                 | 1.4%<br>22.9% 25.7%<br>50.0%      |
| Pollen_early                                     | 8.9%<br>35.6%<br>46.7%                   | 19.7% 22.9%<br>11.5%<br>45.9%               | 26.9% 15.4%<br>21.2%<br>36.5%            | 18.7% 19.6%<br>29.0% 32.7%                                | 8.0%<br>40.0%<br>52.0%            |
| Pollen_germination                               | 6.2%<br>18.8%<br>43.8%                   | 10.3%<br>34.6%<br>29.5%<br>25.6%            | 12.8%<br>15.4%<br>43.6%                  | 11.9%<br>30.7%<br>35.6%<br>21.8%                          | 34.5% 27.6%                       |
| Pollen1_mature                                   | 3.4%<br>24.7%<br>29.2%                   | 10.3%<br>16.2%<br>41.2%                     | 9.8%<br>23.5%<br>39.2%                   | 4.9%19.5%42.7%32.9%                                       | 6.2% 62.5%                        |
| Pollen2_mature                                   | 1.7%<br>25.0%<br>43.3%<br>30.0%          | 25.4%<br>40.3%                              | 27.8% 18.5%<br>14.8%<br>38.9%            | 14.0%<br>17.5%<br>43.0%                                   | 75.0%                             |
| Root1_2week                                      | 2.5%<br>25.0%<br>43.8%                   | 331 <b>162</b> .3%<br>81.5%                 | 10.6%4.2%<br>29.2%                       | 22.1% <sup>7.5%</sup><br>22.1%<br>48.3%                   | 21.11% 26.67%<br>26.67%<br>25.56% |
| Root2_2week                                      | 21.05% 23.25%<br>25.88% 29.82%           | 16.0%<br>17.6%<br>28.7%                     | 25.20% 22.80%<br>21.60% 30.40%           | 20.9% 18.4% 20.9% 39.9%                                   | 5.7%<br>40.2%<br>36.9%            |
| Seed   | 12.7%<br>21.5%<br>29.1%<br>36.7%         | 52.5%<br>24.7%                              | 24.5% 24.5%<br>30.8% 20.2%               | 24.8% 12.6%<br>17.6%<br>45.0%                             | 31.4%                             |
| Shoot apical meristem 4week                      | 35.6%                                    | 32.6%<br>26.2%<br>26.2%                     | 31.7% 41.0%                              | 16.0% 7%<br>63.2%<br>24.8% 13.0%                          | 42.6%                             |
| Stalk_2week                                      | 28.2% 43.6%                              | 18.4% 42.5%                                 | 33.2% 35.0%                              | 20.0% 42.2%   | 19.7%<br>36.4%                    |
| Silk_9week                                       | 42.1% 43.9%<br>9.6%<br>4.4%              | 29.2%<br>16.3%<br>42.9%<br>28.35%<br>27.32% | 36.8% 32.8%                              | 23.0% 43.7% 19.9%   | 26.6%<br>43.0%<br>15.5%           |
| Silk_11week                                      | 28.0% 48.0%                              | 18.56% 25.77%                               | 36.4% 31.8%<br>12.1% 7.2%                | 22.5%<br>37.0%<br>19.0%                                   | 49.3%<br>31.0%<br>5.6%<br>15.5%   |
| Silk_12week                                      | 24.4% 52.9% 15.6% 0.9%                   | 35.4%<br>25.8%<br>21.5%<br>29.0%            | 34.4% 36.3%                              | 33.7% 26.9%<br>14.7 <mark>%</mark> 2%                     | 15.5%<br>45.1%<br>33.8%           |
| Tassel_4week                                     | 29.7% 43.8%<br>4 <b>232</b> %            | 30.7% 29.0%<br>2.6%<br>37.7%                | 37.7% 31.9%<br>8.8%<br>23.5%             | 57.1%<br>14.4%1.2%<br>13.6%                               | 35.3% 58.8%                       |
| Tassel_8week                                     | 6.6%<br>60.9%                            | 54.0%<br>34.0%<br>19.2% 20.2%               | 26.5%<br>41.2%<br>13.5% 5.8%             | 60.8%<br>18.3% 0.3%                                       | 12.3%<br>35.2%                    |
| Tassel_9week                                     | 35.3% 42.6%                              | 55.8%                                       | 38.4% 32.3%<br>17.6% 22.4%               | 26.6%<br>44.8%<br>23.2% <sup>4</sup> .3% <sub>13.0%</sub> | 24.6% 27.9%                       |
| Vegetative apex_2week  Supplementary Figure 6. S | structural dis                           | 43.9%<br>47.1%<br>etribution of terminal r  | 30.6% 29.4%                              | 59.4%   | tissue samples.                   |
|  |  |   |  |   |                                   |