

**Table S3.** The identified DEG targets of PCFS4

| <b>TAIR Gene ID</b>                        | <b>p-value*</b> |
|--|-----------------|
| <b>Up-regulated DEG targets of PCFS4</b>   |                 |
| AT2G15880.1                                | 2.02E-52        |
| AT3G45140.1                                | 4.88E-25        |
| AT4G17410.1                                | 4.10E-17        |
| AT1G22770.1                                | 2.47E-14        |
| AT3G46640.2                                | 7.47E-14        |
| AT1G30390.1                                | 9.63E-13        |
| AT1G68050.1                                | 1.24E-11        |
| AT3G46640.1                                | 4.41E-11        |
| AT1G14250.1                                | 5.87E-10        |
| AT4G11710.1                                | 6.57E-10        |
| AT1G21680.1                                | 1.18E-09        |
| AT5G61380.1                                | 1.31E-09        |
| AT2G20815.1                                | 1.49E-09        |
| AT3G27860.1                                | 3.61E-08        |
| AT1G52240.1                                | 3.95E-07        |
| AT2G38340.1                                | 3.98E-06        |
| AT1G09070.1                                | 4.57E-06        |
| AT5G62360.1                                | 6.75E-06        |
| AT1G52040.1                                | 9.08E-06        |
| AT1G13190.1                                | 1.02E-05        |
| <b>Down-regulated DEG targets of PCFS4</b> |                 |
| AT1G33590.1                                | 2.71E-19        |
| AT2G15080.1                                | 5.29E-18        |
| AT5G25980.2                                | 2.08E-17        |
| AT2G15080.2                                | 4.13E-17        |
| AT5G25980.1                                | 6.55E-17        |
| AT5G25980.3                                | 6.55E-17        |
| AT2G18440.1                                | 5.90E-16        |
| AT4G04640.1                                | 1.46E-15        |
| AT3G03780.1                                | 1.81E-15        |
| AT3G03780.2                                | 1.81E-15        |
| AT3G03780.3                                | 1.81E-15        |
| AT1G52190.1                                | 1.22E-14        |
| AT2G29630.1                                | 2.47E-14        |
| AT1G16410.1                                | 3.63E-14        |
| AT3G23810.1                                | 9.99E-14        |
| AT1G45201.1                                | 2.43E-13        |

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| AT1G09750.1 | 5.30E-13 |
| AT1G45201.2 | 1.99E-12 |
| AT4G11280.1 | 1.99E-12 |
| AT4G14890.1 | 3.89E-12 |
| AT4G24190.2 | 1.01E-11 |
| AT4G24190.1 | 1.36E-11 |
| AT4G32020.1 | 4.31E-11 |
| AT4G19170.1 | 5.12E-11 |
| AT2G07698.1 | 7.79E-11 |
| AT5G13630.1 | 9.04E-11 |
| AT5G13630.2 | 9.04E-11 |
| AT1G76100.1 | 1.72E-10 |
| AT1G68560.1 | 1.76E-10 |
| AT1G16410.2 | 2.38E-10 |
| AT5G19240.1 | 3.34E-10 |
| AT3G04210.1 | 3.58E-10 |
| AT1G29660.1 | 4.43E-10 |
| AT4G35090.2 | 7.28E-10 |
| AT5G15850.1 | 7.49E-10 |
| AT3G55980.1 | 1.59E-09 |
| AT4G35090.1 | 3.29E-09 |
| AT3G62410.1 | 3.48E-09 |
| AT1G15260.1 | 3.82E-09 |
| AT3G17390.1 | 4.22E-09 |
| AT5G12860.2 | 4.33E-09 |
| AT3G18490.1 | 4.37E-09 |
| AT5G67300.1 | 5.65E-09 |
| AT3G18773.1 | 5.92E-09 |
| AT2G40000.1 | 1.06E-08 |
| AT1G01120.1 | 1.10E-08 |
| AT1G44446.2 | 1.25E-08 |
| AT1G33600.1 | 1.27E-08 |
| AT1G31173.1 | 1.53E-08 |
| AT4G24570.1 | 2.30E-08 |
| AT5G37770.1 | 2.51E-08 |
| AT2G10410.1 | 2.87E-08 |
| AT4G34980.1 | 3.14E-08 |
| AT3G52500.1 | 3.14E-08 |
| AT5G12860.1 | 3.74E-08 |
| AT1G02150.1 | 3.75E-08 |
| AT1G26150.1 | 3.99E-08 |

|             |             |
|-------------|-------------|
| AT1G72150.1 | 4.41E-08    |
| AT2G15050.1 | 5.97E-08    |
| AT4G03260.2 | 6.00E-08    |
| AT2G31880.1 | 6.68E-08    |
| AT5G15845.1 | 7.26E-08    |
| AT1G20510.2 | 7.28E-08    |
| AT1G20510.1 | 8.01E-08    |
| AT3G47250.1 | 9.13E-08    |
| AT5G26200.1 | 9.62E-08    |
| AT1G78850.1 | 1.58E-07    |
| AT4G29780.1 | 1.81E-07    |
| AT5G61420.2 | 2.66E-07    |
| AT5G13770.1 | 2.76E-07    |
| AT1G79245.1 | 3.18E-07    |
| AT3G18060.1 | 3.75E-07    |
| AT3G47250.2 | 4.73E-07    |
| AT4G30440.1 | 4.84E-07    |
| AT2G40140.2 | 6.17E-07    |
| AT3G47250.3 | 6.73E-07    |
| AT2G07734.1 | 1.13E-06    |
| AT2G40140.1 | 1.25E-06    |
| AT5G66520.1 | 1.50E-06    |
| AT2G15050.3 | 1.68E-06    |
| AT5G36120.1 | 2.29E-06    |
| AT4G36648.1 | 2.44E-06    |
| AT2G46220.1 | 2.66E-06    |
| AT1G60950.1 | 2.80E-06    |
| AT5G61420.1 | 2.93E-06    |
| AT2G29510.1 | 3.98E-06    |
| AT2G22500.1 | 4.57E-06    |
| AT4G19100.1 | 5.59E-06    |
| AT1G78820.1 | 6.93E-06    |
| AT2G28790.1 | 7.55E-06    |
| AT3G61820.1 | 9.37E-06    |
| AT1G79720.1 | 1.68E-05    |
| AT3G15730.1 | 8.63E-05    |
| AT2G42690.1 | 0.000151212 |

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Note: \*, denote the p-value based on T-statistic test.