

**Table S2.** The identified 142 DPGs differentially processed in the *pcfs4* mutant and the possible mechanisms for differential processing.

| <b>Gene No.#</b> | <b>TAIR Gene ID</b> | <b>p-value*</b> | <b>Model**</b> |
|------------------|---------------------|-----------------|----------------|
| No. 1            | AT5G52910.1         | 3.39E-52        | ATI            |
| No. 2            | AT5G02170.1         | 1.34E-06        | APA            |
| No. 3            | AT4G38160.2         | 4.35E-06        | APA            |
| No. 4            | AT4G39330.1         | 4.70E-05        | APA            |
| No. 5            | AT5G62720.2         | 5.12E-05        | AS             |
| No. 6            | AT5G20620.1         | 9.01E-05        | APA            |
| No. 7            | AT3G26510.1         | 0.00013639      | APA            |
| No. 8            | AT4G05010.1         | 0.000360295     | APA            |
| No. 9            | AT3G16520.2         | 0.000387364     | AS             |
| No. 10           | AT5G61560.1         | 0.000466259     | AS             |
| No. 11           | AT2G22980.2         | 0.000487209     | ATI            |
| No. 12           | AT2G18670.1         | 0.000579079     | APA            |
| No. 13           | AT2G22980.1         | 0.000704339     | ATI            |
| No. 14           | AT2G22980.3         | 0.000704339     | ATI            |
| No. 15           | AT2G22980.4         | 0.000704339     | ATI            |
| No. 16           | AT3G16520.1         | 0.000719896     | APA            |
| No. 17           | AT2G03120.1         | 0.001114772     | APA            |
| No. 18           | AT1G59870.1         | 0.001135631     | AS             |
| No. 19           | AT3G26510.3         | 0.001164302     | APA            |
| No. 20           | AT4G31820.1         | 0.001261359     | APA            |
| No. 21           | AT5G46490.2         | 0.001381937     | AS             |
| No. 22           | AT3G26510.5         | 0.001518149     | ATI            |
| No. 23           | AT4G37300.1         | 0.001555258     | APA            |
| No. 24           | AT5G63510.1         | 0.001650554     | APA            |
| No. 25           | AT2G30770.1         | 0.002070147     | ATI            |
| No. 26           | AT2G26695.1         | 0.002128813     | APA            |
| No. 27           | AT3G58980.1         | 0.002301997     | AS             |
| No. 28           | AT2G15890.2         | 0.002673683     | APA            |
| No. 29           | AT4G36660.1         | 0.002878166     | ATI            |
| No. 30           | AT3G17465.1         | 0.002934389     | APA            |
| No. 31           | AT3G53130.1         | 0.002950755     | AS             |
| No. 32           | AT2G28820.1         | 0.00313415      | AS/APA         |
| No. 33           | AT3G02350.1         | 0.003498364     | APA            |
| No. 34           | AT5G42050.1         | 0.00398813      | APA            |
| No. 35           | AT5G20250.2         | 0.004152257     | ATI            |
| No. 36           | AT5G18370.1         | 0.00424535      | AS             |
| No. 37           | AT3G51140.1         | 0.004371274     | AS             |

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|--------|--------------|--------------|--------|
| No. 38 | AT1G33890. 1 | 0. 004502443 | AS     |
| No. 39 | AT3G01270. 1 | 0. 004795879 | APA    |
| No. 40 | AT3G53570. 2 | 0. 004914873 | AS     |
| No. 41 | AT3G26510. 2 | 0. 005164614 | APA    |
| No. 42 | AT3G26510. 4 | 0. 005164614 | APA    |
| No. 43 | AT1G05520. 1 | 0. 00532054  | AS     |
| No. 44 | AT4G00970. 1 | 0. 005408407 | APA    |
| No. 45 | AT2G41800. 1 | 0. 005421864 | AS     |
| No. 46 | AT2G03972. 2 | 0. 005758645 | APA    |
| No. 47 | AT1G34350. 1 | 0. 005906869 | AS     |
| No. 48 | AT1G50730. 1 | 0. 006247395 | APA    |
| No. 49 | AT4G27060. 1 | 0. 006721021 | AS     |
| No. 50 | AT3G44550. 1 | 0. 006822644 | APA    |
| No. 51 | AT5G20250. 1 | 0. 006991082 | ATI    |
| No. 52 | AT4G23290. 2 | 0. 007006003 | APA    |
| No. 53 | AT4G23290. 1 | 0. 007320599 | APA    |
| No. 54 | AT4G00430. 1 | 0. 007478863 | APA    |
| No. 55 | AT1G70890. 1 | 0. 007627014 | APA    |
| No. 56 | AT2G34620. 1 | 0. 00763104  | APA    |
| No. 57 | AT5G44180. 1 | 0. 008602241 | AS     |
| No. 58 | AT3G11960. 2 | 0. 00863861  | AS     |
| No. 59 | AT2G32520. 1 | 0. 009035258 | AS     |
| No. 60 | AT3G16410. 1 | 0. 009798717 | ATI    |
| No. 61 | AT2G35410. 1 | 0. 010012883 | APA    |
| No. 62 | AT3G58020. 1 | 0. 010497984 | AS/APA |
| No. 63 | AT3G61960. 2 | 0. 010545437 | AS     |
| No. 64 | AT4G04885. 1 | 0. 01068739  | APA    |
| No. 65 | AT2G19110. 1 | 0. 010893194 | AS     |
| No. 66 | AT4G03260. 1 | 0. 01094619  | AS     |
| No. 67 | AT5G45428. 1 | 0. 011199581 | AS     |
| No. 68 | AT3G09440. 1 | 0. 01171174  | APA    |
| No. 69 | AT4G34150. 1 | 0. 012036533 | AS     |
| No. 70 | AT1G55200. 1 | 0. 012967839 | APA    |
| No. 71 | AT4G22214. 1 | 0. 013555692 | APA    |
| No. 72 | AT2G15890. 1 | 0. 013563724 | APA    |
| No. 73 | AT5G65450. 1 | 0. 013677914 | AS     |
| No. 74 | AT3G60740. 1 | 0. 013708296 | AS     |
| No. 75 | AT5G22760. 1 | 0. 013730718 | ATI    |
| No. 76 | AT1G68590. 1 | 0. 014497027 | APA    |
| No. 77 | AT1G68590. 2 | 0. 014497027 | APA    |
| No. 78 | AT5G23000. 1 | 0. 01590454  | AS     |

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|---------|--------------|--------------|--------|
| No. 79  | AT3G14210. 1 | 0. 01624084  | APA    |
| No. 80  | AT1G74690. 1 | 0. 01624197  | ATI    |
| No. 81  | AT5G20250. 3 | 0. 016379064 | ATI    |
| No. 82  | AT5G45430. 1 | 0. 016593749 | AS     |
| No. 83  | AT3G11964. 1 | 0. 016833029 | AS     |
| No. 84  | AT5G59730. 2 | 0. 016853513 | AS     |
| No. 85  | AT3G11960. 1 | 0. 018320281 | AS     |
| No. 86  | AT1G22710. 1 | 0. 018644351 | APA    |
| No. 87  | AT2G36830. 1 | 0. 018968756 | APA    |
| No. 88  | AT3G50950. 2 | 0. 019371327 | APA    |
| No. 89  | AT5G54280. 2 | 0. 019665961 | APA    |
| No. 90  | AT5G61790. 1 | 0. 019843869 | AS     |
| No. 91  | AT1G35710. 1 | 0. 020471311 | APA    |
| No. 92  | AT3G43670. 1 | 0. 021129929 | AS     |
| No. 93  | AT2G29630. 2 | 0. 021150113 | AS     |
| No. 94  | AT3G11470. 1 | 0. 021431699 | ATI    |
| No. 95  | AT3G11470. 2 | 0. 021431699 | ATI    |
| No. 96  | AT3G11470. 3 | 0. 021431699 | ATI    |
| No. 97  | AT3G61960. 1 | 0. 021693362 | AS     |
| No. 98  | AT4G14300. 1 | 0. 021925666 | ATI    |
| No. 99  | AT4G38040. 1 | 0. 022817521 | AS     |
| No. 100 | AT4G39330. 2 | 0. 022854657 | APA    |
| No. 101 | AT5G42900. 3 | 0. 023335569 | AS     |
| No. 102 | AT5G62720. 1 | 0. 024619371 | APA    |
| No. 103 | AT2G32870. 1 | 0. 025254017 | AS     |
| No. 104 | AT3G53570. 4 | 0. 025590154 | AS     |
| No. 105 | AT2G35640. 1 | 0. 026207558 | ATI    |
| No. 106 | AT2G15050. 2 | 0. 026874092 | APA    |
| No. 107 | AT3G30775. 1 | 0. 028143837 | APA    |
| No. 108 | AT4G34060. 2 | 0. 028318723 | AS     |
| No. 109 | AT1G27130. 1 | 0. 02954701  | APA    |
| No. 110 | AT1G28090. 3 | 0. 030821137 | APA    |
| No. 111 | AT2G41430. 4 | 0. 031222198 | AS     |
| No. 112 | AT3G56320. 1 | 0. 033654563 | AS     |
| No. 113 | AT5G35330. 2 | 0. 033924627 | APA    |
| No. 114 | AT1G66090. 1 | 0. 034038156 | AS/APA |
| No. 115 | AT4G27310. 1 | 0. 034131075 | AS     |
| No. 116 | AT5G11430. 1 | 0. 035425529 | AS     |
| No. 117 | AT2G47850. 1 | 0. 035649781 | AS     |
| No. 118 | AT1G14660. 1 | 0. 036056035 | APA    |
| No. 119 | AT4G34060. 1 | 0. 037000839 | AS     |

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|---------|--------------|--------------|-----|
| No. 120 | AT1G72160. 1 | 0. 037508315 | APA |
| No. 121 | AT5G63420. 1 | 0. 038710974 | AS  |
| No. 122 | AT2G22840. 1 | 0. 038836474 | AS  |
| No. 123 | AT4G30470. 1 | 0. 038914326 | ATI |
| No. 124 | AT4G04460. 1 | 0. 039960955 | AS  |
| No. 125 | AT1G55370. 2 | 0. 040217667 | APA |
| No. 126 | AT5G42900. 2 | 0. 040376992 | AS  |
| No. 127 | AT5G48250. 1 | 0. 040929687 | APA |
| No. 128 | AT4G05170. 1 | 0. 041921161 | AS  |
| No. 129 | AT4G00240. 1 | 0. 04337572  | AS  |
| No. 130 | AT3G50950. 1 | 0. 045098784 | APA |
| No. 131 | AT5G65610. 1 | 0. 045230609 | AS  |
| No. 132 | AT1G73870. 1 | 0. 045657614 | APA |
| No. 133 | AT1G45545. 1 | 0. 045967146 | APA |
| No. 134 | AT1G29670. 1 | 0. 046721067 | APA |
| No. 135 | AT4G10120. 1 | 0. 0470451   | AS  |
| No. 136 | AT4G10120. 2 | 0. 0470451   | APA |
| No. 137 | AT3G09340. 1 | 0. 047517106 | ATI |
| No. 138 | AT3G61070. 2 | 0. 047885857 | APA |
| No. 139 | AT2G41210. 1 | 0. 048115435 | APA |
| No. 140 | AT5G38480. 1 | 0. 048664928 | APA |
| No. 141 | AT5G38480. 2 | 0. 048664928 | APA |
| No. 142 | AT2G47850. 3 | 0. 048683597 | AS  |

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Note: #The first 68 genes are defined by 1% FDR, and all 142 are defined by 2% FDR. \*p-value, the p-value for the F test listed in an ascending order. \*\*Models: ATI, alternative transcription initiation; AS, alternative splicing; APA, alternative polyadenylation.