**Table S1. The overrepresented motifs identified in each promoter sequences.**

|  |  |  |  |
| --- | --- | --- | --- |
| TAIR ID | Motif Name (occurrences) | Motif Position | Lowest p-value |
| AT1G49490 | MDmodule\_Motif.12.10(1) | 54 | 3.76E-05 |
| AT1G49490 | GAAWTSTG(2) | 706 | 3.58E-05 |
| AT1G24520 | MDmodule\_Motif.12.10(2) | 344 | 1.52E-05 |
| AT3G20865 | MEME\_9\_w10(1) | 945 | 4.94E-06 |
| AT3G20865 | MEME\_7\_w10(3) | 320 | 4.09E-06 |
| AT3G20865 | MEME\_9\_w14(1) | 220 | 1.05E-06 |
| AT5G14380 | MEME\_9\_w10(1) | 328 | 4.04E-05 |
| AT4G33970 | MEME\_9\_w14(2) | 783 | 9.12E-06 |
| AT5G14380 | MEME\_9\_w14(1) | 933 | 1.33E-07 |
| AT4G33970 | MEME\_9\_w10(2) | 742 | 2.02E-06 |
| AT1G24520 | RKGRSAGA(1) | 986 | 1.47E-05 |
| AT1G49490 | MEME\_9\_w10(1) | 746 | 2.57E-05 |
| AT4G33970 | MDmodule\_Motif.12.10(3) | 872 | 4.54E-05 |
| AT1G49490 | MEME\_7\_w10(1) | 924 | 9.00E-06 |
| AT2G18470 | MEME\_9\_w14(1) | 43 | 9.39E-06 |
| AT1G10620 | Improbizer\_AGAACCCGCTACC(1) | 825 | 5.40E-06 |
| AT2G18470 | MEME\_9\_w10(1) | 525 | 1.64E-05 |
| AT3G57690 | MDmodule\_Motif.12.10(1) | 291 | 3.70E-05 |
| AT5G14380 | Improbizer\_AGAACCCGCTACC(1) | 189 | 1.32E-05 |
| AT3G57690 | MEME\_7\_w10(2) | 625 | 4.09E-06 |
| AT5G14380 | MDmodule\_Motif.12.10(3) | 47 | 1.29E-05 |
| AT3G20865 | MDmodule\_Motif.12.10(2) | 222 | 6.03E-05 |
| AT2G15880 | MEME\_9\_w14(4) | 434 | 2.09E-08 |
| AT3G18810 | RKGRSAGA(1) | 944 | 1.47E-05 |
| AT1G10620 | MEME\_9\_w14(1) | 878 | 6.03E-06 |
| AT1G10620 | MEME\_9\_w10(1) | 672 | 6.05E-06 |
| AT1G49270 | RKGRSAGA(1) | 295 | 3.26E-05 |
| AT1G49270 | MEME\_7\_w10(3) | 824 | 6.63E-05 |
| AT1G24520 | MEME\_7\_w10(1) | 494 | 9.00E-06 |
| AT1G51915 | MEME\_7\_w10(1) | 575 | 7.78E-05 |
| AT2G15880 | RKGRSAGA(1) | 93 | 5.93E-05 |
| AT3G01700 | MEME\_7\_w10(1) | 701 | 1.62E-05 |
| AT3G01700 | MDmodule\_Motif.12.10(3) | 937 | 1.75E-05 |
| AT3G20865 | GTKTDCCW(1) | 364 | 4.14E-05 |
| AT2G28440 | MEME\_7\_w10(5) | 222 | 1.35E-06 |
| AT3G20865 | GAAWTSTG(1) | 479 | 3.58E-05 |
| AT1G51915 | MEME\_9\_w10(1) | 293 | 2.28E-05 |
| AT1G51915 | MEME\_9\_w14(1) | 582 | 1.11E-05 |
| AT4G34440 | MEME\_7\_w10(1) | 910 | 8.11E-05 |
| AT3G01700 | Improbizer\_AGAACCCGCTACC(1) | 730 | 1.26E-05 |
| AT2G28440 | RKGRSAGA(2) | 131 | 1.47E-05 |
| AT2G24450 | MEME\_7\_w10(2) | 595 | 1.06E-05 |
| AT1G23540 | RKGRSAGA(1) | 834 | 4.46E-05 |
| AT5G40730 | MDmodule\_Motif.12.10(1) | 606 | 7.16E-06 |
| AT2G15880 | Improbizer\_AGAACCCGCTACC(1) | 136 | 2.69E-05 |
| AT1G51915 | RKGRSAGA(1) | 405 | 1.47E-05 |
| AT1G10620 | MEME\_7\_w10(2) | 67 | 1.87E-05 |
| AT1G24520 | MEME\_9\_w10(1) | 383 | 7.39E-05 |
| AT3G01700 | MEME\_9\_w10(1) | 563 | 2.02E-06 |
| AT3G01700 | MEME\_9\_w14(1) | 935 | 1.33E-07 |
| AT3G18810 | MEME\_9\_w14(2) | 559 | 3.30E-06 |
| AT1G10620 | RKGRSAGA(1) | 421 | 8.60E-05 |
| AT2G15880 | MDmodule\_Motif.12.10(10) | 436 | 5.59E-07 |
| AT3G18810 | MEME\_9\_w10(1) | 28 | 2.07E-05 |
| AT4G34440 | MDmodule\_Motif.12.10(1) | 908 | 5.59E-07 |
| AT3G01700 | RKGRSAGA(1) | 142 | 5.93E-05 |
| AT2G15880 | MEME\_7\_w10(4) | 853 | 7.90E-06 |
| AT2G15880 | MEME\_9\_w10(2) | 743 | 8.66E-05 |
| AT4G34440 | MEME\_9\_w10(2) | 320 | 2.91E-05 |
| AT4G34440 | MEME\_9\_w14(2) | 906 | 1.14E-08 |
| AT3G18810 | Improbizer\_AGAACCCGCTACC(1) | 271 | 6.68E-05 |
| AT1G51915 | GTKTDCCW(1) | 856 | 7.13E-05 |
| AT2G28440 | MDmodule\_Motif.12.10(3) | 879 | 1.85E-07 |
| AT1G24520 | MEME\_9\_w14(1) | 184 | 9.10E-05 |
| AT2G24450 | MEME\_9\_w10(2) | 419 | 1.83E-05 |
| AT2G24450 | MEME\_9\_w14(1) | 37 | 3.15E-06 |
| AT2G18470 | GTKTDCCW(1) | 756 | 8.60E-05 |
| AT1G51915 | MDmodule\_Motif.12.10(1) | 660 | 6.08E-05 |
| AT1G23540 | MDmodule\_Motif.12.10(1) | 302 | 1.09E-05 |
| AT5G40730 | RKGRSAGA(1) | 883 | 1.47E-05 |
| AT2G24450 | GAAWTSTG(1) | 428 | 3.58E-05 |
| AT3G18810 | MEME\_7\_w10(5) | 891 | 1.40E-05 |
| AT1G10620 | GAAWTSTG(1) | 256 | 7.15E-05 |
| AT3G18810 | MDmodule\_Motif.12.10(3) | 815 | 2.33E-05 |
| AT2G28440 | MEME\_9\_w10(1) | 472 | 2.39E-05 |
| AT2G28440 | MEME\_9\_w14(2) | 877 | 2.91E-06 |
| AT5G40730 | MEME\_7\_w10(4) | 956 | 4.09E-06 |
| AT3G57690 | GAAWTSTG(1) | 645 | 3.58E-05 |
| AT2G15880 | GAAWTSTG(3) | 736 | 3.58E-05 |
| AT1G51915 | Improbizer\_AGAACCCGCTACC(1) | 616 | 5.78E-05 |
| AT2G18470 | RKGRSAGA(3) | 946 | 4.46E-05 |
| AT5G14380 | MEME\_7\_w10(1) | 782 | 8.79E-05 |
| AT2G18470 | MDmodule\_Motif.12.10(3) | 883 | 4.77E-05 |
| AT1G10620 | MDmodule\_Motif.12.10(2) | 757 | 9.40E-06 |
| AT2G28440 | Improbizer\_AGAACCCGCTACC(1) | 21 | 2.30E-05 |
| AT4G34440 | RKGRSAGA(1) | 808 | 4.46E-05 |
| AT3G19020 | MEME\_7\_w10(1) | 542 | 1.06E-05 |
| AT4G33970 | MEME\_7\_w10(1) | 146 | 9.13E-05 |
| AT5G40730 | MEME\_9\_w10(1) | 919 | 1.33E-05 |
| AT1G49270 | GTKTDCCW(1) | 955 | 2.67E-05 |
| AT3G19020 | MEME\_9\_w10(1) | 797 | 2.57E-05 |
| AT2G24450 | RKGRSAGA(1) | 408 | 8.60E-05 |
| AT3G19020 | GTKTDCCW(1) | 913 | 4.14E-05 |
| AT3G19020 | MEME\_9\_w14(1) | 300 | 1.86E-06 |
| AT2G15880 | GTKTDCCW(4) | 791 | 1.21E-05 |
| AT3G01700 | GTKTDCCW(1) | 889 | 7.13E-05 |
| AT5G14380 | RKGRSAGA(2) | 166 | 3.26E-05 |
| AT2G28440 | GAAWTSTG(1) | 791 | 3.58E-05 |
| AT2G18470 | MEME\_7\_w10(1) | 896 | 3.98E-05 |
| AT1G23540 | MEME\_7\_w10(4) | 978 | 6.79E-06 |
| AT2G24450 | MDmodule\_Motif.12.10(2) | 336 | 7.70E-06 |