

Supplementary Table 1. DEGs between flight and ground control in *Arabidopsis* roots from human-tended and non-human-tended VG suborbital spaceflight experiments. Log2FC numbers highlighted in yellow indicate a significant change (Padj < 0.05). Red indicates upregulation (Log2FC > 1) and blue indicates downregulation (Log2FC < -1).

DEG	F1R vs GR	F2R vs GR	F3R vs GR	Non-human tended
AT5G12020	4.216718	5.042931	4.28459	0
AT3G07365	4.165475	4.255888	4.494545	0
AT1G53540	4.06149	4.917348	4.324765	0
AT3G46230	3.900891	4.595676	3.832939	1.566132384
AT5G59310	3.633171	3.191085	3.484839	0
AT5G12030	3.523844	4.419821	3.622538	0.802777087
AT4G25200	3.288786	4.25889	2.660264	0
AT2G29500	3.093928	3.587851	2.839218	0.315672641
AT4G27670	3.044989	4.486064	3.578685	0
AT1G72660	2.930665	3.195148	2.893988	0
AT3G09640	2.777945	3.335524	3.223334	0
AT4G10250	2.743394	3.932565	3.207527	0
AT1G07400	2.729125	3.078603	2.152146	2.283558601
AT5G48570	2.629963	2.487407	2.283606	1.297654224
AT4G21320	2.38917	2.601264	2.765459	0.260451878
AT5G02810	2.368592	1.54	3.121996	1.262025741
AT2G36690	2.267007	1.329327	1.794874	-0.629079828
AT1G16030	2.011317	2.982081	2.598904	0.919231521
AT3G53830	2.006512	1.421122	2.267396	-1.568948969
AT3G21520	1.812323	2.201173	1.847756	-1.157552289
AT3G14620	1.812057	1.729229	1.933181	0.488676056
AT1G52560	1.759724	2.571227	1.986799	0
AT2G45220	1.753503	1.359277	1.491997	0.278067968
AT2G47180	1.714637	1.577774	1.826593	-0.228787911
AT5G64170	1.636696	1.518106	1.760263	0.642934211
AT2G21130	1.532125	1.97956	1.031382	-0.244830446
AT5G57345	1.529001	1.395954	1.453336	-0.153012424
AT3G24100	1.522008	1.611207	1.303972	0.235473372
AT5G12110	1.408043	1.770589	1.480163	-1.097021064
AT2G43050	1.384906	1.955138	2.03113	0.016541893
AT1G09140	1.348256	1.267761	1.336809	0.181662211
AT1G53560	1.336472	1.303434	1.128949	0.091309779
AT1G05340	1.307938	1.392754	1.024712	0.25916227
AT5G59720	1.247581	2.349741	2.443903	-0.255460975
AT2G17900	1.247011	1.153895	1.39694	-0.804897064
AT1G17870	1.234852	1.246557	1.577568	1.434941679
AT4G12400	1.178512	1.037801	1.105737	0.230913631
AT1G22770	1.155735	1.177153	1.316926	0.260932321
AT2G21180	1.152515	1.370282	1.129413	-0.029482874
AT5G47830	1.0451	1.492457	1.001849	-0.550004898
AT3G47500	1.00311	1.08642	1.431843	-0.565046732
AT3G30775	-1.115234	-1.125539	-1.170141	-0.081808635
AT3G51240	-1.118587	-1.269922	-1.735583	0.584661413
AT5G41080	-1.27182	-1.026615	-1.881202	0.100807341
AT3G09440	-1.283624	-1.21149	-2.130376	0.218173278
AT3G03780	-1.334834	-1.138053	-1.358276	-0.005569445
AT2G19800	-1.416281	-1.782491	-1.184144	-0.075828498
AT5G05410	-1.465562	-1.60729	-2.193693	0.329682788
AT2G01150	-1.499881	-1.158495	-1.534765	0.169014884
AT4G11660	-1.580804	-1.720317	-2.119695	0.737408641

AT5G48070	-1.626477	-1.354151	-2.265612	0.732696073
AT1G77530	-1.920377	-2.037929	-1.729753	-0.914048925
AT1G72416	-2.143392	-2.27646	-2.490559	-0.356659299
AT3G14200	-2.210698	-2.066235	-2.485751	0.020667517
AT1G77520	-2.309494	-1.554439	-2.008605	-0.836011128
AT1G14200	-2.315524	-2.266047	-3.297081	-0.10731455
AT3G01260	-2.5041	-2.275703	-4.018825	-0.144584627
AT3G63350	-2.925821	-1.867086	-2.792691	-0.961429698
AT3G51910	-2.931173	-2.931642	-2.99228	-0.104628154
AT5G66780	1.631016	1.449417	-0.129591	1.363566212
AT3G02535	1.539091	1.743924	0.77836	2.052526396
AT1G56300	1.485821	1.402647	0.850122	0.203715899
AT5G67488	1.448369	1.721648	-0.233614	0.460993219
AT5G56985	1.439937	1.36708	0.411495	0.509605373
AT5G09978	1.358983	1.129875	0.089971	0.200396876
AT4G27310	1.352594	1.356563	0.844588	0
AT4G23680	1.31762	1.130266	0.940622	-0.089378139
AT2G36210	1.30492	1.067659	0.784842	1.422736983
AT3G10020	1.287356	1.270572	0.99254	-0.028061334
AT5G23950	1.260541	1.122348	0.245233	0.097127648
AT1G75750	1.238048	1.147584	0.94673	0.059327277
AT4G04125	1.130472	1.638557	0.023596	0.097088841
AT5G01815	1.125838	1.900914	0.285972	-1.823163792
AT3G48020	1.074765	1.463699	0.589108	0.19589988
AT5G64230	1.039307	1.511403	0.912386	-1.626017632
AT1G80240	1.024525	1.008564	-0.187396	0.245818168
AT2G39380	1.006684	1.038041	0.879923	-0.058708762
AT4G38470	-1.004229	-1.300692	-0.527516	-0.365550729
AT3G43790	-1.062923	-1.029714	-0.052412	-1.021141096
AT1G71880	-1.131434	-1.196134	-0.405212	-0.072699201
AT4G18340	-1.265081	-1.093341	-0.368571	-0.290692618
AT1G77410	1.737003	1.205985	1.693103	-0.524865866
AT3G47470	1.561164	1.308576	2.233887	0.359377847
AT1G73750	1.406917	0.309631	1.234275	0.905659337
AT3G15400	1.248032	0.975575	1.3319	-0.081680711
AT2G30480	1.18775	0.612213	1.711739	-0.541971843
AT3G16770	1.152038	0.778405	1.926131	0.040155714
AT5G47560	1.120182	0.908814	1.481345	-0.196841276
AT2G24545	1.108775	0.847323	1.094394	-0.804635334
AT5G01600	1.080546	0.69049	1.425451	0.293455816
AT5G37340	1.064659	0.870767	1.057341	-0.59185056
AT1G70890	1.061792	0.525177	1.149483	0.210982971
AT2G37180	1.051639	0.883943	1.638514	0.270395436
AT2G46830	1.033461	0.191219	1.720909	0.036489777
AT1G44446	1.020162	0.805074	1.828591	-0.356807716
AT5G62020	-1.01893	-0.914067	-1.404083	0.277366942
AT3G16050	-1.067697	-0.919366	-1.577891	-0.03246082
AT1G66080	-1.18022	-0.865919	-1.852268	0.584904377
AT5G23020	-1.198342	-0.857997	-1.681344	0.047789765
AT5G59820	-1.205176	-0.501604	-1.401091	-0.198020238
AT5G52020	-1.274136	-0.372132	-1.612361	1.165402986
AT3G57520	-1.277967	-0.881966	-1.06685	-0.315078723
AT2G03090	-1.284783	-0.797696	-1.205445	0.331374071
AT4G16370	-1.414453	-0.469594	-1.594989	-0.291721153
AT1G27140	-1.421021	-0.384965	-2.174562	0.089650619
AT3G58990	-1.624697	-0.772085	-1.805892	0.164443534

AT1G05700	-1.733813	-0.411823	-1.54292	0.172859379
AT5G59680	-2.172715	-0.800144	-1.857364	-0.149316383
AT2G32487	-2.872857	-1.269447	-2.334702	-0.556089355
AT4G20970	-2.984233	-1.840313	-4.20842	0
AT1G26240	-3.579884	-1.120445	-3.753697	-0.520567943
AT2G27390	7.179772	-1.929317	-1.929317	0
AT3G02480	3.013046	1.094285	0.039073	0.531920173
AT5G65080	2.539585	0.901328	0.524842	0.345099279
AT1G02205	2.176505	0.350418	-0.473127	-0.46152531
AT2G23110	2.173891	1.704273	1.652632	0
AT2G21820	1.941384	1.527626	0.957123	0.553894854
AT2G31980	1.62	0.720406	0.632442	0.831450011
AT5G67140	1.598734	1.153967	0.907651	0.520128277
AT5G45810	1.567945	0.1981	-0.087114	0.05585537
AT3G44326	1.477819	1.169825	0.789794	0.197711005
AT4G30470	1.432662	0.572562	-0.052246	0.612785939
AT4G40010	1.386977	-0.003235	0.395484	0.473505119
AT5G43570	1.337961	0.560316	0.662693	-0.378268366
AT2G01530	1.307637	0.419159	0.409763	-0.172173356
AT1G02400	1.305033	0.569534	0.481325	1.013820779
AT4G40070	1.252833	0.940369	0.472159	0.103460776
AT5G54300	1.244075	0.552751	0.878944	-1.282372196
AT4G32590	1.236103	0.958521	0.846138	-0.230989946
AT1G62370	1.225279	0.992608	0.297362	0.285174309
AT1G64610	1.109557	0.359427	0.869727	0.117554977
AT2G40230	1.105413	0.982527	0.637824	0.185269718
AT1G20440	1.093579	0.799255	0.494424	0.233936694
AT3G26450	1.086117	0.559806	0.887745	-0.459470616
AT5G24930	1.077466	0.797426	0.743844	-0.170781008
AT4G09760	1.059695	0.429678	0.865787	0.425422175
AT5G10300	1.050549	0.979961	0.971468	-0.320729896
AT1G07150	1.024278	0.613588	0.427876	0.290540874
AT2G44670	-1.012964	-0.429062	-0.856808	0.539218232
AT1G49870	-1.040771	-0.831065	-0.727987	-0.177684695
AT4G02800	-1.066081	-0.71784	-0.594039	-0.451709481
AT3G13310	-1.089788	-0.290695	-0.628915	-0.136579551
AT5G08350	-1.138312	-0.488092	-0.561931	0.373235004
AT1G22885	-1.184697	-0.749212	-0.682139	-0.296799283
AT3G20470	-1.26923	0.131559	-0.40241	-0.058077152
AT5G47240	-1.285494	-0.77495	-0.716291	-0.903576389
AT1G75000	-1.563527	0.408226	-1.030914	-0.427705729
AT1G11330	-1.625244	-1.000497	-0.311479	-0.319431966
AT4G30110	-1.910509	-0.976765	-1.011486	-0.547068941
AT5G06730	-2.12991	-0.523685	-0.411957	1.302650291
AT4G16240	-3.731688	-0.634149	-1.401884	0
AT1G70830	2.926244	3.145675	4.586487	-0.985889056
AT4G33720	-0.481336	4.098788	2.813569	-0.966263747
AT5G07330	1.406978	2.305217	1.964978	0.472183259
AT5G06980	1.135535	1.376926	1.940125	-0.048439702
AT5G67430	1.660326	1.89383	1.891703	1.430635744
AT1G47655	0.611115	1.123764	1.690156	0.128470311
AT1G28660	1.062224	1.633298	1.511136	-0.217686081
AT2G26690	0.879443	1.01373	1.472436	0.065627183
AT1G03070	1.140244	1.845265	1.438955	0
AT2G32120	0.998669	1.317333	1.352457	-0.015685432
AT2G46790	1.002819	1.492866	1.34123	-1.943113874

AT1G05347	0.820065	1.668425	1.326686	0
AT5G56600	1.005675	1.705249	1.320285	0.627549625
AT5G01880	1.01396	1.102173	1.294419	0.112171118
AT2G21320	0.596295	1.398744	1.277043	0.840375539
AT3G12320	1.015459	1.381827	1.271423	0.000595947
AT5G39090	1.155748	1.396939	1.221701	0.781097639
AT3G06470	0.437195	1.043594	1.052182	0.180129796
AT2G01010	0.606197	1.901027	-1.162058	0.051990077
AT3G27030	0.045082	1.389664	-1.171363	0.112936363
AT1G64220	-0.037902	1.348992	-1.192297	0.341508473
AT2G01020	-0.531923	3.352589	-2.474923	0.214170618
AT3G41979	-0.531923	3.352589	-2.474923	0.214170622
AT2G08770	-0.608317	2.508266	-2.986555	0.951988168
AT3G22840	-1.077401	-1.064502	-2.166505	1.318632886
AT5G10230	-0.419895	-1.080493	-1.826657	-0.425265665
AT5G10625	-0.974157	-1.082044	-1.167373	0.178563773
AT1G64390	-1.267608	-1.103235	-1.287977	0.07845008
AT1G21120	-0.819428	-1.110484	-2.509646	0.057888492
AT5G08640	-0.962638	-1.124625	-1.571627	0.644380395
AT5G49350	-0.467084	-1.126502	-1.099112	-0.573789433
AT5G40780	-0.608488	-1.158153	-1.085134	-0.139251958
AT1G29270	-0.992828	-1.173217	-1.295722	-0.02130591
AT3G15340	-0.742525	-1.220985	-1.154356	0.091714967
AT2G34790	-1.14687	-1.274233	-1.631086	-0.002614267
AT1G49430	-0.04126	-1.303809	-1.259144	0.261019551
AT2G03830	-0.902176	-1.310044	-1.38112	-0.328645119
AT3G44550	-0.486889	-1.339568	-1.349594	-0.552321042
AT5G62430	-0.978216	-1.408231	-2.193501	0.583290448
AT3G04370	-0.260492	-1.432362	-1.472871	0.361004127
AT2G26150	-1.138655	-1.494756	-1.382194	0
AT1G67110	-1.15208	-1.503497	-1.331369	-0.256569664
AT5G49620	-1.314999	-1.556885	-1.664959	-0.51548649
AT1G59730	-0.603281	-1.639691	-2.528951	-0.48908799
AT1G55940	-0.718611	-1.63999	-1.156154	-0.408632858
AT4G35160	-0.84809	-1.697794	-1.515289	-0.38170719
AT5G62360	-1.369192	-1.819534	-2.466561	0
AT1G30760	-1.859478	-1.821661	-2.71806	0.141400989
AT5G12270	-1.421199	-1.936775	-2.143151	-0.511612727
AT1G01580	-1.355545	-2.285458	-3.259857	0.42279607
AT4G21400	-0.726941	-2.628019	-1.035961	-0.303912621
AT4G19690	-2.24278	-2.796674	-3.460338	0.514000757
AT5G19890	-1.861776	-3.070502	-2.898552	-0.324582311
AT1G64160	-2.159583	-3.552051	-5.52994	0.046522746
AT2G15780	-2.024449	-3.919219	-5.570754	0
AT5G59220	1.744524	1.930995	1.166112	1.412823441
AT1G06002	-0.905895	-12.31423	-0.889454	11.08945758
AT5G10435	10.24649	10.59382		0
AT1G15405	-0.923263	4.14679	-1.364609	1.099471608
AT2G03230	0.767375	3.986566	-0.425822	0
AT5G04305	-0.721724	3.880508	-5.178514	0
AT2G09465	-0.105541	3.413528	-2.323762	0
AT5G01515	-0.066876	3.33913	-3.516786	0
AT3G01715	0.774588	3.103484	-1.892221	0.505656895
AT5G09125	0.122846	2.625397	-1.36985	0
AT5G09585	-0.198323	2.571355	-1.355098	-0.454861024
AT3G12510	0.838065	2.487858	0.744825	0

AT2G08760	-0.433353	2.470426	-1.883001	0.530859174
AT1G56600	1.915624	2.338281	0.638761	0
AT2G06835	-1.582177	2.299842	-1.177739	1.118383338
AT1G09950	0.344134	2.297899	0.446413	0.977915411
AT5G53902	0.727159	2.225174	0.573563	0.042354933
AT2G41342	0.459097	2.225118	1.193747	-0.661999649
AT1G07803	1.448604	2.108005	0.480025	0.625719762
AT1G07430	1.560594	2.087194	1.251464	0
AT5G09065	0.580254	2.043265	-0.216067	0
AT5G06845	0.362119	2.027688	-0.093714	0.438991038
AT3G48510	1.471205	1.924841	0.13775	0.943449642
AT3G57765	0.520666	1.921867	-0.473678	0
AT4G39404	1.331221	1.900367	0.25251	-0.937447782
AT4G06795	0.968176	1.887055	-0.316685	0
AT1G09363	0.70495	1.849854	0.340181	2.068599922
AT3G03270	0.300857	1.835518	0.589587	0.20908385
AT5G03285	1.001971	1.830839	0.768855	0
AT3G56825	-0.03959	1.807221	-0.729327	0.902233175
AT4G29610	0.006979	1.791484	-0.438293	2.337141418
AT5G23230	1.287051	1.759603	1.347366	-0.908143703
AT5G54075	-0.189889	1.720665	-0.696652	1.781382778
AT2G18193	0.97904	1.696662	0.548311	0.439349665
AT4G00165	0.783474	1.657854	0.762443	0
AT1G47600	0.627294	1.649757	-1.338493	-0.067324951
AT1G34047	0.362757	1.64268	1.36374	-0.550420901
AT5G47450	1.425326	1.608182	1.036748	0.271350589
AT4G39235	0.969104	1.600696	0.508469	0.170811081
AT3G41762	0.349342	1.574142	-0.55885	0.549383051
AT4G33660	0.799315	1.572224	1.070383	0
AT5G65990	1.136658	1.543503	0.767089	1.50900448
AT4G36010	0.681214	1.521338	0.725516	0.582649391
AT2G01008	0.110501	1.504435	-0.368115	0.641496485
AT5G58070	0.818761	1.497766	0.676897	0.19750352
AT4G12495	-0.18717	1.491834	-0.6454	0
AT3G08590	0.475012	1.485825	0.254638	-0.227205295
AT1G11700	0.706864	1.462969	0.626363	-0.70883833
AT5G27660	0.312869	1.438113	-0.69432	0.296846916
AT5G56540	0.544564	1.435145	0.039318	0.083327856
AT5G59320	0.409965	1.395177	0.375707	0.849744784
AT2G19310	0.891837	1.395094	0.61248	-0.044849028
AT2G28710	0.926296	1.390007	0.818468	0.09344256
AT1G01940	0.920069	1.388418	0.906361	-0.145711459
AT1G09800	-0.08367	1.387957	-0.261544	-0.637206182
AT1G14980	0.724117	1.382638	0.003283	0.076668125
AT1G16825	0.329855	1.382135	0.187001	1.614267924
AT5G50175	0.988511	1.37983	0.088906	-0.312810052
AT1G24600	1.076222	1.370651	-0.287181	0.507198146
AT5G10990	0.717107	1.363935	0.08297	-0.190995167
AT3G62990	0.307781	1.357682	0.182141	2.031560652
AT3G28740	0.784507	1.35373	0.603865	0.20408461
AT1G07600	1.289187	1.352235	-0.860972	-0.054855973
AT1G16820	0.553537	1.343169	0.212605	0.834272086
AT4G12490	0.165431	1.30484	-0.807561	-7.939231414
AT2G33740	0.850502	1.304509	0.75498	-0.187262191
AT5G01550	1.067895	1.297288	0.651409	0.137984313
AT3G06355	0.086511	1.284085	-0.498719	0.106416155

AT2G47730	0.741501	1.281939	0.578034	0.298255784
AT5G50760	0.828774	1.279686	0.157529	0.136537045
AT1G22985	0.933955	1.278524	0.678113	-0.363366609
AT1G03660	0.411611	1.273573	-0.185178	0.167182259
AT4G33666	0.063405	1.262166	-0.022588	-1.21158622
AT3G50350	0.634776	1.226123	0.5062	-0.22464802
AT3G59370	0.825981	1.224476	-0.043206	0.331175469
AT1G72240	0.72235	1.213268	0.10846	0.837430375
AT3G22540	0.756047	1.213177	0.074609	1.575475252
AT5G66590	0.254734	1.210419	-0.432749	0.206749307
AT1G66230	0.78276	1.208778	0.792765	0.262712311
AT5G64180	0.669016	1.199857	0.718081	0.281519747
AT1G05560	0.238051	1.171229	0.896028	-0.304795694
AT1G55990	1.089473	1.165946	-0.372454	-0.12055886
AT5G11975	0.71141	1.16534	-0.175039	-0.311810673
AT1G67810	0.320764	1.165139	0.42905	0.004739043
AT1G65520	0.607739	1.161788	0.252205	-0.041789521
AT1G48750	0.148833	1.141882	-0.175391	0.063662678
AT2G36830	0.886308	1.14007	0.625712	0.07689637
AT1G20190	0.241424	1.138888	-0.09562	-0.032701091
AT5G17350	0.843383	1.129437	0.197906	1.685924422
AT3G50850	0.6701	1.129257	0.131348	0.351566235
AT1G65980	0.764917	1.129079	0.739723	-0.026361014
AT5G03030	0.414657	1.126514	0.201071	0.005391408
AT1G03220	0.819744	1.123235	0.699965	-0.076012826
AT1G73480	0.902908	1.120055	0.416807	0.221087902
AT5G02220	0.559099	1.116044	-0.22535	-0.073608973
AT5G15770	-0.268062	1.115895	-0.370455	0.206193834
AT5G62340	0.473796	1.115646	0.036978	0.116554728
AT5G23460	0.019448	1.112812	0.680506	-0.025336935
AT2G07671	0.151973	1.109714	-0.627221	-0.120384442
AT2G35910	0.293863	1.108104	0.257294	0.188388902
AT3G41768	0.052707	1.10444	-0.728767	0.024019763
AT2G37750	0.882413	1.101242	0.200653	-0.234039778
AT5G45095	0.403955	1.098268	0.884378	0.913129733
AT2G30550	0.864258	1.093334	0.363167	0.396014807
AT1G04980	0.925211	1.093018	0.24278	0.152591132
AT4G33550	0.245256	1.087422	-0.185627	0.089287022
AT4G39360	1.009545	1.08739	0.349825	0
AT4G02980	0.860804	1.084307	0.87728	-0.122141352
AT4G20000	0.964115	1.080739	0.256572	0.510588562
AT3G08690	0.785959	1.079456	0.757991	0.309711829
AT3G01430	0.765033	1.075171	0.489101	0.431561402
AT1G07130	0.534737	1.064705	0.112806	-0.110490468
AT2G41380	0.77266	1.061623	0.076869	0.072350923
AT5G66985	-0.182472	1.060896	-0.176783	0.077058052
AT2G01520	0.906298	1.050027	0.691143	-0.421699451
AT5G16060	0.274005	1.048663	-0.18444	0.193915318
AT5G22890	0.660868	1.047951	0.557211	-0.285358194
AT5G06330	0.788618	1.046303	0.715793	-0.375815954
AT4G00170	-0.032793	1.04314	-0.325116	-0.006363579
AT5G03545	0.294088	1.042705	0.518734	0.55400998
AT3G47836	0.180967	1.04185	-0.282293	0.729572207
AT5G15802	0.467323	1.034681	0.213425	-0.316588109
AT3G25882	0.638434	1.031354	-0.663045	0.478832251
AT4G37320	0.691785	1.030934	0.493336	-0.19882625

AT4G27030	0.772062	1.029462	0.597897	0.689406984
AT2G27660	0.913939	1.028666	0.37288	-0.067070292
AT5G01250	0.652053	1.027931	0.499579	0.020655827
AT4G09695	0.696088	1.027859	0.515416	-0.084957634
AT1G05300	0.742817	1.022597	0.294903	-1.60443308
AT5G23220	0.869789	1.015471	0.086783	0.72832203
AT1G05210	-0.062835	1.014899	-0.503245	-0.724629101
AT3G16240	0.576959	1.014837	0.482485	0.195696634
AT5G08330	0.338168	1.013128	0.355026	0.006083447
AT1G77120	0.162385	1.011651	0.3985	0.333106903
AT5G18790	0.135282	1.005642	-0.044576	-0.463008562
AT2G40150	-0.202737	-1.007905	0.216069	0.496639037
AT3G15220	-0.284781	-1.0106	0.206491	0.136717844
AT2G01130	-0.546206	-1.01066	-0.029679	-0.057785935
AT3G15550	-0.748536	-1.01619	-0.320404	0.625109977
AT2G20440	-0.209667	-1.021602	-0.080605	0.321309509
AT4G15563	0.323062	-1.027665	0.052578	0.171289616
AT3G51740	-0.728314	-1.028825	0.148836	-0.646103098
AT2G32440	-0.47005	-1.031434	-0.150829	0.042590346
AT3G51480	-0.286605	-1.040306	0.117816	0.46047187
AT3G52340	-0.771464	-1.041043	-0.694577	-0.007334122
AT4G16957	0.03566	-1.042398	0.218765	0.372712905
AT3G25820	-0.254729	-1.045342	-0.332353	-0.112718743
AT3G13730	-0.916598	-1.060679	-0.6477	-0.078374528
AT4G00520	-0.27547	-1.064694	-0.018558	0.139132292
AT2G29060	-0.400228	-1.068322	0.045362	-0.377982156
AT1G30820	-0.862519	-1.073627	-0.672622	-0.175593917
AT3G11260	-1.186642	-1.077942	-1.030661	-0.592001235
AT1G10570	-0.419474	-1.078871	-0.10287	0.155683345
AT2G23030	0.06804	-1.081557	0.151201	-0.652712271
AT1G50240	-0.857428	-1.081843	-0.254637	-0.166744996
AT2G46240	-1.040706	-1.09371	-0.896476	0.308243278
AT4G33260	-0.457726	-1.095453	0.374733	0.118218664
AT2G18000	-0.199556	-1.103965	-0.491555	-0.400643397
AT2G18360	-0.490257	-1.107671	-0.328579	0.184058539
AT5G48310	-0.909401	-1.109828	-0.304806	0.56076568
AT1G18270	-0.466026	-1.112161	-0.280043	0.016085204
AT3G44670	-0.356491	-1.115511	0.584683	0.073702751
AT2G37280	-0.92564	-1.115964	-0.231887	-0.62521383
AT5G40840	-0.199177	-1.121698	-0.363038	0.121458505
AT3G03300	-0.154423	-1.124883	0.455795	0.035786652
AT1G21650	-0.394534	-1.127324	-0.356205	1.131900668
AT2G33770	-0.677867	-1.130229	0.202894	0.200108385
AT5G63160	-0.569876	-1.146043	-0.343427	-0.831132425
AT1G48360	-0.20213	-1.148494	-0.176184	0.0141849
AT1G77380	-0.920911	-1.14859	-0.960945	-0.715460657
AT3G48360	-0.17487	-1.153122	0.201555	-0.299239567
AT1G34670	-0.104032	-1.153528	-0.889645	-0.26333123
AT1G49960	-0.182489	-1.167948	-0.954093	-0.907343904
AT3G18400	-0.280125	-1.168752	-0.694978	-0.117355023
AT5G65460	-0.501784	-1.171915	0.014522	-0.326820793
AT2G32250	-0.326226	-1.199316	0.101556	0.115647302
AT1G26260	-0.633972	-1.220824	-0.825437	0.009008542
AT4G36980	0.078568	-1.225905	0.56246	-0.047422373
AT2G34930	-0.851814	-1.226569	-0.398618	0.425775654
AT5G18065	-0.419831	-1.229888	-0.102	0.590546943

AT3G54880	-0.441648	-1.248617	-0.881337	-0.077914439
AT5G20250	-0.883445	-1.256029	-0.3262	-0.631087412
AT5G41370	-0.42932	-1.260681	0.126183	0.298503076
AT1G30410	-0.234278	-1.265283	0.076895	-0.019353611
AT2G22920	-0.936293	-1.266737	-0.238245	-0.228855261
AT2G28470	-0.228017	-1.283253	-0.988068	0.194386843
AT1G05830	-0.303598	-1.283594	0.094102	0.052771385
AT3G16260	-0.236965	-1.288356	0.340712	-0.280916754
AT1G25098	-0.536434	-1.291073	0.474733	-0.006606139
AT1G27370	-0.251357	-1.298193	0.317681	-0.454195763
AT4G37610	-0.600785	-1.308328	-0.391654	-0.053537668
AT5G60430	0.110527	-1.313363	0.253112	0.167132448
AT3G57470	-0.388158	-1.347753	0.464489	-0.119821966
AT4G20320	-0.690302	-1.348861	-0.547721	0.034063747
AT2G30600	-0.777868	-1.350015	-0.291541	-0.15720285
AT5G37690	-0.37529	-1.357508	-1.012599	-1.172579512
AT4G33770	-0.862151	-1.363503	-0.86828	0.345320907
AT5G48220	-0.024056	-1.370076	0.274021	0.165047435
AT4G36670	-0.229499	-1.3814	-0.115507	0.096433471
AT3G49070	-0.792031	-1.402873	-0.963182	-0.063645443
AT5G62630	-1.055277	-1.405176	-0.634601	-0.396487009
AT1G15040	-0.930924	-1.422048	-0.941633	-0.357244641
AT5G44750	-0.210504	-1.43223	0.10128	-0.209391327
AT4G04740	-0.199917	-1.43672	0.228833	-0.182807803
AT1G30420	-0.651402	-1.45501	-0.782767	0.041064066
AT1G19397	0.387416	-1.46778	0.684822	0.19292508
AT2G16750	0.144862	-1.503602	-0.294435	-0.045447845
AT1G65370	-0.518288	-1.529337	0.213945	-0.205311112
AT4G15530	-0.615212	-1.552979	-0.049266	0.529245123
AT1G13670	-1.108312	-1.553236	-1.230053	0.128274048
AT1G54400	-1.049196	-1.618958	-1.113977	0
AT4G03205	-0.329378	-1.629766	0.859419	0.345739807
AT2G28570	-0.253478	-1.640996	0.04213	-0.15987582
AT1G73300	0.11484	-2.229979	0.030514	-0.129639394
AT4G24415	-1.235462	-2.246204	-1.379517	0.535265917
AT1G51270	-0.634106	-2.408212	-0.811254	0.182789855
AT2G28500	-1.931447	-2.649576	-2.130292	0
AT4G08795	0.331608	-2.861224	0.246408	0.972572342
AT1G17820	-0.65622	-11.85063	0.170025	0
AT1G06475	-0.487625	0.031476	-1.023528	9.093667709
AT3G01505	-0.507995	-0.52986	-1.323393	7.259019258
AT5G53870	1.139594	1.494486	2.894371	0
AT1G50960	-0.390534	-0.100209	2.761335	0
AT5G66110	1.938641	1.778945	2.549865	-0.513306714
AT1G03620	0.696866	-0.757155	2.484211	-0.055301255
AT5G59305	1.99043	0.645872	2.459817	0
AT3G51220	1.106283	0.410557	2.439951	-1.088703599
AT3G08115	0.364735	1.400854	2.279186	1.323071685
AT5G22860	0.63266	0.157006	2.274471	-0.247460841
AT3G54500	1.078821	-0.112962	2.244644	0.606639482
AT2G34420	1.30063	1.561258	2.193316	0.757964228
AT5G01190	0.415373	0.269013	2.145637	-0.944432349
AT3G59060	0.805501	0.605044	2.045381	-0.290666595
AT5G10970	0.706097	0.85892	2.020656	0.343564994
AT5G65590	-0.137001	0.327988	2.015755	-1.273619066
AT5G54270	1.27095	1.000833	1.991305	-0.832985289

AT2G22990	0.570851	-0.125485	1.932213	-0.052832927
AT1G78490	-0.230241	0.735902	1.889328	1.019214834
AT5G14920	-0.244733	-0.031665	1.874068	-0.583213668
AT1G48700	1.872304	0.999186	1.854821	0.87081214
AT3G08940	1.343239	0.914953	1.822768	-0.52467976
AT2G15880	0.526643	-0.558661	1.766989	0.558519177
AT5G24770	0.059624	0.46325	1.73224	-2.061168991
AT4G20235	0.227235	0.002962	1.729866	-0.237820592
AT1G52220	0.921127	1.005757	1.707003	0
AT1G72645	0.157112	-0.78838	1.684162	0
AT3G23290	0.428963	0.607816	1.681501	-1.163472208
AT4G18020	0.702199	0.145948	1.675173	-0.088553694
AT4G37970	0.20773	0.689066	1.659296	0.468064536
AT1G07440	0.20685	0.651728	1.656356	0
AT3G56260	0.728228	-0.069501	1.653657	0.390792258
AT3G22410	0.653006	0.52041	1.642291	0.859674429
AT2G35260	0.497515	0.257796	1.640601	-1.778776373
AT1G77090	0.659929	0.250751	1.625851	0
AT1G61520	1.041494	0.851633	1.615083	0.749628933
AT1G02300	0.453041	-1.137317	1.596355	-0.225881305
AT3G54260	-0.020274	0.029985	1.592054	-0.24432672
AT4G27440	0.247898	0.50299	1.573983	-0.072637431
AT4G30270	0.671001	0.50154	1.557407	0.078334839
AT2G20180	0.859105	0.281173	1.546307	-0.385245109
AT4G32810	0.484912	-0.093841	1.541747	-0.373078701
AT5G10946	0.441097	0.255683	1.540585	0.342609245
AT1G20620	0.024038	0.126522	1.533907	-0.032287598
AT1G74470	0.73165	0.496922	1.529785	0.068638522
AT1G22990	1.001714	0.497748	1.52906	-0.56351898
AT2G29650	0.521119	-0.206701	1.527737	0.217180019
AT1G06520	-0.105057	-0.481171	1.524543	0.510064576
AT5G44572	0.483372	0.406414	1.521191	1.043518119
AT3G17040	0.421685	-0.093401	1.517348	0
AT3G50820	1.603625	0.811555	1.51646	0.169301916
AT1G19720	0.016982	-0.447543	1.510887	0.054125123
AT3G16520	0.375066	-0.049271	1.504256	0.190720526
AT2G20260	0.839913	0.860959	1.473664	0.228388473
AT5G23000	0.115475	0.341395	1.468369	-0.784532932
AT3G56940	0.776188	0.261642	1.468103	-0.619040328
AT1G69230	-0.061845	0.315558	1.465253	0.066182422
AT4G35440	-0.036178	-0.207486	1.459887	-0.141449101
AT5G61290	0.712464	-0.016127	1.456518	-0.86571202
AT5G06510	0.29064	-0.241106	1.443136	-0.311369546
AT1G43040	0.392689	1.273184	1.441088	1.51338123
AT4G33000	0.575147	0.215158	1.440218	0.17778838
AT5G01530	0.968329	0.680624	1.434944	0.353136622
AT5G19530	0.339239	0.225235	1.433736	-0.121076306
AT5G54530	0.492463	-0.186808	1.425144	0.12739917
AT5G14370	0.501852	0.48835	1.420105	0.652419648
AT3G56250	0.212898	-0.460384	1.41682	-0.166179836
AT3G53960	0.465325	0.06565	1.416283	-0.317515616
AT3G10405	0.521627	0.280266	1.414471	-0.347777703
AT4G16410	0.642583	0.184013	1.413409	-0.015869641
AT1G06680	0.988996	0.785742	1.407592	0.012015265
AT3G05640	0.457726	0.674223	1.399246	-0.15161072
AT4G23496	-0.092118	0.20912	1.397023	0.509385201

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AT5G46110	0.64913	-0.14827	1.388981	0.273697115
AT3G20820	0.462912	0.670669	1.387737	0.912020003
AT5G19940	0.705271	0.382812	1.380972	0.137655969
AT1G15820	1.354771	0.914757	1.377911	-0.335867465
AT5G18930	0.489115	0.12322	1.376232	0.325296518
AT1G62770	-0.046204	-0.251073	1.374473	0.269963408
AT1G14700	1.005072	0.250942	1.369828	-1.273272646
AT2G01990	0.193635	-0.058323	1.363386	0.100461954
AT1G21350	0.827783	0.507598	1.362461	0.551847414
AT1G35140	0.042288	-0.91335	1.349759	2.646740218
AT1G25440	0.641907	0.336463	1.348322	0.152926088
AT3G18890	-0.03714	-0.333508	1.346398	-0.805327976
AT4G14540	0.792256	0.933835	1.344746	-0.514063248
AT3G13810	0.212451	-0.06509	1.342162	-0.526665229
AT4G01050	0.412886	0.302804	1.337621	-0.238462018
AT5G49440	0.837223	0.786421	1.335972	-0.080367036
AT1G29240	0.102288	0.045204	1.3332	0.869404459
AT3G28100	0.506909	0.144612	1.313701	-0.585645832
AT2G41190	0.987973	1.035882	1.302392	1.133044019
AT4G13280	-0.088802	-1.089322	1.30126	-1.133867668
AT5G13630	0.77605	0.344641	1.296069	0.137990028
AT4G19420	0.34359	0.388445	1.293309	-0.09236205
AT5G39530	0.400501	0.022973	1.292138	0.604832939
AT1G60000	0.785236	0.639299	1.279184	-0.097080762
AT1G67910	0.279415	0.445343	1.266346	-0.465898755
AT2G33850	-0.437654	-0.025639	1.264442	-0.85471599
AT2G21187	0.971088	-0.06503	1.263317	0.630056478
AT5G43620	0.984969	0.332806	1.262455	0.344158285
AT1G35830	0.179032	-0.102397	1.254928	0
AT1G19540	0.120216	-0.679273	1.254583	0.064419914
AT4G37800	-0.343963	0.05705	1.249899	-0.75089385
AT1G72060	0.783864	0.840417	1.248096	-0.37721307
AT1G76800	0.915193	0.555234	1.24777	0.453180366
AT3G06750	0.206989	0.433817	1.244233	0.48922099
AT1G54200	0.409486	0.070817	1.24345	-0.421397972
AT1G69160	-0.230361	0.494286	1.243144	-0.326743061
AT1G51400	0.632936	0.98513	1.237188	-0.436767549
AT3G50410	0.488188	0.933145	1.23393	1.500306149
AT1G79760	0.567178	0.750221	1.230042	0.238045539
AT5G58330	0.814133	0.299438	1.2262	0.348886656
AT4G18050	0.096768	-0.209308	1.223772	-0.59873191
AT4G16980	0.849697	0.357183	1.221484	0.376690242
AT5G63580	-0.211171	-0.258889	1.219489	-1.080400707
AT5G23380	0.446778	0.384881	1.219268	-0.238427633
AT5G20380	0.222459	0.001994	1.214437	0.19561056
AT2G47400	0.877732	0.645503	1.214201	0.148740013
AT3G01210	0.996717	0.982386	1.213243	0.225914452
AT3G26550	0.374794	-0.21425	1.210039	-0.437573792
AT1G02860	0.399386	0.091789	1.204829	-0.270846996
AT4G14060	0.181189	0.550066	1.201981	-1.547136871
AT1G78290	0.535669	-0.584595	1.199559	0.269698338
AT2G40920	0.365121	0.191641	1.191026	-0.269359499
AT5G51010	0.222921	0.101709	1.190717	-0.241808658
AT2G34490	0.21427	0.654199	1.19071	-1.037840568
AT1G60550	0.432027	0.167062	1.188513	0.098230712

AT4G02290	-0.088897	-0.201689	1.18561	-0.142948813
AT4G37150	0.720732	0.541583	1.185064	0.020182958
AT1G67710	0.129629	-0.14724	1.182976	0.081412645
AT1G54500	0.690758	0.321456	1.182524	0.369238754
AT3G53420	0.875986	0.934039	1.18238	0.209904394
AT4G25080	0.538092	0.418944	1.181532	0.020018853
AT2G31160	-0.038606	0.307836	1.180652	-0.297982163
AT4G08150	-0.308751	-0.801732	1.178785	0.028803273
AT5G18100	0.901144	0.873599	1.177522	0.348945352
AT3G62740	-0.449991	-0.990895	1.176609	-0.291431999
AT3G26220	0.473483	0.741786	1.175099	-0.463098642
AT5G52970	0.576822	0.066938	1.174218	0.740798492
AT1G21680	0.776158	0.916123	1.170407	-0.407570031
AT5G03720	0.357431	0.49085	1.169727	-1.521798607
AT1G52870	0.613885	-0.017462	1.165818	-0.395298724
AT5G35790	0.053746	-0.416993	1.163674	0.458858073
AT1G63240	0.022982	0.180941	1.162656	-0.360957726
AT1G23740	0.905531	0.560388	1.16243	-0.782310981
AT5G60490	0.22705	0.340985	1.161166	0.339450449
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AT1G13700	0.179878	0.242467	1.153634	-0.528845492
AT4G25707	0.715837	-0.591173	1.153609	-0.119041069
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AT2G40530	0.085359	0.684503	1.152108	-0.849219117
AT3G49160	0.407674	0.365566	1.149831	-0.669696831
AT4G34030	0.381921	-0.189222	1.147261	-0.094159235
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AT2G39310	0.796634	0.41231	1.143888	-0.317200072
AT5G48775	0.496373	0.094487	1.139513	0.232333796
AT4G37550	0.014822	-0.450955	1.138555	-0.526514136
AT3G25710	0.267232	0.701831	1.137221	-0.12082327
AT1G17460	0.220298	0.436354	1.135091	0.32352161
AT1G68585	0.151129	0.517606	1.131751	-0.035194773
AT5G03680	-0.003905	-0.014054	1.130275	-0.35484041
AT1G64430	0.383341	-0.592398	1.127421	0.129508819
AT5G51110	0.526023	0.174717	1.124292	-0.301145015
AT5G25140	1.187338	0.319569	1.124029	-0.166903484
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AT5G48800	-0.007023	0.08727	1.117764	-0.57402274
AT3G21090	-0.217742	0.011218	1.117599	0.564947395
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AT4G18780	0.311019	0.522101	1.11528	0.225303668
AT3G03870	0.612235	0.629822	1.107264	0.159894009
AT4G34160	-0.371607	0.2469	1.100149	-0.185380433
AT5G67030	0.830304	0.443737	1.096208	0.143632627
AT1G01770	0.562451	-0.396452	1.096082	-0.26022405
AT1G80060	0.411152	-0.671876	1.091056	-0.07400268
AT3G18080	-0.058705	0.052813	1.090514	-0.412663248
AT4G04630	-0.076865	0.466005	1.090253	-0.504833994
AT3G01860	0.014273	-0.197999	1.089826	-0.69267565
AT5G06290	0.707947	0.796301	1.089032	1.153659869
AT5G14450	-0.025625	0.186384	1.08793	0.720188976
AT3G52060	0.393143	0.286838	1.086754	-0.293437641
AT1G14730	-0.053107	-0.042237	1.083431	-0.333105024

AT5G38850	0.900317	0.598112	1.079738	-0.318855127
AT1G13610	0.033185	0.037454	1.077628	-0.849437878
AT4G19830	0.438466	0.039437	1.074537	-0.191077711
AT4G34480	0.540916	0.559379	1.071441	0.021049692
AT3G53950	0.31544	0.574261	1.071077	0.199201246
AT1G06040	0.512435	0.689355	1.070833	0.755209797
AT3G52840	-0.230314	-0.651849	1.066826	0.259248405
AT4G19950	0.292466	0.1446	1.06373	-0.164741976
AT1G80640	-0.006806	-0.045668	1.062324	-0.507874583
AT3G63210	0.266477	0.179599	1.062119	0.020163726
AT1G06570	0.794424	0.574583	1.059245	-0.26538086
AT4G03230	0.359664	-0.199162	1.058646	-0.476326031
AT3G10080	0.212749	0.435971	1.057967	0.101956149
AT1G02640	-0.090025	-0.408706	1.056406	-0.465324983
AT1G60390	-0.435011	0.20874	1.054871	0.075240791
AT3G47620	0.094997	0.371925	1.048503	0.011860297
AT1G56612	0.267983	-1.017878	1.046803	-0.561264646
AT3G51870	0.126612	0.002867	1.04521	-0.938177194
AT3G20100	0.186556	0.345596	1.044373	-0.492169916
AT5G44190	0.869001	0.039135	1.044094	-0.063606737
AT3G56880	0.535075	0.767061	1.042786	0.107228657
AT3G16800	0.960855	0.823997	1.034041	0.573915044
AT1G80160	0.713231	0.00887	1.030216	-0.53180547
AT2G28410	0.050093	0.609159	1.029851	0.143960401
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AT2G04850	-0.314067	-0.047729	1.027685	-0.116323702
AT5G01670	0.393297	0.071712	1.022615	-0.172920568
AT1G12280	0.261289	-0.375349	1.02198	0.282140147
AT4G38020	0.391814	0.258935	1.020716	1.09498634
AT2G40640	0.025253	-0.204856	1.018001	0.143446824
AT1G28570	-0.085302	-0.195008	1.014598	0.123501262
AT2G46220	0.560235	0.240478	1.014491	0.109484905
AT1G06473	0.222923	0.246043	1.014149	0.200500791
AT4G28490	0.015485	0.320349	1.011987	-0.149782878
AT4G00780	0.808594	0.87106	1.01163	-0.750695462
AT4G14720	0.337934	-0.157163	1.00986	-0.051498461
AT1G73655	0.773165	0.846885	1.005857	-0.118198894
AT5G07030	-0.077731	0.413172	1.0051	-0.125064133
AT5G40910	0.011163	-0.918527	1.005064	-0.074463297
AT2G33060	-0.014317	-0.362159	1.004949	0.350731517
AT1G55510	0.341459	-0.334327	1.002116	0.156787635
AT4G21480	0.507319	0.706678	1.001602	-0.423631362
AT5G52882	-0.699737	-0.576085	-1.003833	0.053846933
AT5G61030	-0.725369	-0.000411	-1.003987	-0.043708384
AT4G01480	-0.352909	-0.121765	-1.005531	0.005864574
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AT3G46320	-0.349408	0.368548	-1.011216	0.211591175
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AT1G02920	-0.309434	0.351583	-1.014248	-0.136264684
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AT5G63980	-0.590189	-0.211657	-1.016296	-0.337159627
AT1G74030	-0.344348	-0.166027	-1.018521	-0.129525056
AT5G61440	-0.693343	-0.369178	-1.019958	-0.270059606
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AT4G19720	-0.071226	-0.379081	-1.024658	-0.696320212
AT3G18130	-0.414834	0.02656	-1.026965	0.369900274
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AT5G01765	-0.466644	-0.539178	-1.031386	0.546645429
AT5G40590	-0.343409	-0.096735	-1.03603	-0.868525617
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AT1G31280	-0.86586	-0.931003	-1.04458	0.264668903
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AT1G44800	-1.114576	-0.708438	-1.049662	0.007204168
AT5G66390	-0.07259	-0.219765	-1.049713	0.037730914
AT4G11290	-0.236073	-0.069274	-1.055499	-0.086871301
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AT4G13430	-0.822834	-0.516822	-1.06547	0.034004296
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AT2G28960	-0.611006	-0.76031	-1.077689	-0.173613271
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AT1G61360	-0.487382	-0.23781	-1.085469	0.064257922
AT5G44820	-0.295471	-0.576406	-1.087169	0.453722267
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AT1G08580	-0.557202	0.055793	-1.088454	0.263779594
AT1G71750	-0.719829	-0.211822	-1.088701	-0.32407216
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AT5G26340	-0.186389	-0.279942	-1.100932	0.186609292
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AT1G52245	-0.493859	-0.641183	-1.103713	0.62669187
AT3G54640	-0.606745	-0.460138	-1.103839	-0.260550684
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AT2G04400	-0.528605	-0.724726	-1.131472	0.013709771
AT3G13610	-0.441872	0.013884	-1.134385	-0.074639695
AT4G11350	-0.205706	-0.571025	-1.136686	-0.013323737
AT2G29450	-0.411186	-0.564673	-1.139992	0.037771918
AT2G47140	0.18309	0.129201	-1.146233	0.470284236
AT1G43800	0.283288	-0.455571	-1.146867	0.619764156
AT1G68825	-0.346226	0.009526	-1.150447	0.460526475
AT1G19020	-0.587149	0.238963	-1.150578	0.085993876
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AT3G54625	-0.050197	-0.2412	-1.153647	0.287770437
AT5G60950	0.031556	0.295487	-1.158116	0.218374053
AT5G04310	-0.554915	0.302381	-1.158729	0.117151015
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AT3G28930	-0.571929	-0.121519	-1.173095	-0.425900223
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AT1G26840	-0.521109	0.164342	-1.181743	0.083118916
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AT3G46940	-0.38016	0.455131	-1.188807	0.576284426
AT1G05250	-0.147639	-0.347063	-1.189229	-0.033384112
AT3G13520	-0.581113	0.359199	-1.189296	0.178209538
AT4G37490	-0.591957	-0.481515	-1.189817	0.511682103
AT1G11540	-0.618008	0.14583	-1.191437	-0.126659572
AT1G09932	-0.395267	-0.460503	-1.191929	-0.054619669
AT1G62980	0.035745	0.105572	-1.19959	0.091185825
AT3G56020	-0.011258	0.552336	-1.203741	0.153068985
AT1G14220	-0.384914	0.316435	-1.20433	0.243656672
AT2G43510	-0.047103	-0.020622	-1.20444	0.638170478
AT2G38110	-0.277747	-0.917491	-1.208126	-0.294699347
AT1G74830	-0.069194	-0.058	-1.210804	0
AT2G46600	-0.422988	-0.095215	-1.2111	0.104723514
AT5G48880	-0.861453	-0.837328	-1.211789	-0.494674144
AT3G11120	-0.230915	0.217298	-1.216048	0.345981651
AT3G03130	-0.804599	-0.569645	-1.216221	0.3720346
AT1G77330	-0.032805	-0.138988	-1.221829	-0.174181999
AT3G23325	-0.410142	0.351365	-1.223069	-0.054269024
AT4G23700	-0.542114	-0.345232	-1.224641	-0.224973513
AT5G63270	-0.175183	0.173644	-1.224882	-0.237646429
AT4G30530	-0.49409	-0.304954	-1.225805	0.076060568

AT4G30140	-0.113795	-0.927298	-1.226201	-0.061320075
AT5G25250	-0.70974	-0.17965	-1.226273	-0.318102952
AT5G24850	-0.465304	-0.94882	-1.226814	-0.180364411
AT5G43540	0.385203	-0.454475	-1.228133	-0.023757569
AT1G11185	-0.554009	-0.245688	-1.228693	-0.823300989
AT2G22860	-0.188478	-1.048143	-1.231144	-0.393912897
AT1G26250	-1.167409	-0.038312	-1.231583	-0.414875856
AT5G60520	0.109471	0.614623	-1.232771	0.938981446
AT5G40510	-0.269672	-0.03132	-1.233106	0.054765554
AT2G27840	-0.738717	-0.401187	-1.233954	0.543549414
AT1G05260	-0.34733	-0.310905	-1.237154	-0.217838293
AT3G55120	-0.774614	-0.740433	-1.239613	1.153603494
AT4G24140	-0.319119	-0.807269	-1.239617	-0.429415233
AT5G23830	-0.615177	-0.100685	-1.241291	0.229025357
AT5G49910	-0.79373	-0.871565	-1.244471	0.119314835
AT5G64810	-0.328181	0.313978	-1.245803	-0.221525671
AT5G42510	-0.260026	0.139823	-1.248525	-0.454265864
AT2G47540	-0.48787	0.090496	-1.249415	-0.367253037
AT2G16760	-0.022977	0.068446	-1.25077	0.161938566
AT4G29690	-0.465519	0.028149	-1.254194	0.087956765
AT5G06990	0.093692	0.093449	-1.255148	-0.400407754
AT5G38900	-0.113614	0.110578	-1.263354	-1.185744029
AT2G30130	-0.39951	0.359922	-1.264639	-0.222477217
AT4G26010	-0.115705	-0.271572	-1.265105	0.182042236
AT2G45860	-0.139827	-0.450013	-1.265345	0.221263411
AT1G01600	0.138296	0.04705	-1.266002	-0.04089042
AT2G37360	-0.3305	-0.825433	-1.268737	-0.210109414
AT1G02360	-0.699947	-0.328034	-1.271276	-0.18674406
AT1G24575	-1.128757	-0.382125	-1.27254	0.819294189
AT4G00680	-0.166247	-0.167754	-1.272624	0.526676638
AT4G24275	-0.424353	-0.054816	-1.27514	-0.202167641
AT5G58860	-0.236437	-0.678497	-1.278697	-0.526219613
AT3G60330	-0.36491	-0.826923	-1.281548	-0.172332343
AT3G12965	-0.202022	0.227662	-1.282509	0.393290887
AT2G23540	-0.249714	-0.701946	-1.289491	-0.361455433
AT1G33280	0.23062	0.50757	-1.294979	0.654931447
AT1G26800	-0.78978	-0.701159	-1.298158	0.09663277
AT3G14940	-0.423203	-0.415379	-1.298165	0.055714553
AT4G13310	-0.316742	-0.679158	-1.298473	-0.63592553
AT5G18290	-0.730218	-0.585263	-1.298973	0.350410272
AT1G05730	-0.151054	0.291762	-1.303067	-0.383484562
AT5G59090	-0.378556	-0.482282	-1.305749	-0.197528617
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AT5G24140	0.139757	-0.642058	-1.313223	1.160261613
AT5G43870	-0.766309	-1.150558	-1.314545	-0.122963866
AT2G04025	-0.35416	-0.690583	-1.315947	0.105997554
AT1G74460	-0.178428	-0.262872	-1.316702	-0.960576635
AT4G15280	-0.234832	-0.214684	-1.319112	-0.750580744
AT1G14160	0.077449	-0.643929	-1.320432	0.220740616
AT5G09480	-0.464222	-0.800085	-1.322322	-0.014856181
AT4G19980	-0.827857	-0.097633	-1.323659	-1.173449537
AT5G58750	-0.206705	-0.683571	-1.324183	-0.086359565
AT3G51600	-0.307893	-0.045323	-1.327362	0.246886198
AT2G02950	-1.164171	-0.763088	-1.331786	-0.076633537
AT4G24670	-0.355472	-0.195334	-1.332132	0.312123869
AT1G23140	-0.668682	-0.532696	-1.332357	0.318703792

AT1G53680	-0.266201	-0.167965	-1.33259	0.177759119
AT5G67400	-0.351005	-0.374817	-1.335297	0.171373728
AT4G24930	-0.127288	-0.474877	-1.337499	0.133226869
AT1G66200	-0.213474	-0.175217	-1.343165	-0.156931029
AT3G17611	-0.803514	-0.596808	-1.34406	0.871316726
AT1G23410	-0.271271	0.433294	-1.346887	-0.075605161
AT1G13420	-1.373466	-1.005055	-1.34779	-0.442012408
AT4G02520	-0.75067	-0.497679	-1.348079	-0.246145988
AT1G20160	-0.213395	-0.021166	-1.352141	0.034364117
AT2G32220	-0.089048	0.455298	-1.353531	0.455164124
AT3G48450	-0.752378	-0.879649	-1.356452	-0.965563998
AT4G32950	-1.661293	-0.627078	-1.36037	0
AT5G06740	-0.922793	-0.337777	-1.364131	0.155211038
AT4G19030	-0.227653	0.154186	-1.366627	-0.025777444
AT1G79075	0.102312	0.802444	-1.379466	0.268084612
AT4G25220	0.067921	-0.392316	-1.384452	0.635905536
AT5G43380	-1.181741	-1.189757	-1.392323	0.868838956
AT5G44110	-0.323607	-0.705925	-1.408296	0.801179699
AT4G14640	-0.535947	-0.099465	-1.41003	-1.255559919
AT2G46650	-1.04725	-0.107029	-1.41081	-0.144070418
AT5G54165	-0.383693	-0.192512	-1.420163	0
AT1G20693	-0.975327	-0.997029	-1.424106	-0.065158892
AT1G74010	-1.018436	-0.331337	-1.432017	0.060797687
AT5G23360	-0.946008	-0.293912	-1.433347	-0.01070891
AT1G79470	-0.73826	-0.557143	-1.438448	-0.39391664
AT2G16060	-0.893233	-0.170502	-1.442934	0.020226757
AT1G53950	-0.342425	-0.060957	-1.444144	0.373754605
AT3G45430	-0.34339	-0.129175	-1.445823	-0.227937776
AT3G51680	-0.475167	-0.391369	-1.447665	0.809163723
AT2G29440	-0.760443	-0.70484	-1.448169	0.103354976
AT1G54000	-0.77653	-0.477076	-1.449895	-0.143683513
AT4G26790	-0.147009	-0.943896	-1.452342	-0.404132295
AT2G38750	-0.075107	-0.187432	-1.454638	0.321585607
AT4G08780	-1.42417	-0.613627	-1.457832	0.346085458
AT1G01480	-1.009953	-0.913606	-1.459451	-1.227464371
AT4G22080	-0.283264	-0.743388	-1.461666	-0.505929554
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AT1G13590	0.249405	0.061341	-1.469072	-0.154072141
AT3G09680	-0.627034	-0.051564	-1.470426	-0.955705505
AT5G22410	-0.440303	-0.15878	-1.471469	0.227338772
AT1G63930	-1.023485	-0.54892	-1.473041	-0.059585872
AT1G01453	-0.862903	0.214227	-1.479461	0.327015574
AT2G20562	-0.423049	0.642782	-1.479533	0.398845787
AT1G66800	-0.232282	-0.759934	-1.479735	-0.039944892
AT5G23990	-0.280192	-0.794847	-1.491806	0.625153839
AT5G10210	-0.731991	-0.741933	-1.494035	0.005975893
AT2G18450	-0.254817	-0.490167	-1.498533	0.51350458
AT3G54150	-1.001798	-0.471404	-1.500805	-0.016074761
AT4G36880	-0.262669	-0.258658	-1.505119	1.34666873
AT1G57590	-0.41021	-0.218837	-1.509369	0.283818982
AT1G01750	-0.493761	-0.085749	-1.514348	-0.332261179
AT3G48520	-0.387937	-0.169461	-1.516356	1.34828096
AT3G19710	-1.279086	-0.474711	-1.518201	0.040304374
AT4G18510	-0.71864	-0.656194	-1.520631	0.055549673
AT5G56030	-0.929982	-0.741101	-1.522002	-0.024858354
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AT3G16390	-0.652025	-0.999407	-1.523894	0.235411385
AT3G20557	0.248056	-0.728987	-1.524183	0.682227777
AT3G11930	-0.745273	-0.575158	-1.527243	0.036574182
AT3G61930	-0.064486	-0.524583	-1.527633	-1.64200393
AT3G27400	-1.270981	-0.777905	-1.544013	0.241267769
AT4G08770	-0.915895	-0.462169	-1.550862	0.310432026
AT1G18100	-0.44798	-0.547669	-1.553649	0.715000567
AT5G44550	-0.437932	-0.766893	-1.554721	-0.475663727
AT5G02575	-1.352987	-0.013261	-1.589974	0.239273484
AT2G21100	0.203899	-0.051823	-1.594506	0.051829833
AT2G43870	-0.476255	-0.467621	-1.607821	-0.976344499
AT5G23810	-0.64858	-0.913324	-1.611494	2.027977712
AT4G38410	-0.045714	-0.293254	-1.615066	0.678225926
AT2G08685	-0.844001	-0.899336	-1.616767	-0.352995118
AT2G43120	-1.162381	-0.483305	-1.622824	0.321729551
AT5G47220	-0.393428	-0.020605	-1.624514	-0.404108406
AT5G14200	-1.034635	-0.415342	-1.633721	0.096436826
AT3G14440	-1.067907	-0.027907	-1.639172	0.651555802
AT5G54490	-0.578246	-0.435977	-1.660973	-0.101430381
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AT1G17180	-0.910394	0.223524	-1.666048	0.562040215
AT5G39580	-0.582232	-0.451935	-1.678661	0.226127115
AT1G55290	-0.783956	-0.571483	-1.71282	0.237045892
AT4G21840	-0.213773	-0.330285	-1.713422	-1.394798525
AT5G04340	-0.859531	-0.806675	-1.717022	-0.235395148
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AT4G13770	-1.279279	-0.400674	-1.727271	-0.284361822
AT1G59725	-0.367103	-0.672414	-1.735547	-0.74247195
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AT1G51620	-0.768475	-0.746752	-1.759244	-0.431235956
AT1G65500	-0.319553	-0.189385	-1.76953	0.122683101
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AT1G15385	-0.268757	-0.173941	-1.788369	-0.669675303
AT5G06090	0.394214	-0.97989	-1.789921	0.390922191
AT3G62930	-0.550487	-0.440237	-1.803704	0
AT2G37430	-0.898448	-0.117271	-1.804588	-0.185381349
AT5G05270	-0.996613	-0.966598	-1.812561	0.833361493
AT3G09405	-1.912584	-1.249647	-1.825553	0.380521895
AT4G22710	-1.718835	-1.673865	-1.832908	-0.383231308
AT3G03190	-1.160291	-0.442631	-1.850335	-0.058897781
AT3G07490	-1.294842	0.266846	-1.857478	-0.070370752
AT1G76650	-1.277792	-1.276945	-1.862554	0.677224119
AT4G28110	-0.391396	-1.335837	-1.878259	0.891938684
AT5G02780	-1.393445	-0.795787	-1.887235	-0.077959774
AT5G36130	-0.556029	-0.644655	-1.903842	0
AT5G15022	-1.0752	-0.314268	-1.90828	1.186745408
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AT3G04300	-0.636858	-0.722204	-1.919134	1.214349086
AT4G10510	-1.508189	-1.040651	-1.932355	0.742211045
AT3G27070	-1.032238	-0.372779	-1.938413	0.495474484
AT4G22217	-0.068251	-0.053639	-1.944659	-0.526654174
AT2G22880	0.488381	-0.00757	-1.954498	-0.047892244
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AT5G07990	-0.982221	-1.040808	-1.97735	3.228407009
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AT5G56010	-0.988266	-0.819622	-2.02405	-0.01843075
AT1G68350	-0.786709	-1.248299	-2.038695	0.504883111
AT4G22470	-0.520903	-1.202701	-2.047322	0
AT1G30990	-0.65665	-1.083548	-2.053779	0.143818056
AT1G08090	-1.495723	-1.275809	-2.058152	-0.628279338
AT1G10370	-0.435806	-0.855786	-2.072147	-0.494311382
AT4G06880	0.223606	-0.759203	-2.072211	0.844148769
AT5G11440	-0.510266	-0.540656	-2.086823	0
AT1G02930	-0.869295	-0.219465	-2.125705	-0.121108238
AT2G43000	-1.604386	0.137446	-2.12587	-0.054452648
AT5G04120	0.531092	-0.185082	-2.130739	-0.859571674
AT3G26830	-1.212772	-0.901302	-2.143684	0.089844307
AT1G62280	-1.039578	-0.728218	-2.16197	-0.075871633
AT1G13480	-0.744165	-0.968796	-2.168257	-1.035438379
AT1G21520	-0.539408	0.293497	-2.238988	1.543998557
AT3G14260	-1.000973	-0.974582	-2.329865	-0.410880015
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AT5G59990	-0.438297	-1.231588	-2.34669	0.618429217
AT1G67980	-1.302711	-1.180795	-2.408602	0.063707327
AT2G28210	-1.715206	-1.593851	-2.434109	0.638267053
AT4G11393	-1.124004	-0.781506	-2.44866	0
AT2G08780	0.249838	0.710313	-2.514109	-0.038130075
AT4G22214	-0.495625	-0.377018	-2.62041	0.469555329
AT3G05950	-1.76391	-0.725934	-2.668328	0
AT3G60270	-1.844716	0.247969	-2.699636	0.475574729
AT3G47380	-1.165843	-1.506818	-2.723293	0.458667167
AT4G06775	-0.594441	-1.881976	-2.742255	-0.361314958
AT2G27535	-2.010253	-2.14808	-2.75906	0
AT5G56080	-1.72611	-1.919855	-2.769361	-0.288638127
AT1G68290	-1.591188	-1.140805	-2.7715	0
AT1G22900	-1.188473	-1.17909	-2.828529	-0.161261914
AT1G10585	-1.048153	-0.483236	-2.858729	0
AT5G22555	-1.235759	-1.306719	-2.96925	-0.564026749
AT2G02010	-2.670365	-1.759057	-3.038603	-0.788083096
AT5G43068	-0.546381	-0.945592	-3.052143	0
AT5G61890	-0.417987	-1.362108	-3.078779	0
AT4G33905	-0.408598	0.05935	-3.081623	0
AT3G55970	-2.754826	-2.353135	-3.120978	0
AT4G31970	-2.491997	-0.476889	-3.279442	-1.318628689
AT2G24195	-0.835773	-1.951897	-3.281274	0
AT2G30750	-2.586494	-0.904165	-3.430716	-0.512856249
AT1G69930	-1.833372	-1.286339	-3.437539	0.289415475
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AT5G05340	-0.266232	-0.35025	-3.689902	0
AT1G69920	-1.587861	-2.472659	-4.799018	-0.050034141
AT5G52390	-1.383048	-2.066484	-5.359069	0
AT3G52605	0.402542	0.378059	0.039637	10.2686248
AT1G79850	-0.025024	-0.469899	1.144333	10.13488563
AT5G57560	-0.789868	-0.794768	0.217875	2.332042863
AT1G25055	0.475984	0.978678	-0.745652	1.398793876
AT5G45340	-0.006655	-0.780669	1.013856	1.149842454
AT1G25211	0.250596	0.319015	-0.064487	1.069870501
AT2G16740	-0.627272	-0.297824	-0.417738	1.027990995

AT4G17500	0.374438	0.571996	0.156557	-1.022119179
AT2G40330	-0.313502	0.290165	-0.692255	-1.055713604
AT4G26130	-0.481322	-0.195718	0.02145	-1.060006877
AT5G25350	0.341411	0.22982	-0.03036	-1.143772258
AT3G19840	-0.105376	-0.416687	0.370038	-1.180497446
AT4G23510	0.092171	-0.304776	0.149483	-1.190812728
AT1G24881	-0.053372	0.100875	0.208275	-1.777649373
AT4G26095	0.1022	1.761681	1.828625	-4.052718524
AT5G01210	-0.583482	-0.92905	-0.884269	-12.28145066