The Ka/Ks ratio and divergence times between MAPK-MAP4K genes in wheat and *T.dicoccoides*														
Gene Name	**Gene Name**	**Gene ID**	**Gene ID**	**Ka**	**Ks**	**Ka/Ks**	**EffectiveLen**	**AveragS-sites**	**AverageN-sites**	**cN**	**cS**	**pN**	**pS**	**Divergence times (Mya)**
TaMAPK1		TraesCS6B02G296700.2	TdTRIDC6AG041340.3	0.00742	0.05016795112393	0.14799	1236	288.5	947.5	7	14	0.007	0.049	3.85907316
TaMAPK1		TraesCS6B02G296700.2	TdTRIDC6BG048300.1	0.00104	0		1254	292.67	961.333	1	0	0.001	0	0
TaMAPK2		TraesCS4A02G336800.2	TdTRIDC5BG079810.1	0.01875	0.07521017361124	0.24933 5237585456	1320	312.08	1007.92	18.67	22.33	0.019	0.072	5.78539797
TaMAPK3		TraesCS4A02G106400.1	TdTRIDC4AG014520.1	0	0.00391901610199883	0	1098	255.83	842.167	0	1	0	0.004	0.30146278
TaMAPK3		TraesCS4A02G106400.1	TdTRIDC4BG035610.1	0	0.08171338784141 59	0	1107	258.33	848.667	0	20	0	0.077	6.28564522
TaMAPK4		TraesCS1D02G088000.2	TdTRIDC1AG012310.2	0.00637	0.10236857568974 9	0.06227 0480206 5927	1647	386.67	1260.33	8	37	0.006	0.096	7.87450582
TaMAPK4		TraesCS1D02G088000.2	TdTRIDC1BG015140.6	0.00398	0.10499874460090 9	0.03791 8828505 5864	1647	387.83	1259.17	5	38	0.004	0.098	8.07682651

TaMAPK5	Ta--TraesCS1D02G422800.1	Td--TRIDC1AG061100.1	0.05941	0.153051965259095	0.38816179672808	1686	402.08	1283.92	73.33	55.67	0.057	0.138	11.7732281
TaMAPK5	Ta--TraesCS1D02G422800.1	Td--TRIDC1BG070050.1	0.06018	0.157857730345453	0.38124612685002	1680	400.42	1279.58	74	57	0.058	0.142	12.1429023
TaMAPK5	Ta--TraesCS1D02G422800.1	Td--TRIDC3AG034650.7	0.14228	1.25243872352443	0.11360673522565	1470	337	1133	146.8	205.2	0.13	0.609	96.3414403
TaMAPK5	Ta--TraesCS1D02G422800.1	Td--TRIDC3BG039070.12	0.13336	1.375707746414	0.09694258126739292	1482	344.33	1137.67	139	217	0.122	0.63	105.823673
TaMAPK6	Ta--TraesCS7B02G009200.1	Td--TRIDC7AG012990.2	0.12506	0.306027017934581	0.40864115467349	1032	243.42	788.583	90.83	61.17	0.115	0.251	23.5405398
TaMAPK6	Ta--TraesCS7B02G009200.1	Td--TRIDC7BG001200.2	0	0	NaN	1077	246.33	830.667	0	0	0	0	0
TaMAPK7	Ta--TraesCS7D02G342800.3	Td--TRIDC7AG047060.4	0.00514	0.039247955422768	0.13106550473701	1263	287.67	975.333	5	11	0.005	0.038	3.01907349
TaMAPK7	Ta--TraesCS7D02G342800.3	Td--TRIDC7BG040680.1	0.00308	0.028338672170984	0.10876289827881	1263	287.67	975.333	3	8	0.003	0.028	2.17989786

TaMAPK8	Ta--TraesCS3D02G225600.1	Td--TRIDC1AG061940.2	0.14901	1.03601193131669	0.14382956060657	1767	420.25	1346.75	182	236	0.135	0.562	79.6932255
TaMAPK8	Ta--TraesCS3D02G225600.1	Td--TRIDC1BG071030.1	0.14681	1.10004784487189	0.13345640694543	1770	423.75	1346.25	179.5	244.5	0.133	0.577	84.619065
TaMAPK8	Ta--TraesCS3D02G225600.1	Td--TRIDC3AG036190.14	0.19656	2.89929980159109	0.06779582502065	1707	395.17	1311.83	226.8	290.2	0.173	0.734	223.023062
TaMAPK8	Ta--TraesCS3D02G225600.1	Td--TRIDC3AG034020.1	0.00142	0.04515320973879661	0.03154631344574483	1839	433.58	1405.42	2	19	0.001	0.044	3.47332383
TaMAPK8	Ta--TraesCS3D02G225600.1	Td--TRIDC3BG040600.18	0.2013	2.44373001620979	0.08237389567031543	1722	396.58	1325.42	234	286	0.177	0.721	187.979232
TaMAPK8	Ta--TraesCS3D02G225600.1	Td--TRIDC3BG038510.2	0.00357	0.02811731069485220	0.12694353173304700	1839	434.83	1404.17	5	12	0.004	0.028	2.16287005
TaMAPK10	Ta--TraesCS6B02G146300.1	Td--TRIDC6AG015690.2	0	0.09623208648252 8	0	1107	254.67	852.333	0	23	0	0.09	7.40246819
TaMAPK10	Ta--TraesCS6B02G146300.1	Td--TRIDC6BG021470.2	0	0.01188143659924 34	0	1107	254.5	852.5	0	3	0	0.012	0.91395666

TaMAPK10	TraesCS6B02G146300.1	Ta--TRIDC7AG058780.3	0.04491	0.98990566347023	0.045369209752	1107	254.42	852.583	37.17	139.8	0.044	0.55	76.1465895
TaMAPK10	TraesCS6B02G146300.1	Td--TRIDC7BG051510.2	0.04552	1.00003826810639	0.045514051473	1107	254.08	852.917	37.67	140.3	0.044	0.552	76.9260206
TaMAPK11	TraesCS1A02G086500.1	Ta--TRIDC1AG012310.2	0.00079	0.00259291528789	0.30608 4379777	1647	386.33	1260.67	1	1	0.001	0.003	0.19945502
TaMAPK11	TraesCS1A02G086500.1	Td--TRIDC1BG015140.6	0.00478	0.09624168715841	0.049656119211	1647	387.5	1259.5	6	35	0.005	0.09	7.4032067
TaMAPK12	TraesCS7A02G422500.1	Ta--TRIDC6AG015690.2	0.05572	1.05263760077497	0.052938062441	1134	261.92	872.083	46.83	148.2	0.054	0.566	80.9721231
TaMAPK12	TraesCS7A02G422500.1	Td--TRIDC6BG021470.2	0.06406	0.99781042704407	0.064200307641	1161	270.67	890.333	54.67	149.3	0.061	0.552	76.7546482
TaMAPK12	TraesCS7A02G422500.1	Ta--TRIDC7AG058780.3	0.02452	0.02921313302862	0.8392725 2417346 312	1152	267.58	884.417	21.33	7.667	0.024	0.029	2.24716408
TaMAPK12	TraesCS7A02G422500.1	Td--TRIDC7BG051510.2	0.00963	0.08987399964540	0.107122380206	1236	295.17	940.833	9	25	0.01	0.085	6.91338459

TaMAPK13	Ta--TraesCS6D02G245500.3	Td--TRIDC6AG041340.3	0.00535	0.04276692896976	0.123848784815936	1236	288.67	947.333	5	12	0.005	0.042	3.28976377
TaMAPK13	Ta--TraesCS6D02G245500.3	Td--TRIDC6BG048300.1	0.00313	0.02782927954047	0.112389526965	1254	292.83	961.167	3	8	0.003	0.027	2.14071381
TaMAPK14	Ta--TraesCS1A02G184500.1	Td--TRIDC1AG027930.1	0	0	NaN	1044	244.5	799.5	0	0	0	0	0
TaMAPK14	Ta--TraesCS1A02G184500.1	Td--TRIDC1BG032170.1	0.00233	0.07040997353804	0.033074041835	1128	267.83	860.167	2	18	0.002	0.067	5.41615181
TaMAPK16	Ta--TraesCS3B02G270200.1	Td--TRIDC1AG059290.6	0.11603	1.06436257300333	0.109009107519 06	1587	365.25	1221.75	131.3	207.7	0.107	0.569	81.8740441
TaMAPK16	Ta--TraesCS3B02G270200.1	Td--TRIDC1BG068060.2	0.13001	1.2134906196101	0.107138444752693	1647	378.5	1268.5	151.4	227.6	0.119	0.601	93.3454323
TaMAPK16	Ta--TraesCS3B02G270200.1	Td--TRIDC3AG036190.14	0.01956	0.05448622699735 64	0.358909602911 44	1752	396.42	1355.58	26.17	20.83	0.019	0.053	4.19124823
TaMAPK16	Ta--TraesCS3B02G270200.1	Td--TRIDC3AG034020.1	0.19677	2.75912183869536	0.071317328430 7232	1722	396	1326	229.5	289.5	0.173	0.731	212.240141

TaMAPK16	TaTraesCS3B02G270200.1	TdTRIDC3BG040600.18	0.01727	0.01491526428203	1.15782553175512	1752	395	1357	23.17	5.833	0.017	0.015	1.14732802
TaMAPK16	TaTraesCS3B02G270200.1	TdTRIDC3BG038510.2	0.19226	2.43413962795926	0.078983184535 7364	1722	397.25	1324.75	224.7	286.3	0.17	0.721	187.24151
TaMAPK17	TaTraesCS6B02G127800.1	TdTRIDC6BG018000.3	0.02338	0.03480200731411 41	0.67175 7693922 535	1446	338.17	1107.83	25.5	11.5	0.023	0.034	2.67707749
TaMAPK18	TaTraesCS7D02G044100.1	TdTRIDC4AG065120.1	0.01415	0.08140976212750 07	0.17385 5279698 641	1449	343.5	1105.5	15.5	26.5	0.014	0.077	6.26228939
TaMAPK18	TaTraesCS7D02G044100.1	TdTRIDC7AG005070.14	0.0146	0.08903875064278 07	0.16397 4799304 442	1452	345.42	1106.58	16	29	0.014	0.084	6.84913466
TaMAPK19	TaTraesCS7A02G111300.1	TdTRIDC7AG012990.2	0.12238	0.20642145853537	0.59288 3157990 451	1032	243.83	788.167	89	44	0.113	0.18	15.8785737
TaMAPK19	TaTraesCS7A02G111300.1	TdTRIDC7BG001200.2	0.0012	0.09519421222145 32	0.01265 2625824 2493	1077	246.08	830.917	1	22	0.001	0.089	7.32263171
TaMAPK20	TaTraesCS7D02G403700.1	TdTRIDC7AG057270.3	0.00454	0.07163515137639 28	0.06344 5033863 9796	1734	409.83	1324.17	6	28	0.005	0.068	5.51039626

TaMAPK20	TraesCS7D02G403700.1	Ta--Td--TRIDC7BG049670.7	0.00531	0.09064693841771107	0.058528142988 5363	1734	409.92	1324.08	7	35	0.005	0.085	6.97284142
TaMAPK23	TraesCS3D02G221700.1	Ta--Td--TRIDC1AG061100.1	0.12144	1.29162944784723	0.094023009198 9617	1428	327.25	1100.75	123.4	201.6	0.112	0.616	99.3561114
TaMAPK23	TraesCS3D02G221700.1	Ta--Td--TRIDC1BG070050.1	0.12329	1.27516804392155	0.096682257209 2444	1428	327.75	1100.25	125.1	200.9	0.114	0.613	98.0898495
TaMAPK23	TraesCS3D02G221700.1	Ta--Td--TRIDC3AG034650.7	0.02343	0.07484782846617 32	0.313043225405 584	1464	336.92	1127.08	26	24	0.023	0.071	5.75752527
TaMAPK23	TraesCS3D02G221700.1	Ta--Td--TRIDC3BG039070.12	0.02064	0.07621556842761 55	0.270859093568 191	1446	336.92	1109.08	22.58	24.42	0.02	0.072	5.86273603
TaMAPK24	TraesCS3D02G242200.2	Ta--Td--TRIDC1AG059290.6	0.11534	1.0223955958083	0.112815898147 014	1584	364.92	1219.08	130.3	203.7	0.107	0.558	78.6458151
TaMAPK24	TraesCS3D02G242200.2	Ta--Td--TRIDC1BG068060.2	0.13027	1.21194965965697	0.107487091284 717	1641	377.58	1263.42	151.1	226.9	0.12	0.601	93.2268969
TaMAPK24	TraesCS3D02G242200.2	Ta--Td--TRIDC3AG036190.14	0.00264	0.02201280150770 55	0.120014005113 195	1719	391.83	1327.17	3.5	8.5	0.003	0.022	1.69329242

TaMAPK24	TraesCS3D02G242200.2	Ta--Td--TRIDC3AG034020.1	0.19625	3.61641987712469	0.054265477911 6772	1722	396.75	1325.25	228.8	295.2	0.173	0.744	278.186144
TaMAPK24	TraesCS3D02G242200.2	Ta--Td--TRIDC3BG040600.18	0.01158	0.05116737787530 61	0.22633 7143047 591	1743	394.25	1348.75	15.5	19.5	0.011	0.049	3.93595214
TaMAPK24	TraesCS3D02G242200.2	Ta--Td--TRIDC3BG038510.2	0.19173	2.87022581694835	0.06679 9542312 1429	1722	398	1324	224	292	0.169	0.734	220.786601
TaMAPK25	TraesCS4D02G198600.1	Ta--Td--TRIDC4AG014520.1	0.00119	0.06096787788593 64	0.01949 9207364 8951	1098	256.17	841.833	1	15	0.001	0.059	4.68983676
TaMAPK25	TraesCS4D02G198600.1	Ta--Td--TRIDC4BG035610.1	0.00118	0.06878131986712 41	0.01715 1593639 4262	1107	258.67	848.333	1	17	0.001	0.066	5.29087076
TaMAPK26	TraesCS5D02G534000.2	Ta--Td--TRIDC5BG079810.1	0.012	0.06349461761537 95	0.18901 2180999 085	1320	312.08	1007.92	12	19	0.012	0.061	4.88420136
TaMAPK27	TraesCS1B02G104900.1	Ta--Td--TRIDC1AG012310.2	0.00638	0.10213273364673 1	0.06245 5745230 2269	1647	387.5	1259.5	8	37	0.006	0.095	7.85636413
TaMAPK27	TraesCS1B02G104900.1	Ta--Td--TRIDC1BG015140.6	0.0008	0.00257732212393 59	0.30850 7544009 172	1647	388.67	1258.33	1	1	0.001	0.003	0.19825555

TaMAPK28	TraesCS1B02G192600.3	Ta--Td--TRIDC1AG027930.1	0	0.07286239199637	0	1044	244.83	799.167	0	17	0	0.069	5.60479938
TaMAPK28	TraesCS1B02G192600.3	Ta--Td--TRIDC1BG032170.1	0	0	NaN	1128	268.17	859.833	0	0	0	0	0
TaMAPK30	TraesCS7A02G335300.2	Ta--Td--TRIDC7AG047060.4	0	0.00348635142598	0	1263	287.5	975.5	0	1	0	0.003	0.26818088
TaMAPK30	TraesCS7A02G335300.2	Ta--Td--TRIDC7BG040680.1	0.00205	0.04294554064756	0.04780561694218	1263	287.5	975.5	2	12	0.002	0.042	3.30350313
TaMAPK31	TraesCS4A02G434800.1	Ta--Td--TRIDC4AG065120.1	0.0009	0.00291121180663198	0.31025104039468	1452	344.17	1107.83	1	1	0.001	0.003	0.22393937
TaMAPK31	TraesCS4A02G434800.1	Ta--Td--TRIDC7AG005070.14	0.01833	0.09908744937947	0.18502967925204	1449	344.75	1104.25	20	32	0.018	0.093	7.62211149
TaMAPK33	TraesCS1D02G410100.1	Ta--Td--TRIDC1BG068060.2	0.00948	0.11284979291455	0.08401695180000014	1665	391.33	1273.67	12	41	0.009	0.105	8.6807533
TaMAPK33	TraesCS1D02G410100.1	Ta--Td--TRIDC3AG036190.14	0.12441	1.23950861579893	0.10037220449347	1632	378.08	1253.92	143.8	229.2	0.115	0.606	95.3468166

TaMAPK3	Ta--TraesCS1D02G410100.1	Td--TRIDC3BG040600.1	0.12406	1.27739892174097	0.09711767184416891629	1629	376.17	1252.83	143.3	230.7	0.114	0.613	98.2614555
TaMAPK34	Ta--TraesCS1D02G428900.1	Td--TRIDC1AG061940.2	0.00813	0.09901069168824970.00813	0.082149388108035217911	1791	431.25	1359.75	11	40	0.008	0.093	7.61620705
TaMAPK34	Ta--TraesCS1D02G428900.1	Td--TRIDC1BG071030.1	0.00664	0.10076479713925	0.065860260255944717971	1797	434.83	1362.17	9	41	0.007	0.094	7.75113824
TaMAPK34	Ta--TraesCS1D02G428900.1	Td--TRIDC3AG034020.1	0.15651	1.01117136838978	0.154783225167804	1770	420.25	1349.75	190.7	233.3	0.141	0.555	77.782413
TaMAPK34	Ta--TraesCS1D02G428900.1	Td--TRIDC3BG038510.2	0.15439	1.00940089350214	0.152954661439063	1770	421.5	1348.5	188.2	233.8	0.14	0.555	77.6462226
TaMAPK35	Ta--TraesCS6A02G099600.1	Td--TRIDC6BG018000.3	0.02935	0.06177918404745 54	0.475084377523 57	1449	337.25	1111.75	32	20	0.029	0.059	4.75224493
TaMAPK36	Ta--TraesCS6A02G118100.1	Td--TRIDC6AG015690.2	0.00117	0.00787925828566064	0.149107725072188	1107	255.17	851.833	1	2	0.001	0.008	0.60609679
TaMAPK36	Ta--TraesCS6A02G118100.1	Td--TRIDC6BG021470.2	0.00117	0.08723514575776 74	0.013465080666 2304	1107	255	852	1	21	0.001	0.082	6.71039583

TaMAPK36	Ta--TraesCS6A02G118100.1	Td--TRIDC7AG058780.3	0.04619	1.04669985672484	0.04412487090003510	1107	254.92	852.083	38.17	143.8	0.045	0.564	80.5153736
TaMAPK36	Ta--TraesCS6A02G118100.1	Td--TRIDC7BG051510.2	0.04679	1.10759507837085	0.04224552561332190	1107	254.58	852.417	38.67	147.3	0.045	0.579	85.1996214
TaMAPK37	Ta--TraesCS6A02G269400.1	Td--TRIDC6AG041340.3	0	0	NaN	1236	288.5	947.5	0	0	0	0	0
TaMAPK37	Ta--TraesCS6A02G269400.1	Td--TRIDC6BG048300.1	0.00627	0.04942964893420025	0.12679527527190900	1254	292.67	961.333	6	14	0.006	0.048	3.80228069
TaMAPK38	Ta--TraesCS3B02G256700.1	Td--TRIDC1AG061940.2	0.14718	1.02024043069682	0.14426121763069300	1761	419.08	1341.92	179.3	233.7	0.134	0.558	78.4800331
TaMAPK38	Ta--TraesCS3B02G256700.1	Td--TRIDC1BG071030.1	0.14498	1.10354201974222	0.13137441853136300	1764	422.58	1341.42	176.8	244.2	0.132	0.578	84.8878477
TaMAPK38	Ta--TraesCS3B02G256700.1	Td--TRIDC3AG034020.1	0.00218	0.04602856873711047	0.04728393081500440	1806	425.58	1380.42	3	19	0.002	0.045	3.54065913
TaMAPK38	Ta--TraesCS3B02G256700.1	Td--TRIDC3AG036190.14	0.19047	2.94021897914399	0.06478067231510710	1677	387.92	1289.08	216.8	285.2	0.168	0.735	226.170691

TaMAPK38	TraesCS3B02G256700.1	TdTRIDC3BG038510.2	0.00145	0		1806	426.83	1379.17	2	0	0.001	0	0
TaMAPK38	TraesCS3B02G256700.1	TdTRIDC3BG040600.18	0.19532	2.5306265319557	0.077180913783 9172	1692	389.33	1302.67	224	282	0.172	0.724	194.663579
TaMAPK39	TraesCS3A02G242100.1	TdTRIDC1AG059290.6	0.12871	1.02630359727683	0.125412317214 093	1608	369.33	1238.67	146.5	206.5	0.118	0.559	78.9464306
TaMAPK39	TraesCS3A02G242100.1	TdTRIDC3AG036190.14	0.00264	0.00641166546451 419	0.41195 9428703 249	1719	391.58	1327.42	3.5	2.5	0.003	0.006	0.49320504
TaMAPK39	TraesCS3A02G242100.1	TdTRIDC3AG034020.1	0.19346	2.99299959956051	0.064637698301 0901	1722	396.67	1325.33	226	292	0.171	0.736	230.230738
TaMAPK39	TraesCS3A02G242100.1	TdTRIDC3BG040600.18	0.00415	0.03271342799069 05	0.12690 4346259 797	1719	390.5	1328.5	5.5	12.5	0.004	0.032	2.51641754
TaMAPK39	TraesCS3A02G242100.1	TdTRIDC3BG038510.2	0.18896	2.57727262393975	0.073317037835 7298	1722	397.92	1324.08	221.2	288.8	0.167	0.726	198.25174
TaMAPK40	TraesCS3A02G231700.1	TdTRIDC1AG061100.1	0.13542	1.23525197428024	0.109628540014 771	1443	328.5	1114.5	138.1	198.9	0.124	0.606	95.0193826

TaMAPK40	TraesCS3A02G231700.1	Ta--Td--TRIDC1BG070050.1	0.13728	1.267997514267522	0.10826516548921	1443	329	1114	139.8	201.3	0.125	0.612	97.5382703
TaMAPK40	TraesCS3A02G231700.1	Ta--Td--TRIDC3AG034650.7	0.00088	0.002982111284729551	0.29588199724991	1470	336	1134	1	1	0.001	0.003	0.22939318
TaMAPK40	TraesCS3A02G231700.1	Ta--Td--TRIDC3BG039070.12	0.03908	0.097294706960999	0.40169231931887 5	1449	335.17	1113.83	42.42	30.58	0.038	0.091	7.48420823
TaMAPK42	TraesCS1A02G415300.1	Ta--Td--TRIDC1AG061100.1	0.05393	0.139577888282262	0.38641052466520 8	1686	401.75	1284.25	66.83	51.17	0.052	0.127	10.7367606
TaMAPK42	TraesCS1A02G415300.1	Ta--Td--TRIDC1BG070050.1	0.06061	0.153177502270747	0.39571340228372 2	1680	400.58	1279.42	74.5	55.5	0.058	0.139	11.7828848
TaMAPK42	TraesCS1A02G415300.1	Ta--Td--TRIDC3AG034650.7	0.14524	1.276589329627141	0.11377571278715 9	1473	337.67	1135.33	149.9	207.1	0.132	0.613	98.1991792
TaMAPK42	TraesCS1A02G415300.1	Ta--Td--TRIDC3BG039070.12	0.13028	1.334811566657345081	0.09760451114851 48	1482	344.83	1137.17	136	215	0.12	0.623	102.677813
TaMAPK43	TraesCS1A02G421000.1	Ta--Td--TRIDC1AG061940.2	0	0.004631431159237320	0	1794	433.17	1360.83	0	2	0	0.005	0.35626394

TaMAPK43	Ta--TraesCS1A02G421000.1	Td--TRIDC1BG071030.1	0.010376	0.12756805215847	0.081299162621 9065	1794	434.75	1359.25	14	51	0.01	0.117	9.81292709
TaMAPK43	Ta--TraesCS1A02G421000.1	Td--TRIDC3AG034020.1	0.150323	0.99662042282774	0.150827202057 62	1767	419.83	1347.17	183.5	231.5	0.136	0.551	76.6631094
TaMAPK43	Ta--TraesCS1A02G421000.1	Td--TRIDC3BG038510.2	0.149057	0.99739703662943	0.149438936255 203	1767	420.58	1346.42	182	232	0.135	0.552	76.722849
TaMAPK44	Ta--TraesCS6D02G082900.2	Td--TRIDC6BG018000.3	0.026995	0.07334321630856 57	0.368034708880 667	1449	336.33	1112.67	29.5	23.5	0.027	0.07	5.64178587
TaMAPK45	Ta--TraesCS6D02G108100.1	Td--TRIDC6AG015690.2	0.001171	0.10506659487801	0.011179845277 3931	1107	255	852	1	25	0.001	0.098	8.08204576
TaMAPK45	Ta--TraesCS6D02G108100.1	Td--TRIDC6BG021470.2	0.001171	0.05283158491973 34	0.022229095771 1989	1107	254.83	852.167	1	13	0.001	0.051	4.06396807
TaMAPK45	Ta--TraesCS6D02G108100.1	Td--TRIDC7AG058780.3	0.046591	1.01202457519198	0.046038659168 1408	1107	254.75	852.25	38.5	141.5	0.045	0.555	77.8480442
TaMAPK45	Ta--TraesCS6D02G108100.1	Td--TRIDC7BG051510.2	0.0472	1.03800311918125	0.045469753153 6604	1107	254.42	852.583	39	143	0.046	0.562	79.8463938

TaMAPK46	Ta--TraesCS7A02G049000.1	Td--TRIDC4AG065120.1	0.01833	0.09908744937947373	0.18502967925204900	1449	344.75	1104.25	20	32	0.018	0.093	7.62211149
TaMAPK46	Ta--TraesCS7A02G049000.1	Td--TRIDC7AG005070.14	0.00181	0.00289017698699247	0.62681123282763	1452	346.67	1105.33	2	1	0.002	0.003	0.22232131
TaMAPK47	Ta--TraesCS7A02G029700.1	Td--TRIDC7AG002740.1	0.02167	0.03207819972452 68	0.675520783767096	972	222.92	749.083	16	7	0.021	0.031	2.46755382
TaMAPK49	Ta--TraesCS7A02G410700.2	Td--TRIDC7AG057270.3	0.00076	0.00244898176780432	0.30833 0987928357	1734	409	1325	1	1	0.001	0.002	0.18838321
TaMAPK49	Ta--TraesCS7A02G410700.2	Td--TRIDC7BG049670.7	0.00303	0.10476798547506 8	0.028874761867 9432	1734	409.08	1324.92	4	40	0.003	0.098	8.05907581
TaMAPK50	Ta--TraesCS5B02G536500.1	Td--TRIDC5BG079810.1	0.00099	0.00955426933307228	0.10339 0121521531	1329	316	1013	1	3	0.001	0.009	0.73494379
TaMAPK52	Ta--TraesCS7B02G246900.3	Td--TRIDC7AG047060.4	0.00205	0.04663785579733 8	0.044020850240 0651	1263	287.5	975.5	2	13	0.002	0.045	3.58752737
TaMAPK52	Ta--TraesCS7B02G246900.3	Td--TRIDC7BG040680.1	0	0.00698898476240196	0	1263	287.5	975.5	0	2	0	0.007	0.53761421

TaMAPK53	TraesCS7B02G309900.1	Td--TRIDC7AG057270.3	0.00378	0.10758422910331	0.035166387143551	1734	409.08	1324.92	5	41	0.004	0.1	8.27570993
TaMAPK53	TraesCS7B02G309900.1	Td--TRIDC7BG049670.7	0	0	NaN	1734	409.17	1324.83	0	0	0	0	0
TaMAPK54	TraesCS7B02G322900.1	Td--TRIDC6AG015690.2	0.05496	1.11459355060578	0.049313869016 0926	1131	259.92	871.083	46.17	150.8	0.053	0.58	85.7379654
TaMAPK54	TraesCS7B02G322900.1	Td--TRIDC6BG021470.2	0.05436	1.08793777907221	0.049964545929 9791	1131	260.08	870.917	45.67	149.3	0.052	0.574	83.6875215
TaMAPK54	TraesCS7B02G322900.1	Td--TRIDC7AG058780.3	0.00701	0.10028824829668	0.069865297675 1843	1116	255.67	860.333	6	24	0.007	0.094	7.71448064
TaMAPK54	TraesCS7B02G322900.1	Td--TRIDC7BG051510.2	0.00578	0.02353134192581 53	0.245456626690 206	1128	259	869	5	6	0.006	0.023	1.81010323
TaMAPKK1	TraesCS6D02G328800.1	Td--TRIDC6AG052120.1	0.00499	0.07367882968755 99	0.067686082730 6238	1104	299.25	804.75	4	21	0.005	0.07	5.66760228
TaMAPKK1	TraesCS6D02G328800.1	Td--TRIDC6BG060870.1	0.00687	0.10537358998499 4	0.065224126188 2785	1104	300.08	803.917	5.5	29.5	0.007	0.098	8.10566077

TaMAPKK2	Ta--TraesCS5B02G565100.3	Td--TRIDC4AG047480.2	0.06775	0.21009960557876	0.32248910440299	1296	304.25	991.75	64.25	55.75	0.065	0.183	16.1615081
TaMAPKK2	Ta--TraesCS5B02G565100.3	Td--TRIDC5BG083460.4	0.04287	0.101395307637	0.42282706860533	1239	289.08	949.917	39.58	27.42	0.042	0.095	7.79963905
TaMAPKK3	Ta--TraesCS5D02G130900.2	Td--TRIDC5AG020820.4	0.01676	0.07378581234381 49	0.22708408543742 1	885	211.08	673.917	11.17	14.83	0.017	0.07	5.67583172
TaMAPKK3	Ta--TraesCS5D02G130900.2	Td--TRIDC5BG021620.3	0.04206	0.11534673911063	0.36464936332379 9	1224	286.83	937.167	38.33	30.67	0.041	0.107	8.87282609
TaMAPKK4	Ta--TraesCS5A02G122700.4	Td--TRIDC5AG020820.4	0.0542	0.08658807280859 8	0.62597977636095 7	843	200.75	642.25	33.58	16.42	0.052	0.082	6.66062099
TaMAPKK4	Ta--TraesCS5A02G122700.4	Td--TRIDC5BG021620.3	0.02157	0.05721247856222 3	0.37695526621664 5	816	196.67	619.333	13.17	10.83	0.021	0.055	4.40095989
TaMAPKK6	Ta--TraesCS4B02G048100.1	Td--TRIDC4AG041540.1	0.23616	0.51280367555732 5	0.46052601757201 7	984	270.33	713.667	144.6	100.4	0.203	0.371	39.4464366
TaMAPKK6	Ta--TraesCS4B02G048100.1	Td--TRIDC4BG007520.1	0.00134	0.00353774240860 418	0.37941774229073 6	1029	283.33	745.667	1	1	0.001	0.004	0.27213403

TaMAPKK9		TraesCS3B02G066300.1	TdTRIDC3BG008530.2	0.035657	0.993698297982508	975	268.83	706.167	24.58	9.417	0.035	0.035	2.7594048
TaMAPKK13		TraesCS5D02G549600.1	TdTRIDC4AG047480.2	0.012552	0.077515842976551	1569	363.92	1205.08	15	53	0.012	0.146	12.4557355
TaMAPKK13		TraesCS5D02G549600.1	TdTRIDC5BG083460.4	0.008357	0.121516475656622	1569	365.33	1203.67	10	24	0.008	0.066	5.28849165
TaMAPKK14		TraesCS4A02G265900.1	TdTRIDC4AG041540.1	0.030519	0.225974124026006	1011	275.17	735.833	22	34	0.03	0.124	10.3859173
TaMAPKK14		TraesCS4A02G265900.1	TdTRIDC4BG007520.1	0.237365	0.445459242121528	984	268.5	715.5	145.6	102.4	0.203	0.381	40.9886513
TaMAPKK18		TraesCS5B02G122600.1	TdTRIDC5AG020820.4	0.016776	0.264978963642157	885	211.5	673.5	11.17	12.83	0.017	0.061	4.86716908
TaMAPKK18		TraesCS5B02G122600.1	TdTRIDC5BG021620.3	0.013530	0.299033136571675	1266	296.17	969.833	13	13	0.013	0.044	3.47931503
TaMAPKKK1	TaMEKK1	TraesCS2A02G407600.1	TdTRIDC2AG058830.1	0	0.006795063468300	2481	591.33	1889.67	0	4	0	0.007	0.52269719

TaMAPKK1	TaMEKK1	Ta--TraesCS2A02G407600.1	Td--TRIDC2BG061830.1	0.02386	0.07712883466883741	0.30939381412599	2460	586.67	1873.33	44	43	0.023	0.073	5.93298728
TaMAPKK1	TaMEKK1	Ta--TraesCS2A02G407600.1	Td--TRIDC6AG037840.4	0.15108	0.907555974135041	0.166471534986	2427	579.92	1847.08	252.8	305.3	0.137	0.526	69.811998
TaMAPKK1	TaMEKK1	Ta--TraesCS2A02G407600.1	Td--TRIDC6BG044800.1	0.13714	0.873582894625792	0.156991213467956	2364	567.5	1796.5	225.2	292.8	0.125	0.516	67.1986842
TaMAPKK2	TaMEKK2	Ta--TraesCS4D02G027600.1	Td--TRIDC4AG043860.6	0.01028	0.142620354827718	0.072104821990 0967	1704	431.17	1272.83	13	56	0.01	0.13	10.9707965
TaMAPKK2	TaMEKK2	Ta--TraesCS4D02G027600.1	Td--TRIDC4BG004990.4	0.01347	0.142772317164011	0.094359561504 2622	1704	430.75	1273.25	17	56	0.013	0.13	10.9824859
TaMAPKK3	TaMEKK3	Ta--TraesCS4B02G210600.2	Td--TRIDC4AG012750.6	0.00816	0.071531369380048787	0.114062911879357	2115	513	1602	13	35	0.008	0.068	5.50241303
TaMAPKK3	TaMEKK3	Ta--TraesCS4B02G210600.2	Td--TRIDC4BG037560.5	0.00065	0.004136515139299870	0.157031115488524	2025	484.83	1540.17	1	2	0.001	0.004	0.31819347
TaMAPKK4	TaMEKK4	Ta--TraesCS6A02G245000.3	Td--TRIDC2AG058830.1	0.1511	0.907048947969418	0.166581241928488	2427	580.08	1846.92	252.8	305.3	0.137	0.526	69.772996

TaMAPKK4	TaMEKK4	Ta--TraesCS6A02G245000.3	Td--TRIDC2BG061830.1	0.15803	0.860417656801211	0.183667254687451	2616	628.75	1987.25	283.2	321.8	0.142	0.512	66.1859736
TaMAPKK4	TaMEKK4	Ta--TraesCS6A02G245000.3	Td--TRIDC6AG037840.4	0.0005	0		2634	634	2000	1	0	0.001	0	0
TaMAPKK4	TaMEKK4	Ta--TraesCS6A02G245000.3	Td--TRIDC6BG044800.1	0.00704	0.037104340154291	0.189670133469085	2634	635.33	1998.67	14	23	0.007	0.036	2.85418001
TaMAPKK4-1	TaMEKK4-1	Ta--TraesCS6B02G279300.1	Td--TRIDC2AG058830.1	0.13381	0.850934018800818	0.157247342927983	2343	561.42	1781.58	218.3	285.7	0.123	0.509	65.456463
TaMAPKK4-1	TaMEKK4-1	Ta--TraesCS6B02G279300.1	Td--TRIDC2BG061830.1	0.1348	0.845901079883277	0.159357535114766	2355	566.5	1788.5	220.7	287.3	0.123	0.507	65.0693138
TaMAPKK4-1	TaMEKK4-1	Ta--TraesCS6B02G279300.1	Td--TRIDC6AG037840.4	0.00617	0.039738413708050	0.155315924428594	2358	568.42	1789.58	11	22	0.006	0.039	3.05680105
TaMAPKK4-1	TaMEKK4-1	Ta--TraesCS6B02G279300.1	Td--TRIDC6BG044800.1	0.00056	0		2358	570.33	1787.67	1	0	0.001	0	0
TaMAPKK5	TaMEKK5	Ta--TraesCS2A02G199700.1	Td--TRIDC2AG025680.4	0.0032	0.002670229789892298	1.19728308453262	1629	375.17	1253.83	4	1	0.003	0.003	0.20540229

TaMAPKKK5	TaMEKK5	Ta--TraesCS2A02G199700.1	Td--TRIDC2BG030100.5	0.00647	0.058281738245483	0.10988533664495	1629	374.5	1254.5	8	21	0.006	0.056	4.48321063
TaMAPKKK7	TaMEKK7	Ta--TraesCS3B02G289500.1	Td--TRIDC1BG061690.1	0.23262	0.607610853588378	0.38283746061169	1047	266.17	780.833	156.2	110.8	0.2	0.416	46.7392964
TaMAPKKK7	TaMEKK7	Ta--TraesCS3B02G289500.1	Td--TRIDC3BG043440.2	0.00515	0		1305	331.08	973.917	5	0	0.005	0	0
TaMAPKKK8	TaMEKK8	Ta--TraesCS3B02G288100.1	Td--TRIDC1AG053880.1	0.28819	0.664517088821144	0.43368922840529	1251	315.92	935.083	223.7	139.3	0.239	0.441	51.1166991
TaMAPKKK8	TaMEKK8	Ta--TraesCS3B02G288100.1	Td--TRIDC3AG038300.1	0.02495	0.124458436060348	0.20050740443602	1251	313.92	937.083	23	36	0.025	0.115	9.57372585
TaMAPKKK8	TaMEKK8	Ta--TraesCS3B02G288100.1	Td--TRIDC3BG043280.1	0.00104	0.006282759253535924	0.16620163062948	1278	319.67	958.333	1	2	0.001	0.006	0.48328917
TaMAPKKK10	TaMEKK10	Ta--TraesCS4D02G211300.2	Td--TRIDC4AG012750.6	0.00685	0.060475996865251	0.11323403801810	2130	516.33	1613.67	11	30	0.007	0.058	4.65199976
TaMAPKKK10	TaMEKK10	Ta--TraesCS4D02G211300.2	Td--TRIDC4BG037560.5	0.00981	0.059989135619449	0.16350185713341	2025	485.67	1539.33	15	28	0.01	0.058	4.61454889

TaMAPKK11	TaMEKK11	Ta--TraesCS5D02G475900.1	Td--TRIDC5AG066400.8	0.00489	0.07357449819145	0.06646314950321	1602	371	1231	6	26	0.005	0.07	5.65957678
TaMAPKK11	TaMEKK11	Ta--TraesCS5D02G475900.1	Td--TRIDC5BG071320.5	0.04094	0.12571155705319	0.32566788332722	1548	360	1188	47.33	41.67	0.04	0.116	9.67011977
TaMAPKK12	TaMEKK12	Ta--TraesCS4A02G093800.2	Td--TRIDC4AG012750.6	0	0	NaN	2130	515.67	1614.33	0	0	0	0	0
TaMAPKK12	TaMEKK12	Ta--TraesCS4A02G093800.2	Td--TRIDC4BG037560.5	0.00783	0.07132801161797 8	0.10981617450328 8	2025	485	1540	12	33	0.008	0.068	5.48677012
TaMAPKK14	TaMEKK14	Ta--TraesCS5A02G118200.1	Td--TRIDC5AG020280.1	0.00162	0		1611	376	1235	2	0	0.002	0	0
TaMAPKK15	TaMEKK15	Ta--TraesCS5A02G463100.2	Td--TRIDC5AG066400.8	0.00244	0.00541763078059518	0.45038477477559975	1602	370.5	1231.5	3	2	0.002	0.005	0.41674083
TaMAPKK15	TaMEKK15	Ta--TraesCS5A02G463100.2	Td--TRIDC5BG071320.5	0.03826	0.13583767862923 4	0.28167071274050 2	1548	359.5	1188.5	44.33	44.67	0.037	0.124	10.4490522
TaMAPKK16	TaMEKK16	Ta--TraesCS5B02G474500.1	Td--TRIDC5AG066400.8	0.00163	0.10089547248772 1	0.01611694778497392	1602	370.75	1231.25	2	35	0.002	0.094	7.76119019

TaMAPKKK16	TaMEKK16	Ta--TraesCS5B02G474500.1	Td--TRIDC5BG071320.5	0.03730	0.036028729632993	1.03525213651578	1551	360.08	1190.92	43.33	12.67	0.036	0.035	2.77144074
TaMAPKKK17	TaMEKK17	Ta--TraesCS5A02G200800.1	Td--TRIDC5AG032410.5	0.00064	0.002127661001399790	0.3019270108303	2028	470.67	1557.33	1	1	0.001	0.002	0.16366623
TaMAPKKK17	TaMEKK17	Ta--TraesCS5A02G200800.1	Td--TRIDC5BG034210.7	0.00192	0.056868185080097	0.033746107538359	2040	474.75	1565.25	3	26	0.002	0.055	4.37447578
TaMAPKKK18	TaMEKK18	Ta--TraesCS2B02G526200.3	Td--TRIDC2AG070140.10	0.00891	0.081650678442612	0.1091265975570206	3966	917.75	3048.25	27	71	0.009	0.077	6.28082142
TaMAPKKK18	TaMEKK18	Ta--TraesCS2B02G526200.3	Td--TRIDC2BG075830.1	0	0.001088336849785	0	3969	919.5	3049.5	0	1	0	0.001	0.08371822
TaMAPKKK20	TaMEKK20	Ta--TraesCS2A02G498000.3	Td--TRIDC2AG070140.10	0.00098	0		3966	916.83	3049.17	3	0	0.001	0	0
TaMAPKKK20	TaMEKK20	Ta--TraesCS2A02G498000.3	Td--TRIDC2BG075830.1	0.00858	0.080452140280312323	0.1066209636323334	3966	917.58	3048.42	26	70	0.009	0.076	6.18862618
TaMAPKKK21/TaMAPKKKK15	TaMEKK21	Ta--TraesCS6A02G149900.1	Td--TRIDC6AG020750.1	0.00079	0		1626	361.33	1264.67	1	0	0.001	0	0

TaMAPKK K21/TaMA PKKKK15	TaMEKK 21	Ta--TraesCS6A 02G149900 .1	Td--TRIDC6B G026600.3	0.01237	0.12106757936725 3	0.10214 5258798 394	1626	362.25	1263.75	15.5	40.5	0.012	0.112	9.31289072
TaMAPKK K22/TaMA PKKKK10	TaMEKK 22	Ta--TraesCS5A 02G392500 .1	Td--TRIDC5A G057130.2	0.00348	0.00421349422816 744	0.82510 1821093 778	2469	595	1874	6.5	2.5	0.003	0.004	0.32411494
TaMAPKK K22/TaMA PKKKK10	TaMEKK 22	Ta--TraesCS5A 02G392500 .1	Td--TRIDC5B G061270.2	0.00683	0.05965876642654	0.11454 7461718 917	2322	558	1764	12	32	0.007	0.057	4.58913588
TaMAPKK K23/TaMA PKKKK21	TaMEKK 23	Ta--TraesCS6D 02G139200 .1	Td--TRIDC6A G020750.1	0.00506	0.11131500383870 4	0.04549 9123079 3017	1527	338.33	1188.67	6	35	0.005	0.103	8.5626926
TaMAPKK K23/TaMA PKKKK21	TaMEKK 23	Ta--TraesCS6D 02G139200 .1	Td--TRIDC6B G026600.3	0.01231	0.08914411264053 73	0.13805 3566865 557	1527	339.08	1187.92	14.5	28.5	0.012	0.084	6.85723943
TaMAPKK K24	TaMEKK 24	Ta--TraesCS5B 02G199400 .1	Td--TRIDC5A G032410.5	0.00193	0.06197071766414 25	0.03112 6820303 9521	2028	470.75	1557.25	3	28	0.002	0.059	4.76697828
TaMAPKK K24	TaMEKK 24	Ta--TraesCS5B 02G199400 .1	Td--TRIDC5B G034210.7	0.00064	0		2040	474.83	1565.17	1	0	0.001	0	0
TaMAPKK K25	TaMEKK 25	Ta--TraesCS5B 02G196400 .1	Td--TRIDC5A G032000.2	0.02019	0.09364721486574 88	0.21554 5948366 101	1554	382.42	1171.58	23.33	33.67	0.02	0.088	7.20363191

TaMAPKK K25	TaMEKK 25	Ta--TraesCS5B 02G196400 .1	Td--TRIDC5B G033660.2	0.00086	0		1554	385.33	1168.67	1	0	0.001	0	0
TaMAPKK K26	TaMEKK 26	Ta--TraesCS2D 02G093700 .1	Td--TRIDC2A G010980.4	0.00663	0.077438 86598097 46	0.08558 5968921 0269	3996	965	3031	20	71	0.007	0.074	5.95683584
TaMAPKK K26	TaMEKK 26	Ta--TraesCS2D 02G093700 .1	Td--TRIDC2B G013430.2	0.00529	0.044678 22018399 91	0.11834 6929228 289	4005	968.33	3036.67	16	42	0.005	0.043	3.43678617
TaMAPKK K27	TaMEKK 27	Ta--TraesCS2B 02G110500 .1	Td--TRIDC2A G010980.4	0.0073	0.076200 71317294 13	0.09575 1093825 3888	3996	966.08	3029.92	22	70	0.007	0.072	5.86159332
TaMAPKK K27	TaMEKK 27	Ta--TraesCS2B 02G110500 .1	Td--TRIDC2B G013430.2	0.00231	0.035919 19564766 26	0.06429 8047411 3478	4005	969.42	3035.58	7	34	0.002	0.035	2.76301505
TaMAPKK K28	TaMEKK 28	Ta--TraesCS2A 02G095300 .1	Td--TRIDC2A G010980.4	0.00066	0.005194 37623026 219	0.12712 5652210 642	3996	965.92	3030.08	2	5	0.001	0.005	0.3995674
TaMAPKK K28	TaMEKK 28	Ta--TraesCS2A 02G095300 .1	Td--TRIDC2B G013430.2	0.00797	0.076131 59092122 91	0.10462 5916491 222	3996	966.92	3029.08	24	70	0.008	0.072	5.85627622
TaMAPKK K29	TaMEKK 29	Ta--TraesCS5D 02G206500 .1	Td--TRIDC5A G032410.5	0.00193	0.034738 48126803 23	0.05554 8633491 0182	2028	471.33	1556.67	3	16	0.002	0.034	2.67219087

TaMAPKK K29	TaMEKK 29	Ta--TraesCS5D 02G206500 .1	Td--TRIDC5B G034210.7	0.00192	0.068216 31341323 87	0.02814 4274555 5598	2040	475.42	1564.58	3	31	0.002	0.065	5.24740872
TaMAPKK K30	TaZIK1	Ta--TraesCS5D 02G145100 .1	Td--TRIDC5A G024780.6	0.01057	0.047395 52240345 18	0.22303 7936651 595	1908	479	1429	15	22	0.01	0.046	3.64580942
TaMAPKK K30	TaZIK1	Ta--TraesCS5D 02G145100 .1	Td--TRIDC5B G025890.5	0.00979	0.078832 75503936 9	0.12422 7580090 338	1920	481.08	1438.92	14	36	0.01	0.075	6.06405808
TaMAPKK K31	TaZIK2	Ta--TraesCS6D 02G236400 .1	Td--TRIDC6A G039240.3	0.03393	0.055550 69505076 19	0.61071 2438933 908	1164	264.58	899.417	29.83	14.17	0.033	0.054	4.27313039
TaMAPKK K31	TaZIK2	Ta--TraesCS6D 02G236400 .1	Td--TRIDC6B G046090.3	0.0278	0.067419 03645111 25	0.41228 4227224 11	1848	418.75	1429.25	39	27	0.027	0.064	5.18607973
TaMAPKK K32	TaZIK3	Ta--TraesCS2A 02G195900 .2	Td--TRIDC2A G025210.3	0	0.004176 82945176 646	0	2079	480.17	1598.83	0	2	0	0.004	0.32129457
TaMAPKK K32	TaZIK3	Ta--TraesCS2A 02G195900 .2	Td--TRIDC2B G029650.2	0.00683	0.078204 25883144 67	0.08731 5673044 2644	2103	484.75	1618.25	11	36	0.007	0.074	6.01571222
TaMAPKK K33	TaZIK4	Ta--TraesCS6B 02G270400 .1	Td--TRIDC6A G039240.3	0.06121	0.079465 59163798 32	0.77021 3064745 879	1167	265.25	901.75	53	20	0.059	0.075	6.11273782

TaMAPKK K33	TaZIK4	Ta--TraesCS6B02G270400.1	Td--TRIDC6BG046090.3	0	0	NaN	1851	419.17	1431.83	0	0	0	0	0
TaMAPKK K34	TaZIK5	Ta--TraesCS2D02G197600.1	Td--TRIDC2AG024350.1	0.00415	0.044260628577791300	0.093835490945596800	957	232.67	724.333	3	10	0.004	0.043	3.40466374
TaMAPKK K34	TaZIK5	Ta--TraesCS2D02G197600.1	Td--TRIDC2BG028790.2	0.00974	0.039526160234330500	0.24645769288892600	957	233.75	723.25	7	9	0.01	0.039	3.04047386
TaMAPKK K36	TaZIK7	Ta--TraesCS2B02G223600.1	Td--TRIDC2AG025210.3	0.00691	0.079063813395766300	0.087397230415975600	2079	479.75	1599.25	11	36	0.007	0.075	6.0818318
TaMAPKK K36	TaZIK7	Ta--TraesCS2B02G223600.1	Td--TRIDC2BG029650.2	0	0.004129397905891860	0	2109	485.67	1623.33	0	2	0	0.004	0.31764599
TaMAPKK K37	TaZIK8	Ta--TraesCS2B02G216800.1	Td--TRIDC2AG025210.3	0.44259	0.740476325638006	0.5977119320569696	864	206.67	657.333	219.8	97.25	0.334	0.471	56.9597174
TaMAPKK K37	TaZIK8	Ta--TraesCS2B02G216800.1	Td--TRIDC2AG024350.1	0.01102	0.081007850085297300	0.135982976313737600	966	234.42	731.583	8	18	0.011	0.077	6.23137308
TaMAPKK K37	TaZIK8	Ta--TraesCS2B02G216800.1	Td--TRIDC2BG028790.2	0.00274	0.004267436833258920	0.642301403218437600	966	235	731	2	1	0.003	0.004	0.32826437

TaMAPKK K38	TaZIK9	Ta--TraesCS1D 02G026200 .2	Td--TRIDC1A G002650.1	0.00573	0.065643 21859055 35	0.08730 0516796 3942	1815	413.67	1401.33	8	26	0.006	0.063	5.04947835
TaMAPKK K39	TaZIK10	Ta--TraesCS6A 02G255100 .2	Td--TRIDC6A G039240.3	0.02347	0.019717 05665024 3	1.19049 9992113 12	1167	265.5	901.5	20.83	5.167	0.023	0.019	1.51669667
TaMAPKK K39	TaZIK10	Ta--TraesCS6A 02G255100 .2	Td--TRIDC6B G046090.3	0.03072	0.077845 26595656 14	0.39458 7263577 064	1848	419.25	1428.75	43	31	0.03	0.074	5.98809738
TaMAPKK K40	TaZIK11	Ta--TraesCS5B 02G146100 .1	Td--TRIDC5A G024780.6	0.00915	0.088746 06292998 47	0.10305 7175454 398	1908	477.92	1430.08	13	40	0.009	0.084	6.82662023
TaMAPKK K40	TaZIK11	Ta--TraesCS5B 02G146100 .1	Td--TRIDC5B G025890.5	0	0.002086 23222140 76	0	1920	480	1440	0	1	0	0.002	0.1604794
TaMAPKK K41	TaRaf1	Ta--TraesCS6A 02G172600 .1	Td--TRIDC6A G024780.3	0.102	0.193907 53156804 2	0.52602 2867649 668	729	178.5	550.5	52.5	30.5	0.095	0.171	14.915964
TaMAPKK K41	TaRaf1	Ta--TraesCS6A 02G172600 .1	Td--TRIDC7A G054160.3	0.18886	0.598500 35115593 1	0.31554 9772086 887	1014	243.33	770.667	128.7	100.3	0.167	0.412	46.0384886
TaMAPKK K41	TaRaf1	Ta--TraesCS6A 02G172600 .1	Td--TRIDC7B G046810.3	0.19239	0.578073 13086824 4	0.33281 6160737 427	1014	244	770	130.7	98.33	0.17	0.403	44.4671639

TaMAPKK K45	TaRaf5	Ta--TraesCS3D 02G273200 .1	Td--TRIDC1A G050190.1	0.33168	1.318514 56219555	0.25155 4379526 124	1740	412.83	1327.17	355.7	256.3	0.268	0.621	101.424197
TaMAPKK K45	TaRaf5	Ta--TraesCS3D 02G273200 .1	Td--TRIDC1B G057000.1	0.32772	1.290849 51575606	0.25388 2244205 73	1740	411.08	1328.92	352.8	253.2	0.266	0.616	99.2961166
TaMAPKK K45	TaRaf5	Ta--TraesCS3D 02G273200 .1	Td--TRIDC3A G040710.1	0.01757	0.088767 18865327 31	0.19794 9512506 304	1800	418.08	1381.92	24	35	0.017	0.084	6.82824528
TaMAPKK K45	TaRaf5	Ta--TraesCS3D 02G273200 .1	Td--TRIDC3B G045870.3	0.01238	0.070153 33719073 63	0.17642 3091941 957	1803	418.08	1384.92	17	28	0.012	0.067	5.39641055
TaMAPKK K46	TaRaf6	Ta--TraesCS2D 02G050700 .1	Td--TRIDC2A G005450.2	0.03582	0.080153 74547812 21	0.44692 0837241 676	2454	588.67	1865.33	65.25	44.75	0.035	0.076	6.16567273
TaMAPKK K48	TaRaf8	Ta--TraesCS7D 02G079100 .1	Td--TRIDC7A G009510.2	0.12735	0.296344 59773473 9	0.42972 9677562 347	1596	360.83	1235.17	144.7	88.33	0.117	0.245	22.7957383
TaMAPKK K50	TaRaf10	Ta--TraesCS7D 02G099200 .2	Td--TRIDC7A G012240.3	0.03	0.073002 53546059 75	0.41090 6376592 397	1974	472	1502	44.17	32.83	0.029	0.07	5.61557965
TaMAPKK K51	TaRaf11	Ta--TraesCS7D 02G230200 .1	Td--TRIDC6A G042270.3	0.23143	0.524580 54544143 6	0.44117 1081324 421	1074	270.08	803.917	160.1	101.9	0.199	0.377	40.3523496

TaMAPKK K51	TaRaf11	Ta--TraesCS7D 02G230200 .1	Td--TRIDC6B G049330.2	0.16598	0.43299307974882 6	0.38333 9541419 749	1218	297.92	920.083	137	98	0.149	0.329	33.30716
TaMAPKK K51	TaRaf11	Ta--TraesCS7D 02G230200 .1	Td--TRIDC7A G029400.6	0.00432	0.03360024356652 47	0.12856 0567134 661	1233	304.33	928.667	4	10	0.004	0.033	2.58463412
TaMAPKK K51	TaRaf11	Ta--TraesCS7D 02G230200 .1	Td--TRIDC7B G020300.3	0	0.07081606689350 29	0	1143	281.17	861.833	0	19	0	0.068	5.44738976
TaMAPKK K53	TaRaf13	Ta--TraesCS1B 02G372400 .1	Td--TRIDC1A G052430.1	0.03779	0.14906312327034	0.25354 5912196 605	2403	594.25	1808.75	66.67	80.33	0.037	0.135	11.4663941
TaMAPKK K53	TaRaf13	Ta--TraesCS1B 02G372400 .1	Td--TRIDC1B G059980.1	0.00804	0.01780247470129 26	0.45187 3127713 191	2409	596.83	1812.17	14.5	10.5	0.008	0.018	1.36942113
TaMAPKK K53	TaRaf13	Ta--TraesCS1B 02G372400 .1	Td--TRIDC3A G036880.3	0.22015	0.58390009461945 2	0.37703 2129826 563	1986	489.08	1496.92	285.6	198.4	0.191	0.406	44.9153919
TaMAPKK K53	TaRaf13	Ta--TraesCS1B 02G372400 .1	Td--TRIDC3B G040940.1	0.35817	2.53907974502931	0.14106 3724130 798	2340	556.17	1783.83	508	403	0.285	0.725	195.313827
TaMAPKK K54	TaRaf14	Ta--TraesCS7D 02G503600 .1	Td--TRIDC7B G067700.1	0.1817	0.64627690619231 4	0.28114 3112833 595	585	134.67	450.333	72.67	58.33	0.161	0.433	49.7136082

TaMAPKK K58	TaRaf18	Ta--TraesCS3B 02G259800 .1	Td--TRIDC1A G061210.1	0.06104	0.798414 95180714 1	0.07645 1825058 3799	894	211.67	682.333	40	104	0.059	0.491	61.4165348
TaMAPKK K58	TaRaf18	Ta--TraesCS3B 02G259800 .1	Td--TRIDC1B G070170.4	0.06253	0.721698 44838785 1	0.08664 0679127 3554	918	217.92	700.083	42	101	0.06	0.463	55.5152653
TaMAPKK K58	TaRaf18	Ta--TraesCS3B 02G259800 .1	Td--TRIDC3A G034530.2	0	0.080710 21096555 15	0	945	222.17	722.833	0	17	0	0.077	6.20847777
TaMAPKK K58	TaRaf18	Ta--TraesCS3B 02G259800 .1	Td--TRIDC3B G038930.3	0	0	NaN	942	221	721	0	0	0	0	0
TaMAPKK K60	TaRaf20	Ta--TraesCS2A 02G217000 .1	Td--TRIDC2A G028890.5	0.4403	2.600605 37632376	0.16930 6611165 478	1944	463.92	1480.08	492.9	337.1	0.333	0.727	200.046567
TaMAPKK K60	TaRaf20	Ta--TraesCS2A 02G217000 .1	Td--TRIDC2B G032550.5	0.45131	2.989994 31599426	0.15093 9077570 784	1947	465.42	1481.58	502.4	342.6	0.339	0.736	229.999563
TaMAPKK K61	TaRaf21	Ta--TraesCS7D 02G384700 .1	Td--TRIDC6A G024780.3	0.31839	0.913486 02561009 3	0.34854 6700934 176	846	210.33	635.667	164.9	111.1	0.259	0.528	70.2681558
TaMAPKK K61	TaRaf21	Ta--TraesCS7D 02G384700 .1	Td--TRIDC6B G030200.2	0.20273	0.583168 55242967 4	0.34763 2136087 723	1098	267.67	830.333	147.5	108.5	0.178	0.405	44.8591194

TaMAPKK K61	TaRaf21	Ta--TraesCS7D02G384700.1	Td--TRIDC7AG054160.3	0.00111	0.032109540980389100	0.034565368488 2206	1188	286.33	901.667	1	9	0.001	0.031	2.46996469
TaMAPKK K61	TaRaf21	Ta--TraesCS7D02G384700.1	Td--TRIDC7BG046810.3	0.00445	0.043022546159940100	0.103496971777 634	1188	287	901	4	12	0.004	0.042	3.30942663
TaMAPKK K62	TaRaf22	Ta--TraesCS4A02G313900.1	Td--TRIDC4AG047400.2	0.00122	0.002564653065446853	0.473806433284 811	3252	781.17	2470.83	3	2	0.001	0.003	0.19728101
TaMAPKK K62	TaRaf22	Ta--TraesCS4A02G313900.1	Td--TRIDC5BG083500.1	0.14962	0.401914481131308	0.372262343345 239	2946	714.58	2231.42	302.7	222.3	0.136	0.311	30.9164985
TaMAPKK K64-1	TaRaf24-1	Ta--TraesCS4A02G464700.1	Td--TRIDC7AG002140.2	0.11648	0.515682101632867	0.225875712229 118	504	119.33	384.667	41.5	44.5	0.108	0.373	39.667854
TaMAPKK K69	TaRaf29	Ta--TraesCS2D02G588200.1	Td--TRIDC2AG080090.1	0.09901	0.222188173755199	0.445604557410 613	1635	385.25	1249.75	115.9	74.08	0.093	0.192	17.091398
TaMAPKK K69	TaRaf29	Ta--TraesCS2D02G588200.1	Td--TRIDC2BG088230.2	0.01956	0.105255714213313	0.185793037493 819	1479	347.92	1131.08	21.83	34.17	0.019	0.098	8.0965934
TaMAPKK K70	TaRaf30	Ta--TraesCS1D02G423800.1	Td--TRIDC1AG061210.1	0.00438	0.167065208812425	0.026240298958 9348	900	213.67	686.333	3	32	0.004	0.15	12.8511699

TaMAPKK K70	TaRaf30	Ta--TraesCS1D 02G423800 .1	Td--TRIDC1B G070170.4	0.00858	0.128127 17807393 3	0.06697 0301078 2587	924	220.75	703.25	6	26	0.009	0.118	9.85593677
TaMAPKK K70	TaRaf30	Ta--TraesCS1D 02G423800 .1	Td--TRIDC3A G034530.2	0.06587	0.709065 63114623 2	0.09290 1181690 7382	945	223.5	721.5	45.5	102.5	0.063	0.459	54.5435101
TaMAPKK K70	TaRaf30	Ta--TraesCS1D 02G423800 .1	Td--TRIDC3B G038930.3	0.06603	0.727971 66817751	0.09070 7471809 3406	942	222.17	719.833	45.5	103.5	0.063	0.466	55.9978206
TaMAPKK K71	TaRaf31	Ta--TraesCS6A 02G004500 .1	Td--TRIDC6A G000550.4	0.00799	0.010800 38300719 21	0.73993 9016430 358	2337	512.92	1824.08	14.5	5.5	0.008	0.011	0.83079869
TaMAPKK K72	TaRaf32	Ta--TraesCS3A 02G003900 .1	Td--TRIDC3B G001050.1	0.0296	0.182536 36016640 1	0.16217 7982005 81	1554	382.67	1171.33	34	62	0.029	0.162	14.0412585
TaMAPKK K73	TaRaf33	Ta--TraesCS3A 02G039200 .1	Td--TRIDC3A G004290.4	0.0425	0.191460 86381136 3	0.22198 5064171 511	2034	493.17	1540.83	63.67	83.33	0.041	0.169	14.7277588
TaMAPKK K73	TaRaf33	Ta--TraesCS3A 02G039200 .1	Td--TRIDC3B G006020.1	0.0403	0.194784 68635940 4	0.20687 5464695 253	2019	489.67	1529.33	60	84	0.039	0.172	14.9834374
TaMAPKK K75	TaRaf35	Ta--TraesCS3A 02G096500 .1	Td--TRIDC3A G011590.6	0.00138	0.002051 98486415 606	0.67280 2347368 806	1938	488	1450	2	1	0.001	0.002	0.15784499

TaMAPKK K75	TaRaf35	Ta--TraesCS3A02G096500.1	Td--TRIDC3BG015640.4	0.0111	0.1028745229051	0.10790225898652	1941	488.92	1452.08	16	47	0.011	0.096	7.91342484
TaMAPKK K76	TaRaf36	Ta--TraesCS3A02G246100.1	Td--TRIDC1AG052430.1	0.11719	0.3583751358728247	0.3269974449280427	2388	589.08	1798.92	195.2	167.8	0.108	0.285	27.5673181
TaMAPKK K76	TaRaf36	Ta--TraesCS3A02G246100.1	Td--TRIDC1BG059980.1	0.12166	0.3357883548587755	0.3623254342852631	2391	590.17	1800.83	202.3	159.8	0.112	0.271	25.8298735
TaMAPKK K76	TaRaf36	Ta--TraesCS3A02G246100.1	Td--TRIDC3AG036880.3	0.12118	0.1848314310864766	0.6556144254502892	2037	502.08	1534.92	171.8	82.25	0.112	0.164	14.2178024
TaMAPKK K76	TaRaf36	Ta--TraesCS3A02G246100.1	Td--TRIDC3BG040940.1	0.33313	1.9062275101177533	0.1747578980660332	2355	560.58	1794.42	482.7	387.3	0.269	0.691	146.632885
TaMAPKK K81	TaRaf41	Ta--TraesCS5A02G292500.1	Td--TRIDC5BG047840.2	0.12347	0.3153806097774288	0.3914854964454164	1884	421.42	1462.58	166.5	108.5	0.114	0.257	24.2600469
TaMAPKK K86	TaRaf46	Ta--TraesCS5D02G386800.1	Td--TRIDC5AG055160.3	0.00117	0.1059745441914043	0.0110333005290468	1119	263.08	855.917	1	26	0.001	0.099	8.15188801
TaMAPKK K86	TaRaf46	Ta--TraesCS5D02G386800.1	Td--TRIDC5AG056200.2	0.35279	1.6952754990534324	0.2081006024502451	1056	250.58	805.417	226.7	168.3	0.281	0.672	130.405808

TaMAPKK K86	TaRaf46	Ta--TraesCS5D02G386800.1	Td--TRIDC5BG059170.3	0.00117	0.097039591652144061	0.012057419237406	1119	263.67	855.333	1	24	0.001	0.091	7.46458397
TaMAPKK K92	TaRaf52	Ta--TraesCS5B02G337300.1	Td--TRIDC5AG049770.1	0.00525	0.085106233504834	0.061649329090 7322	1749	410.17	1338.83	7	33	0.005	0.08	6.54663335
TaMAPKK K92	TaRaf52	Ta--TraesCS5B02G337300.1	Td--TRIDC5BG053430.2	0	0.002508363542135430	0	1719	399.33	1319.67	0	1	0	0.003	0.19295104
TaMAPKK K93	TaRaf53	Ta--TraesCS5D02G018800.1	Td--TRIDC5BG001980.1	0.04126	0.160501343517086	0.256066562002931	939	204.17	734.833	29.5	29.5	0.04	0.144	12.3462572
TaMAPKK K95	TaRaf55	Ta--TraesCS5B02G204900.1	Td--TRIDC5AG033270.1	0.01936	0.070499028154885663	0.274675491516263	1317	349.25	967.75	18.5	23.5	0.019	0.067	5.42300217
TaMAPKK K95	TaRaf55	Ta--TraesCS5B02G204900.1	Td--TRIDC5BG035150.3	0	0	NaN	1317	348.33	968.667	0	0	0	0	0
TaMAPKK K96	TaRaf56	Ta--TraesCS5B02G292000.2	Td--TRIDC5BG047840.2	0.01238	0.065496137686392525	0.189082635126752	1896	430.5	1465.5	18	27	0.012	0.063	5.03816444
TaMAPKK K97	TaRaf57	Ta--TraesCS5B02G353800.1	Td--TRIDC5AG051290.3	0.14812	0.652337206388021	0.227054775682187	672	154.92	517.083	69.5	67.5	0.134	0.436	50.1797851

TaMAPKK K98	TaRaf58	Ta--TraesCS5D 02G482000 .1	Td--TRIDC5A G067100.1	0.00892	0.059989 13561944 89	0.14874 3367833 738	1032	242.83	789.167	7	14	0.009	0.058	4.61454889
TaMAPKK K98	TaRaf58	Ta--TraesCS5D 02G482000 .1	Td--TRIDC5B G072290.4	0.05698	0.144037 95899405 4	0.39561 6243807 195	1014	241	773	42.42	31.58	0.055	0.131	11.079843
TaMAPKK K99	TaRaf59	Ta--TraesCS3A 02G001500 .1	Td--TRIDC3A G003160.1	0	0.005342 85429588 826	0	777	187.83	589.167	0	1	0	0.005	0.41098879
TaMAPKK K99	TaRaf59	Ta--TraesCS3A 02G001500 .1	Td--TRIDC3B G000190.2	0.01651	0.150192 33393682 6	0.10991 0384499 504	1095	268.17	826.833	13.5	36.5	0.016	0.136	11.5532565
TaMAPKK K100	TaRaf60	Ta--TraesCS3A 02G274000 .1	Td--TRIDC1A G050190.1	0.33457	1.288151 73176702	0.25972 5416472 55	1734	411	1323	357.1	252.9	0.27	0.615	99.0885948
TaMAPKK K100	TaRaf60	Ta--TraesCS3A 02G274000 .1	Td--TRIDC1B G057000.1	0.3343	1.273964 42395981	0.26240 5958611 797	1734	408.92	1325.08	357.4	250.6	0.27	0.613	97.9972634
TaMAPKK K100	TaRaf60	Ta--TraesCS3A 02G274000 .1	Td--TRIDC3A G040710.1	0.00145	0		1803	418.5	1384.5	2	0	0.001	0	0
TaMAPKK K100	TaRaf60	Ta--TraesCS3A 02G274000 .1	Td--TRIDC3B G045870.3	0.02052	0.065095 04500315 55	0.31529 4729559 683	1800	417	1383	28	26	0.02	0.062	5.00731115

TaMAPKK101	TaRaf61	Ta--TraesCS5D02G019400.1	Td--TRIDC5BG002040.2	0.02745	0.11400068391807	0.24081039749570	3039	813.17	2225.83	60	86	0.027	0.106	8.76928338
TaMAPKK102	TaRaf62	Ta--TraesCS7D02G474700.1	Td--TRIDC6AG021710.1	0.08935	0.76282643090162	0.11713482772612	1254	292.42	961.583	81	140	0.084	0.479	58.6789562
TaMAPKK102	TaRaf62	Ta--TraesCS7D02G474700.1	Td--TRIDC6BG027410.1	0.08758	0.78764160407195	0.11195495151347	1254	292.25	961.75	79.5	142.5	0.083	0.488	60.5878157
TaMAPKK102	TaRaf62	Ta--TraesCS7D02G474700.1	Td--TRIDC7AG068050.1	0.00205	0.16793255637468	0.01222010145795	1275	299.08	975.917	2	45	0.002	0.15	12.917889
TaMAPKK102	TaRaf62	Ta--TraesCS7D02G474700.1	Td--TRIDC7BG061870.1	0.00308	0.08846767750763	0.03483616819975	1275	299.58	975.417	3	25	0.003	0.083	6.80520596
TaMAPKK103	TaRaf63	Ta--TraesCS7A02G326700.1	Td--TRIDC7AG045740.2	0.00081	0.00266016683228101	0.30543677837830536	1608	376.58	1231.42	1	1	0.001	0.003	0.20462822
TaMAPKK103	TaRaf63	Ta--TraesCS7A02G326700.1	Td--TRIDC7BG037680.2	0.01874	0.04552238479454	0.41164035779645265	1551	362.25	1188.75	22	16	0.019	0.044	3.50172191
TaMAPKK104	TaRaf64	Ta--TraesCS1D02G273600.1	Td--TRIDC1AG040730.2	0.0795	0.14899233840115	0.53358028317028451	2019	514.33	1504.67	113.5	69.5	0.075	0.135	11.4609491

TaMAPKK104	TaRaf64	Ta--TraesCS1D02G273600.1	Td--TRIDC1BG046350.4	0.06725	0.157674609086785	0.42653276027158	2010	509.83	1500.17	96.5	72.5	0.064	0.142	12.1288161
TaMAPKK104-1	TaRaf64-1	Ta--TraesCS1B02G283400.1	Td--TRIDC1AG040730.2	0.07779	0.162769016101706	0.47790458020547	2025	516	1509	111.5	75.5	0.074	0.146	12.5206935
TaMAPKK104-1	TaRaf64-1	Ta--TraesCS1B02G283400.1	Td--TRIDC1BG046350.4	0	0.001956948272710290	0	2016	511.67	1504.33	0	1	0	0.002	0.15053448
TaMAPKK105	TaRaf65	Ta--TraesCS3A02G045200.1	Td--TRIDC3AG005110.2	0.00112	0.006637211457736870	0.16859273926811200	1197	302.67	894.333	1	2	0.001	0.007	0.51055473
TaMAPKK105	TaRaf65	Ta--TraesCS3A02G045200.1	Td--TRIDC3BG005340.1	0.01481	0.127385536926584	0.11629176405649420	1185	298.75	886.25	13	35	0.015	0.117	9.79888746
TaMAPKK106	TaRaf66	Ta--TraesCS4A02G456900.1	Td--TRIDC4AG067540.2	0.3227	0.984266095198941	0.32785369434115	1899	447.75	1451.25	380.6	245.4	0.262	0.548	75.7127766
TaMAPKK106	TaRaf66	Ta--TraesCS4A02G456900.1	Td--TRIDC7AG003050.2	0.02652	0.105767110789391	0.25077071809258800	1851	437.58	1413.42	36.83	43.17	0.026	0.099	8.1359316
TaMAPKK107	TaRaf67	Ta--TraesCS7A02G032700.1	Td--TRIDC4AG067560.1	0.1037	0.490098949476573	0.21158453168996	1428	333.5	1094.5	106	120	0.097	0.36	37.6999192

TaMAPKK K107	TaRaf67	Ta--TraesCS7A02G032700.1	Td--TRIDC7AG003050.2	0.01065	0.00963868687768453	1.105419471748 2	1353	313.25	1039.75	11	3	0.011	0.01	0.74143745
TaMAPKK K108	TaRaf68	Ta--TraesCS3D02G023600.1	Td--TRIDC3BG003740.4	0.03168	0.11547366941486 4	0.27438 0277132 693	1266	299	967	30	32	0.031	0.107	8.88258995
TaMAPKK K109	TaRaf69	Ta--TraesCS2D02G219800.1	Td--TRIDC2AG028370.1	0.02252	0.09817575500704 07	0.22943 0005811 456	2043	510.75	1532.25	34	47	0.022	0.092	7.55198115
TaMAPKK K110	TaRaf70	Ta--TraesCS4B02G289100.1	Td--TRIDC4AG002010.1	0.15163	0.27100759047618 7	0.55949 8637007 512	1080	285.42	794.583	109.1	64.92	0.137	0.227	20.8467377
TaMAPKK K110	TaRaf70	Ta--TraesCS4B02G289100.1	Td--TRIDC4BG049660.1	0.00067	0.00374065613327 928	0.17782 6694026 476	2040	536	1504	1	2	0.001	0.004	0.28774278
TaMAPKK K111	TaRaf71	Ta--TraesCS3A02G315100.1	Td--TRIDC3AG046380.3	0.00268	0		2430	558.58	1871.42	5	0	0.003	0	0
TaMAPKK K111	TaRaf71	Ta--TraesCS3A02G315100.1	Td--TRIDC3BG052620.2	0.04005	0.04887630003322 92	0.81943 6304664 022	1320	302.92	1017.08	39.67	14.33	0.039	0.047	3.75971539
TaMAPKK K111	TaRaf71	Ta--TraesCS3A02G315100.1	Td--TRIDC3BG052880.9	0.50524	NaN	NaN	2292	544.5	1747.5	642.4	464.6	0.368	0.853	High Sequence Divergence Value (pS>=0.75)

TaMAPKK115	TaRaf75	Ta--TraesCS3A02G229800.1	Td--TRIDC3AG034390.3	0	0.012143556122800	0	1587	415.08	1171.92	0	5	0	0.012	0.9341197
TaMAPKK115	TaRaf75	Ta--TraesCS3A02G229800.1	Td--TRIDC3BG038810.4	0.03875	0.103856701377086	0.37307533631623	1596	417.58	1178.42	44.5	40.5	0.038	0.097	7.98897703
TaMAPKK116	TaRaf76	Ta--TraesCS1B02G454000.2	Td--TRIDC1BG071250.6	0.20881	0.702612082577192	0.29719174968968 1	1848	449.83	1398.17	254.8	205.2	0.182	0.456	54.0470833
TaMAPKK117	TaRaf77	Ta--TraesCS3D02G097000.1	Td--TRIDC3AG011590.6	0.01815	0.061923825435119	0.29306611084727	1938	487.92	1450.08	26	29	0.018	0.059	4.76337119
TaMAPKK117	TaRaf77	Ta--TraesCS3D02G097000.1	Td--TRIDC3BG015640.4	0.0111	0.098107726882621 8	0.11317766269922 2	1941	489.33	1451.67	16	45	0.011	0.092	7.54674822
TaMAPKK119	TaRaf79	Ta--TraesCS2A02G577000.1	Td--TRIDC2BG088230.2	0.01001	0.100726559810219	0.09937376758218018	1512	355.42	1156.58	11.5	33.5	0.01	0.094	7.74819691
TaMAPKK121	TaRaf81	Ta--TraesCS2D02G066900.1	Td--TRIDC2AG007500.5	0.33726	1.329541697405961	0.25366463655214 2	2886	715.42	2170.58	589.6	445.4	0.272	0.623	102.272438
TaMAPKK122	TaRaf82	Ta--TraesCS2A02G214000.1	Td--TRIDC2AG028370.1	0.00131	0.001957586755742 77	0.66768304882923 3	2043	511.5	1531.5	2	1	0.001	0.002	0.1505836

TaMAPKK K123-1	TaRaf83-1	Ta--TraesCS5D02G358200.1	Td--TRIDC5AG051310.6	0.18928	0.739125229079247	0.25608882576152	1371	315.92	1055.08	176.5	148.5	0.167	0.47	56.8557869
TaMAPKK K125	TaRaf85	Ta--TraesCS7D02G153800.1	Td--TRIDC7AG018660.25	0.04654	0.165799485838111	0.28068268305841	1353	337.25	1015.75	45.83	50.17	0.045	0.149	12.7538066
TaMAPKK K128	TaRaf88	Ta--TraesCS1B02G446500.1	Td--TRIDC1AG061210.1	0.00292	0.160959796072858	0.01814821630883325	900	214	686	2	31	0.003	0.145	12.3815228
TaMAPKK K128	TaRaf88	Ta--TraesCS1B02G446500.1	Td--TRIDC1BG070170.4	0.00285	0.081127880738157	0.03513833305338462	924	221.08	702.917	2	17	0.003	0.077	6.24060621
TaMAPKK K128	TaRaf88	Ta--TraesCS1B02G446500.1	Td--TRIDC3AG034530.2	0.06439	0.718870721894625	0.08957435580421911	945	223.83	721.167	44.5	103.5	0.062	0.462	55.2977478
TaMAPKK K128	TaRaf88	Ta--TraesCS1B02G446500.1	Td--TRIDC3BG038930.3	0.06455	0.714389752627958	0.09035424740167871	942	222.5	719.5	44.5	102.5	0.062	0.461	54.9530579
TaMAPKK K129	TaRaf89	Ta--TraesCS6B02G320800.1	Td--TRIDC6BG052000.1	0.10106	0.126693766697247	0.79765137283276671	1269	318.83	950.167	89.83	37.17	0.095	0.117	9.74567436
TaMAPKK K131	TaRaf91	Ta--TraesCS6B02G215100.2	Td--TRIDC6AG027120.2	0.01183	0.027174248511010	0.43522761481595401	2229	524.58	1704.42	20	14	0.012	0.027	2.09032681

TaMAPKK K131	TaRaf91	Ta--TraesCS6B02G215100.2	Td--TRIDC6BG033330.6	0.00073	0.00681048947680986	0.10656755957305 1	1821	442.5	1378.5	1	3	0.001	0.007	0.52388381
TaMAPKK K133	TaRaf93	Ta--TraesCS1D02G004300.1	Td--TRIDC1BG000450.3	0.01755	0.23952714651715 2	0.07328788296352 21	1620	409.67	1210.33	21	84	0.017	0.205	18.4251651
TaMAPKK K134	TaRaf94	Ta--TraesCS5D02G547500.1	Td--TRIDC4AG047400.2	0.31104	1.47185660992628 726	0.21132624296372 6	2178	514	1664	423.7	331.3	0.255	0.645	113.219739
TaMAPKK K137	TaRaf97	Ta--TraesCS3D02G472000.1	Td--TRIDC3AG067170.2	0.04134	0.14304222708795 1	0.28901515694372 7	870	211.17	658.833	26.5	27.5	0.04	0.13	11.0032482
TaMAPKK K140	TaRaf100	Ta--TraesCS5D02G097900.1	Td--TRIDC5AG013160.4	0.00581	0.04051780853299 21	0.14349898268011	2259	532.42	1726.58	10	21	0.006	0.039	3.1167545
TaMAPKK K140	TaRaf100	Ta--TraesCS5D02G097900.1	Td--TRIDC5BG015110.1	0.00669	0.07299875111841 99	0.09165224358333342	1947	445.67	1501.33	10	31	0.007	0.07	5.61528855
TaMAPKK K146	TaRaf106	Ta--TraesCS2B02G241400.1	Td--TRIDC2AG028730.4	0.03695	0.09921902951970 42	0.37245415545673 1	2001	489.58	1511.42	54.5	45.5	0.036	0.093	7.63223304
TaMAPKK K146	TaRaf106	Ta--TraesCS2B02G241400.1	Td--TRIDC2BG032450.3	0.00199	0		2001	490.83	1510.17	3	0	0.002	0	0

TaMAPKK148	TaRaf108	Ta--TraesCS1A02G003900.1	Td--TRIDC1BG000340.1	0.11217	0.396336773025905	0.28300818531380	1023	227.92	795.083	82.83	70.17	0.104	0.308	30.4874441
TaMAPKK150	TaRaf110	Ta--TraesCS3B02G008600.2	Td--TRIDC3AG002440.3	0.02705	0.158675556124908	0.17047210827904	2037	531.42	1505.58	40	76	0.027	0.143	12.205812
TaMAPKK150	TaRaf110	Ta--TraesCS3B02G008600.2	Td--TRIDC3BG001050.1	0	0	NaN	1560	385	1175	0	0	0	0	0
TaMAPKK151	TaRaf111	Ta--TraesCS3B02G123800.1	Td--TRIDC3AG012960.1	0.02228	0.085421874634456	0.26084551069761	1731	425.25	1305.75	28.67	34.33	0.022	0.081	6.57091343
TaMAPKK151	TaRaf111	Ta--TraesCS3B02G123800.1	Td--TRIDC3BG017420.1	0.00153	0		1731	425.67	1305.33	2	0	0.002	0	0
TaMAPKK152	TaRaf112	Ta--TraesCS3B02G259100.1	Td--TRIDC3AG034390.3	0.04165	0.104685763387759	0.39782801110401	1587	414.5	1172.5	47.5	40.5	0.041	0.098	8.05275103
TaMAPKK152	TaRaf112	Ta--TraesCS3B02G259100.1	Td--TRIDC3BG038810.4	0.00212	0.001200480448384	1.76857829817242	1596	416.83	1179.17	2.5	0.5	0.002	0.001	0.09234465
TaMAPKK153	TaRaf113	Ta--TraesCS3B02G351800.1	Td--TRIDC3AG046380.3	0.01605	0.111080390557685	0.14444802223357	906	213.08	692.917	11	22	0.016	0.103	8.54464543

TaMAPKKK154	TaRaf114	Ta--TraesCS3B02G478400.1	Td--TRIDC3BG070490.1	0.00323	0		792	172.33	619.667	2	0	0.003	0	0
TaMAPKKK155	TaRaf115	Ta--TraesCS6B02G217100.1	Td--TRIDC7AG049870.2	0.26127	2.59651603904645	0.10062415691916	867	209	658	145.2	151.8	0.221	0.726	199.732003
TaMAPKKK155	TaRaf115	Ta--TraesCS6B02G217100.1	Td--TRIDC7BG043940.1	0.2597	3.21278750775947	0.080834122711 9502	879	213.5	665.5	146.1	157.9	0.22	0.74	247.137501
TaMAPKKKK1		Ta--TraesCS1A02G181900.1	Td--TRIDC1AG027610.11	0	0.00211491151775357	0	2067	473.5	1593.5	0	1	0	0.002	0.1626855
TaMAPKKKK1		Ta--TraesCS1A02G181900.1	Td--TRIDC1BG033320.4	0.00475	0.04964395472868 97	0.095585502476 5835	1917	437.17	1479.83	7	21	0.005	0.048	3.81876575
TaMAPKKKK2		Ta--TraesCS1B02G199100.2	Td--TRIDC1AG027610.11	0.00377	0.04576582974426 97	0.082454374532 5147	2067	473	1594	6	21	0.004	0.044	3.52044844
TaMAPKKKK2		Ta--TraesCS1B02G199100.2	Td--TRIDC1BG033320.4	0.00068	0		1917	436.67	1480.33	1	0	0.001	0	0
TaMAPKKKK3		Ta--TraesCS1D02G185000.2	Td--TRIDC1AG027610.11	0.00188	0.03460696793279 11	0.054454980022 4439	2067	473.08	1593.92	3	16	0.002	0.034	2.66207446

TaMAPKKK3	Ta--TraesCS1D02G185000.2	Td--TRIDC1BG033320.4	0.00406	0.039970280399884343	0.10168460540536	1917	436.75	1480.25	6	17	0.004	0.039	3.07463695
TaMAPKKK4	Ta--TraesCS2A02G233400.1	Td--TRIDC2AG030300.1	0.00063	0.002017486085406761	0.31391158786086	2076	496.33	1579.67	1	1	0.001	0.002	0.15519124
TaMAPKKK4	Ta--TraesCS2A02G233400.1	Td--TRIDC2BG033980.3	0.00444	0.047849846302949837	0.09287359371183374	2076	496.17	1579.83	7	23	0.004	0.046	3.68075741
TaMAPKKK5	Ta--TraesCS2B02G249900.1	Td--TRIDC2AG030300.1	0.00444	0.043595806213385858	0.10191454952257575	2076	495.83	1580.17	7	21	0.004	0.042	3.35352355
TaMAPKKK5	Ta--TraesCS2B02G249900.1	Td--TRIDC2BG033980.3	0.00063	0.002020324161677210	0.31335707750496967	2076	495.67	1580.33	1	1	0.001	0.002	0.15540025
TaMAPKKK6	Ta--TraesCS2D02G232200.1	Td--TRIDC2AG030300.1	0.00476	0.025656683399139191	0.18555248323648791	2076	495.58	1580.42	7.5	12.5	0.005	0.025	1.97359103
TaMAPKKK6	Ta--TraesCS2D02G232200.1	Td--TRIDC2BG033980.3	0.00572	0.056581192901399191	0.10101988314507575	2076	495.42	1580.58	9	27	0.006	0.054	4.35239945
TaMAPKKK7	Ta--TraesCS4B02G395600.1	Td--TRIDC1AG027610.11	0.2646	1.036349279288024	0.25531661334946813	1719	400.75	1318.25	293.9	225.1	0.223	0.562	79.7191753

	Ta--TraesCS4B02G398400.3	Td--TRIDC1AG027610.1	0.18079	0.995345537838179	0.18163934637107	2028	466.67	1561.33	250.8	257.2	0.161	0.551	76.5650414
TaMAPKKK8													
	Ta--TraesCS4B02G398400.3	Td--TRIDC1BG033320.4	0.18405	1.084137216424669	0.16976241782095	1878	430.42	1447.58	236.3	246.8	0.163	0.573	83.3951705
TaMAPKKK8													
	Ta--TraesCS4B02G398400.3	Td--TRIDC5AG078780.1	0.02808	0.098392947318408	0.28536965153387	2061	482.58	1578.42	43.5	44.5	0.028	0.092	7.56868826
TaMAPKKK8													
	Ta--TraesCS5A02G187400.1	Td--TRIDC5AG032000.2	0.0037	0.009707445418648	0.38122531414588	1554	380.17	1173.83	4.333	3.667	0.004	0.01	0.74672657
TaMAPKKK9													
	Ta--TraesCS5A02G187400.1	Td--TRIDC5BG033660.2	0.01728	0.094459926883439	0.18291500463219	1554	383.08	1170.92	20	34	0.017	0.089	7.26614822
TaMAPKKK9													
	Ta--TraesCS5A02G556400.5	Td--TRIDC1AG027610.1	0.17268	0.924049900272294	0.18686787838190	2013	462.92	1550.08	239.1	245.9	0.154	0.531	71.0807616
TaMAPKKK11													
	Ta--TraesCS5A02G556400.5	Td--TRIDC5AG078780.1	0.01354	0.025675532779867	0.52749278122076	2040	475.42	1564.58	21	12	0.013	0.025	1.97504098
TaMAPKKK11													
	Ta--TraesCS5B02G397300.1	Td--TRIDC5AG057130.2	0.00886	0.060364830835347	0.14670783108765	2469	594.83	1874.17	16.5	34.5	0.009	0.058	4.64344853
TaMAPKKK12													

TaMAPKKK12	Ta--TraesCS5B02G397300.1	Td--TRIDC5BG061270.2	0.00113036	0.009017241178684447	0.12581823523	557.83	1764.17	2	5	0.001	0.009	0.69363394
TaMAPKKK13	Ta--TraesCS5D02G203600.1	Td--TRIDC5AG032000.2	0.01927	0.091303661624483891	0.21103970526263901	380	1174	22.33	32.67	0.019	0.086	7.02335859
TaMAPKKK13	Ta--TraesCS5D02G203600.1	Td--TRIDC5BG033660.2	0.01379	0.074049590696109101	0.18620682491170127	382.92	1171.08	16	27	0.014	0.071	5.69612236
TaMAPKKK14	Ta--TraesCS5D02G402300.1	Td--TRIDC5AG057130.2	0.00889	0.053367499889356262	0.16650211411033	592.08	1867.92	16.5	30.5	0.009	0.052	4.1051923
TaMAPKKK14	Ta--TraesCS5D02G402300.1	Td--TRIDC5BG061270.2	0.0037	0.037778598515564242	0.09802332153005781	556.42	1759.58	6.5	20.5	0.004	0.037	2.90604604
TaMAPKKK16	Ta--TraesCS6A02G353400.1	Td--TRIDC6AG053160.4	0.01192	0.029239398236744526	0.40766082808359260	203.42	690.583	8.167	5.833	0.012	0.029	2.24918448
TaMAPKKK16	Ta--TraesCS6A02G353400.1	Td--TRIDC6BG061710.3	0.01028	0.063639477641279797	0.16159072118093520	210.33	701.667	7.167	12.83	0.01	0.061	4.89534443
TaMAPKKK18	Ta--TraesCS6B02G177800.1	Td--TRIDC6AG020750.1	0.01317	0.124349849267513	0.10591477342342700	362.17	1263.83	16.5	41.5	0.013	0.115	9.56537302

TaMAPKKK18	Ta--TraesCS6B02G177800.1	Td--TRIDC6BG026600.3	0.00159641	0.002759258113381	0.57454021380410810	1626	363.08	1262.92	2	1	0.002	0.003	0.21225062
TaMAPKKK19	Ta--TraesCS6B02G386100.1	Td--TRIDC6AG053160.4	0.00216 74	0.032525421836345585	0.06652006154815	1797	408.42	1388.58	3	13	0.002	0.032	2.50195553
TaMAPKKK19	Ta--TraesCS6B02G386100.1	Td--TRIDC6BG061710.3	0.00066894	0.004504518045152108258894	0.14731	1953	445.33	1507.67	1	2	0.001	0.004	0.34650139
TaMAPKKK20	Ta--TraesCS6D02G335800.1	Td--TRIDC6AG053160.4	0.00289 62	0.037696376085660315	0.07654084627	1797	408	1389	4	15	0.003	0.037	2.89972124
TaMAPKKK20	Ta--TraesCS6D02G335800.1	Td--TRIDC6BG061710.3	0.00399 73	0.039217082268207310171970596487	5	1953	444.92	1508.08	6	17	0.004	0.038	3.01669864
TaMAPKKK22	Ta--TraesCS7A02G232300.1	Td--TRIDC7AG029890.1	0.00062	0		2100	482.33	1617.67	1	0	0.001	0	0
TaMAPKKK22	Ta--TraesCS7A02G232300.1	Td--TRIDC7BG020630.1	0.00683 06	0.060420866847855827432374	0.11305	2100	482.33	1617.67	11	28	0.007	0.058	4.64775899
TaMAPKKK23	Ta--TraesCS7B02G130700.1	Td--TRIDC7AG029890.1	0.00621 54	0.058156140346867151690557	0.10674	2100	482.5	1617.5	10	27	0.006	0.056	4.47354926

TaMAPKKK23	Ta--TraesCS7B02G130700.1	Td--TRIDC7BG020630.1	0.00124	0.00207540775812	0.59626664514529	2100	482.5	1617.5	2	1	0.001	0.002	0.15964675
TaMAPKKK24	Ta--TraesCS7D02G232400.1	Td--TRIDC7AG029890.1	0.01631	0.04616286782333	0.35339282934462	2067	476.5	1590.5	25.67	21.33	0.016	0.045	3.55098983
TaMAPKKK24	Ta--TraesCS7D02G232400.1	Td--TRIDC7BG020630.1	0.0176	0.08745243689396 37	0.20125049681115 4	2067	476.5	1590.5	27.67	39.33	0.017	0.083	6.72711053
TaMAPKKK25	Ta--TraesCSU02G115300.1	Td--TRIDC5AG078780.1	0.02771	0.07436426984494 01	0.37259262619212 56	2061	480.25	1580.75	43	34	0.027	0.071	5.72032845
													Average=27.605556113674

The Ka/Ks ratio and divergence times between the genes of *T.dicoccoides* and *T.turgidum*

Gene ID	Gene ID	Ka	Ks	Ka/Ks	EffectiveLen	AverageS-sites	AverageN-sites	cN	cS	pN	pS	Divergence times (Mya)
Td--TRIDC6AG041340.3	Tt--TRITD6Av1G170870.1	0.1065743	0.2087217341354533	0.510604793066788	1131	261.16667	869.83333	86.42	47.58	0.099	0.182	16.055518
Td--TRIDC6AG041340.3	Tt--TRITD6Bv1G157460.4	0.0074245	0.0501679511239305	0.147992700003166	1236	288.5	947.5	7	14	0.007	0.049	3.85907316
Td--TRIDC6BG048300.1	TRITD6Av1G170870.1	0.1057604	0.2417510902655	0.437476287221586	1149	265.33333	883.66667	87.17	54.83	0.099	0.207	18.5962377
Td--TRIDC6BG048300.1	Tt--TRITD6Bv1G157460.4	0.0010409	0		1254	292.66667	961.33333	1	0	0.001	0	0
Td--TRIDC5BG079810.1	TRITD4Av1G214900.3	0.014998	0.0703247651031883	0.213267689904842	1323	312.83333	1010.1667	15	21	0.015	0.067	5.40959732
Td--TRIDC5BG079810.1	Tt--TRITD5Bv1G245660.3	0.0019773	0.0063526054754878 7	0.311252232754272	1329	316.16667	1012.8333	2	2	0.002	0.006	0.48866196
Td--TRIDC4AG014520.1	TRITD4Av1G049530.4	0.0236666	0.0284498004157667	0.831872335058616	984	232.83333	751.16667	17.5	6.5	0.023	0.028	2.18844619
Td--TRIDC4AG014520.1	Tt--TRITD4Bv1G124550.2	0	0.0870541284395653	0	1098	255.5	842.5	0	21	0	0.082	6.69647142
Td--TRIDC4BG035610.1	TRITD4Av1G049530.4	0.0250362	0.1035331655971 53	0.241817720611919	984	232.66667	751.33333	18.5	22.5	0.025	0.097	7.96408966
Td--TRIDC4BG035610.1	Tt--TRITD4Bv1G124550.2	0	0	NaN	1107	258	849	0	0	0	0	0

Td--TRIDC1AG012310.2	Tt--TRITD1Av1G032550.8	0.0007937	0.0025929152878934	0.3060843797777707	1647	386.33333	1260.6667	1	1	0.001	0.003	0.19945502
Td--TRIDC1AG012310.2	Tt--TRITD1Bv1G041580.2	0.0043428	0.0962278867899456	0.0451304008214176	1509	354.33333	1154.6667	5	32	0.004	0.09	7.40214514
Td--TRIDC1BG01514 0.6	Tt--TRITD1Av1G032550.8	0.004779	0.0962416871584161	0.0496561192112174	1647	387.5	1259.5	6	35	0.005	0.09	7.4032067
Td--TRIDC1BG01514 0.6	Tt--TRITD1Bv1G041580.2	0.0092335	0.0171118876470109	0.539596130336913	1545	364.5	1180.5	10.83	6.167	0.009	0.017	1.31629905
Td--TRIDC1AG061100.1	Tt--TRITD1Av1G220750.2	0.0539344	0.145598490894623	0.370432170769167	1686	401.75	1284.25	66.83	53.17	0.052	0.132	11.1998839
Td--TRIDC1AG061100.1	Tt--TRITD1Bv1G218290.1	0.0376254	0.111714311714502	0.336800571574661	1602	375.75	1226.25	45	39	0.037	0.104	8.59340859
Td--TRIDC1AG061100.1	Tt--TRITD3Av1G155110.1	0.1354189	1.23525197428024	0.109628540014771	1443	328.5	1114.5	138.1	198.9	0.124	0.606	95.0193826
Td--TRIDC1AG061100.1	Tt--TRITD3Bv1G135620.1	0.1265958	1.27125495123956	0.099583366816532	1443	330.58333	1112.4167	129.6	202.4	0.116	0.612	97.7888424
Td--TRIDC1BG07005 0.1	Tt--TRITD1Av1G220750.2	0.0606144	0.159326652781303	0.380440996649074	1680	400.58333	1279.4167	74.5	57.5	0.058	0.144	12.2558964
Td--TRIDC1BG07005 0.1	Tt--TRITD1Bv1G218290.1	0.0624474	0.138259104546158	0.451669352754335	1689	403.91667	1285.0833	77	51	0.06	0.126	10.6353157
Td--TRIDC1BG07005 0.1	Tt--TRITD3Av1G155110.1	0.13728	1.26799751426752	0.108265165489214	1443	329	1114	139.8	201.3	0.125	0.612	97.5382703

Td--	Tt--											
TRIDC1BG0700	TRITD3Av1G15		1.2679975	0.1082651								
50.1	5110.1	0.13728	1426752	65489214	1443	329	1114	139.8	201.3	0.125	0.612	97.5382703
Td--	Tt--											
TRIDC1BG0700	TRITD3Bv1G13		1.2883465	0.0996895								
50.1	5620.1	0.1284346	0155023	185728013	1443	331.08333	1111.9167	131.3	203.8	0.118	0.615	99.103577
Td--	Tt--											
TRIDC3AG034	TRITD1Av1G22		1.2930133	0.1123305								
650.7	0750.2	0.1452449	4360786	19737356	1473	337.66667	1135.3333	149.9	208.1	0.132	0.616	99.4625649
Td--	Tt--											
TRIDC3AG034	TRITD1Bv1G21		1.2333260	0.1088625								
650.7	8290.1	0.134263	658534	3079586	1464	336	1128	138.7	203.3	0.123	0.605	94.8712358
Td--	Tt--											
TRIDC3AG034	TRITD3Av1G15											
650.7	5110.1	0.0008824	0		1470	336	1134	1	0	0.001	0	0
Td--	Tt--											
TRIDC3AG034	TRITD3Bv1G13		0.0745762	0.2762252								
650.7	5620.1	0.0205998	63040085	52490908	1470	338.08333	1131.9167	23	24	0.02	0.071	5.73663562
Td--	Tt--											
TRIDC3BG0390	TRITD1Av1G22		1.3522036	0.0963491								
70.12	0750.2	0.1302836	5034652	190144152	1482	344.83333	1137.1667	136	216	0.12	0.626	104.015665
Td--	Tt--											
TRIDC3BG0390	TRITD1Bv1G21		1.2944666	0.1007110								
70.12	8290.1	0.1303671	0129644	56079871	1482	345.5	1136.5	136	213	0.12	0.616	99.5743539
Td--	Tt--											
TRIDC3BG0390	TRITD3Av1G15		0.0939055	0.4161900								
70.12	5110.1	0.0390825	089510034	29032335	1449	335.16667	1113.8333	42.42	29.58	0.038	0.088	7.22350069
Td--	Tt--											
TRIDC3BG0390	TRITD3Bv1G13		0.0228297	0.8144201								
70.12	5620.1	0.018593	5827682	21405706	1449	337.25	1111.75	20.42	7.583	0.018	0.022	1.75613525
Td--	Tt--											
TRIDC7AG012	TRITD7Av1G03		0.1956974	0.6253726								
990.2	2080.4	0.1223838	1523526	24703907	1032	243.83333	788.16667	89	42	0.113	0.172	15.0536473

Td--	Tt--												
TRIDC7AG012	TRITD7Bv1G00		0.2888790	0.3858688									
990.2	2620.4	0.1114694	48267642	52164262	1017	239.83333	777.16667	80.5	57.5	0.104	0.24	22.2214653	
Td--	Tt--												
TRIDC7BG0012	TRITD7Av1G03		0.0905947	0.0132949									
00.2	2080.4	0.0012045	344103324	972833615	1077	246.08333	830.91667	1	21	0.001	0.085	6.96882572	
Td--	Tt--												
TRIDC7BG0012	TRITD7Bv1G00												
00.2	2620.4	0	0	NaN	1002	227.5	774.5	0	0	0	0	0	
Td--	Tt--		0.0037014										
TRIDC7AG047	TRITD7Av1G17		263900482	0.2928630									
060.4	8880.7	0.001084	5	51858581	1194	270.83333	923.16667	1	1	0.001	0.004	0.28472511	
Td--	Tt--												
TRIDC7AG047	TRITD7Bv1G14		0.0466378	0.0440208									
060.4	0030.6	0.002053	55797338	502400651	1263	287.5	975.5	2	13	0.002	0.045	3.58752737	
Td--	Tt--												
TRIDC7BG0406	TRITD7Av1G17		0.0417829	0.0259391									
80.1	8880.7	0.0010838	552605042	709072096	1194	270.66667	923.33333	1	11	0.001	0.041	3.21407348	
Td--	Tt--		0.0069889										
TRIDC7BG0406	TRITD7Bv1G14		847624019										
80.1	0030.6	0	6	0	1263	287.5	975.5	0	2	0	0.007	0.53761421	
Td--	Tt--												
TRIDC1AG061	TRITD1Av1G22												
940.2	2580.3	0	0	NaN	1794	433.16667	1360.8333	0	0	0	0	0	
Td--	Tt--												
TRIDC1AG061	TRITD1Bv1G22		0.1304088	0.0795085									
940.2	0000.2	0.0103686	72715655	120382178	1794	434.41667	1359.5833	14	52	0.01	0.12	10.0314517	
Td--	Tt--												
TRIDC1AG061	TRITD3Av1G15		1.0123601	0.1555223									
940.2	1000.4	0.1574447	9368328	81456451	1767	420.91667	1346.0833	191.2	233.8	0.142	0.556	77.8738611	
Td--	Tt--												
TRIDC1AG061	TRITD3Bv1G13		1.0135471	0.1549736									
940.2	3770.2	0.1570731	3755119	78433744	1767	421.58333	1345.4167	190.7	234.3	0.142	0.556	77.9651644	

Td--	Tt--											
TRIDC1BG0710	TRITD1Av1G22		0.1275680	0.0812991								
30.1	2580.3	0.0103712	52158476	626219065	1794	434.75	1359.25	14	51	0.01	0.117	9.81292709
Td--	Tt--		0.0022710									
TRIDC1BG0710	TRITD1Bv1G22		085482308	0.6443899								
30.1	0000.2	0.0014634	2	55989513	1809	441	1368	2	1	0.001	0.002	0.17469297
Td--	Tt--											
TRIDC1BG0710	TRITD3Av1G15		1.0793826	0.1433821								
30.1	1000.4	0.1547643	9349323	94654205	1770	424.41667	1345.5833	188.2	242.8	0.14	0.572	83.029438
Td--	Tt--											
TRIDC1BG0710	TRITD3Bv1G13		1.0905627	0.1432487								
30.1	3770.2	0.1562218	8359719	94480683	1770	425.08333	1344.9167	189.7	244.3	0.141	0.575	83.8894449
Td--	Tt--											
TRIDC3AG036	TRITD1Bv1G21		1.2044393	0.1060515								
190.14	4990.2	0.1277327	2889738	64562706	1632	378.25	1253.75	147.3	226.7	0.117	0.599	92.6491791
Td--	Tt--		0.0038379									
TRIDC3AG036	TRITD3Av1G16		614669178	0.4914279								
190.14	2410.11	0.0018861	3	97516935	1719	391.83333	1327.1667	2.5	1.5	0.002	0.004	0.29522781
Td--	Tt--											
TRIDC3AG036	TRITD3Av1G15		3.5160046	0.0559381								
190.14	1000.4	0.1966788	4367557	427433389	1722	398.33333	1323.6667	229	296	0.173	0.743	270.461896
Td--	Tt--											
TRIDC3AG036	TRITD3Bv1G14		0.0544862	0.3589096								
190.14	0820.6	0.0195556	269973564	0291144	1752	396.41667	1355.5833	26.17	20.83	0.019	0.053	4.19124823
Td--	Tt--											
TRIDC3AG036	TRITD3Bv1G13		2.8401264	0.0679962								
190.14	3770.2	0.193118	9172185	580274387	1722	399.5	1322.5	225.2	292.8	0.17	0.733	218.471269
Td--	Tt--											
TRIDC3AG034	TRITD1Av1G22		1.0056703	0.1494699								
020.1	2580.3	0.1503175	0638758	29592073	1767	419.83333	1347.1667	183.5	232.5	0.136	0.554	77.3592543
Td--	Tt--											
TRIDC3AG034	TRITD1Bv1G22		1.0774963	0.1375636								
020.1	0000.2	0.1482243	5951193	41918064	1770	423	1347	181.2	241.8	0.134	0.572	82.8843353

Td--TRIDC3AG034020.1	Tt--TRITD3Av1G151000.4	0.0108752	0.0065532058424922	1.65951877570267	1839	434.25	1404.75	15.17	2.833	0.011	0.007	0.50409276
Td--TRIDC3AG034020.1	Tt--TRITD3Av1G162410.11	0.1925261	3.29332166767146	0.058459543209101	1722	396.91667	1325.0833	225	294	0.17	0.741	253.332436
Td--TRIDC3AG034020.1	Tt--TRITD3Bv1G133770.2	0.0137814	0.0518984629605249	0.265544858451341	1839	435.41667	1403.5833	19.17	21.83	0.014	0.05	3.99218946
Td--TRIDC3AG034020.1	Tt--TRITD3Bv1G140820.6	0.1967732	2.75912183869536	0.0713173284307232	1722	396	1326	229.5	289.5	0.173	0.731	212.240141
Td--TRIDC3BG040600.18	Tt--TRITD1Av1G209190.3	0.1327002	1.05675798332382	0.125572912115734	1626	373.5	1252.5	152.3	211.7	0.122	0.567	81.2890756
Td--TRIDC3BG040600.18	Tt--TRITD1Bv1G214990.2	0.1273799	1.22659501334797	0.103848399585952	1629	376.33333	1252.6667	146.8	227.2	0.117	0.604	94.3534626
Td--TRIDC3BG040600.18	Tt--TRITD3Av1G162410.11	0.0033956	0.0353700117425536	0.0960019907100345	1719	390.75	1328.25	4.5	13.5	0.003	0.035	2.72077013
Td--TRIDC3BG040600.18	Tt--TRITD3Av1G151000.4	0.1970924	2.88520013464622	0.0683115275885759	1722	396.91667	1325.0833	229.7	291.3	0.173	0.734	221.938472
Td--TRIDC3BG040600.18	Tt--TRITD3Bv1G140820.6	0.0172693	0.0149152642820377	1.15782553175512	1752	395	1357	23.17	5.833	0.017	0.015	1.14732802
Td--TRIDC3BG040600.18	Tt--TRITD3Bv1G133770.2	0.1935338	2.51818065472993	0.0768546286579587	1722	398.08333	1323.9167	225.8	288.2	0.171	0.724	193.706204
Td--TRIDC3BG03851 0.2	Tt--TRITD1Av1G222580.3	0.14905	1.00644010021721	0.148096197822231	1767	420.58333	1346.4167	182	233	0.135	0.554	77.4184692

Td--TRIDC3BG038510.2	Tt--TRITD1Bv1G220000.2	0.1487684	1.0882066 0651699	0.1367096 83435741	1770	423.75	1346.25	181.7	243.3	0.135	0.574	83.7082005
Td--TRIDC3BG038510.2	Tt--TRITD3Av1G151000.4	0.0130568	0.0518881 805508732	0.2516339 54457995	1839	435.5	1403.5	18.17	21.83	0.013	0.05	3.9913985
Td--TRIDC3BG038510.2	Tt--TRITD3Av1G162410.11	0.1880273	2.7346003 6435454	0.0687586 16061087	1722	398.16667	1323.8333	220.2	290.8	0.166	0.73	210.353874
Td--TRIDC3BG038510.2	Tt--TRITD3Bv1G133770.2	0.0101709	0.0065167 800756609 1	1.5607192 6804005	1839	436.66667	1402.3333	14.17	2.833	0.01	0.006	0.50129078
Td--TRIDC3BG038510.2	Tt--TRITD3Bv1G140820.6	0.1922561	2.4341396 2795926	0.0789831 845357364	1722	397.25	1324.75	224.7	286.3	0.17	0.721	187.24151
Td--TRIDC6AG015690.2	Tt--TRITD6Av1G037430.3	0.0011749	0.0078792 582856606 4	0.1491077 25072188	1107	255.16667	851.83333	1	2	0.001	0.008	0.60609679
Td--TRIDC6AG015690.2	Tt--TRITD6Bv1G050580.1	0	0.0917810 348426671	0	1107	254.66667	852.33333	0	22	0	0.086	7.0600796
Td--TRIDC6AG015690.2	Tt--TRITD7Av1G227590.3	0.0557225	1.0526376 0077497	0.0529360 624418997	1134	261.91667	872.08333	46.83	148.2	0.054	0.566	80.9721231
Td--TRIDC6BG021470.2	Tt--TRITD6Av1G037430.3	0.0011746	0.0872351 457577674	0.0134650 806662304	1107	255	852	1	21	0.001	0.082	6.71039583
Td--TRIDC6BG021470.2	Tt--TRITD6Bv1G050580.1	0	0.0079000 072094196 3	0	1107	254.5	852.5	0	2	0	0.008	0.60769286
Td--TRIDC6BG021470.2	Tt--TRITD7Av1G227590.3	0.0640597	0.9978104 27044074	0.0642003 07641729	1161	270.66667	890.33333	54.67	149.3	0.061	0.552	76.7546482

Td--	Tt--												
TRIDC7AG058	TRITD6Av1G03		1.0466998	0.0441248									
780.3	7430.3	0.0461855	5672484	709000351	1107	254.91667	852.08333	38.17	143.8	0.045	0.564	80.5153736	
Td--	Tt--												
TRIDC7AG058	TRITD6Bv1G05		1.0047637	0.0446983									
780.3	0580.1	0.0449112	6392246	05506437	1107	254.41667	852.58333	37.17	140.8	0.044	0.554	77.2895203	
Td--	Tt--												
TRIDC7AG058	TRITD7Av1G22		0.0292131	0.8392724									
780.3	7590.3	0.0245178	330286225	17346312	1152	267.58333	884.41667	21.33	7.667	0.024	0.029	2.24716408	
Td--	Tt--												
TRIDC7BG0515	TRITD6Av1G03		1.1075950	0.0422455									
10.2	7430.3	0.0467909	7837085	256133219	1107	254.58333	852.41667	38.67	147.3	0.045	0.579	85.1996214	
Td--	Tt--												
TRIDC7BG0515	TRITD6Bv1G05		1.0151204	0.0448378									
10.2	0580.1	0.0455158	6885208	24284207	1107	254.08333	852.91667	37.67	141.3	0.044	0.556	78.0861899	
Td--	Tt--												
TRIDC7BG0515	TRITD7Av1G22		0.0898739	0.1071223									
10.2	7590.3	0.0096275	996454092	80206223	1236	295.16667	940.83333	9	25	0.01	0.085	6.91338459	
Td--	Tt--												
TRIDC1AG027	TRITD1Bv1G11		0.0728623										
930.1	3560.1	0	919963763	0	1044	244.83333	799.16667	0	17	0	0.069	5.60479938	
Td--	Tt--												
TRIDC1BG0321	TRITD1Av1G12		0.0704099	0.0330740									
70.1	0860.1	0.0023287	735380411	418354893	1128	267.83333	860.16667	2	18	0.002	0.067	5.41615181	
Td--	Tt--												
TRIDC1BG0321	TRITD1Bv1G11												
70.1	3560.1	0	0	NaN	1128	268.16667	859.83333	0	0	0	0	0	
Td--	Tt--												
TRIDC1AG059	TRITD1Av1G20		0.0053559	0.6083752									
290.6	9190.3	0.0032584	70095081	63720713	1605	374.75	1230.25	4	2	0.003	0.005	0.4119977	
Td--	Tt--												
TRIDC1AG059	TRITD3Av1G16		1.0117602	0.1140017									
290.6	2410.11	0.1153425	624987	86468474	1584	364.91667	1219.0833	130.3	202.7	0.107	0.555	77.8277125	

Td--TRIDC1AG059290.6	Tt--TRITD3Bv1G140820.6	0.1160252	1.0643625 7300333	0.1090091 0751906	1587	365.25	1221.75	131.3	207.7	0.107	0.569	81.8740441
Td--TRIDC1BG068060.2	Tt--TRITD1Bv1G214990.2	0.0015692	0.0025542 808852370 9	0.6143582 0229795	1668	392.16667	1275.8333	2	1	0.002	0.003	0.19648315
Td--TRIDC1BG068060.2	Tt--TRITD3Av1G162410.11	0.1231475	1.1699512 2268611	0.1052586 386829	1635	376.58333	1258.4167	142.9	223.1	0.114	0.592	89.9962479
Td--TRIDC1BG068060.2	Tt--TRITD3Bv1G140820.6	0.1300115	1.2134906 196101	0.1071384 44752693	1647	378.5	1268.5	151.4	227.6	0.119	0.601	93.3454323
Td--TRIDC6BG018000.3	Tt--TRITD6Av1G027670.1	0.0302909	0.0617473 768900052	0.4905621 13552078	1449	337.41667	1111.5833	33	20	0.03	0.059	4.74979822
Td--TRIDC6BG018000.3	Tt--TRITD6Bv1G041120.1	0.0233785	0.0348020 073141141	0.6717576 93922535	1446	338.16667	1107.8333	25.5	11.5	0.023	0.034	2.67707749
Td--TRIDC4AG065120.1	Tt--TRITD4Av1G251160.7	0.0043789	0.0033892 891765970 8	1.2919857 1027517	1452	345	1107	4.833	1.167	0.004	0.003	0.26071455
Td--TRIDC4AG065120.1	Tt--TRITD7Av1G011740.1	0.0251763	0.1179919 80172379	0.2133732 33276526	1449	345	1104	27.33	37.67	0.025	0.109	9.07630617
Td--TRIDC7AG005070.14	Tt--TRITD4Av1G251160.7	0.0219167	0.1026934 2006903	0.2134188 20044597	1449	345.58333	1103.4167	23.83	33.17	0.022	0.096	7.89949385
Td--TRIDC7AG005070.14	Tt--TRITD7Av1G011740.1	0.0158514	0.0194673 918947138	0.8142554 30943479	1452	346.91667	1105.0833	17.33	6.667	0.016	0.019	1.49749168
Td--TRIDC7AG057270.3	Tt--TRITD7Av1G221430.1	0.0117685	0.0216651 642448627	0.5431973 01074161	1719	405.83333	1313.1667	15.33	8.667	0.012	0.021	1.6665511

Td--TRIDC7AG057270.3	Tt--TRITD7Bv1G170250.1	0.0204151	0.1253922 17062182	0.1628096 68231129	1734	409.91667	1324.0833	26.67	47.33	0.02	0.115	9.64555516
Td--TRIDC7BG049670.7	Tt--TRITD7Av1G221430.1	0.0140936	0.1189994 8460855	0.1184344 92438824	1719	405.91667	1313.0833	18.33	44.67	0.014	0.11	9.15380651
Td--TRIDC7BG049670.7	Tt--TRITD7Bv1G170250.1	0.0163527	0.0237459 614298487	0.6886524 9879315	1734	410	1324	21.42	9.583	0.016	0.023	1.82661242
Td--TRIDC6AG052120.1	Tt--TRITD6Bv1G202800.1	0.0068126	0.0997973 386553715	0.0682643 299265672	1116	305	811	5.5	28.5	0.007	0.093	7.67671836
Td--TRIDC6AG052120.1	Tt--TRITD7Av1G048910.1	0.12237	0.4533652 48935098	0.2699148 18893932	1035	277.75	757.25	85.5	94.5	0.113	0.34	34.8742499
Td--TRIDC6AG052120.1	Tt--TRITD7Bv1G022360.1	0.1100307	0.4080214 22500717	0.2696689 13604755	1017	272.75	744.25	76.17	85.83	0.102	0.315	31.3862633
Td--TRIDC6BG060870.1	Tt--TRITD6Bv1G202800.1	0	0.0032769 030829979 1	0	1116	305.83333	810.16667	0	1	0	0.003	0.25206947
Td--TRIDC6BG060870.1	Tt--TRITD7Av1G048910.1	0.1194667	0.4187600 99697434	0.2852867 6932556	1035	278.91667	756.08333	83.5	89.5	0.11	0.321	32.2123154
Td--TRIDC6BG060870.1	Tt--TRITD7Bv1G022360.1	0.1071057	0.3994710 13689992	0.2681187 96897122	1017	273.91667	743.08333	74.17	84.83	0.1	0.31	30.7285395
Td--TRIDC4AG047480.2	Tt--TRITD4Av1G206810.2	0	0 0	NaN	1569	361.16667	1207.8333	0	0	0	0	0
Td--TRIDC4AG047480.2	Tt--TRITD5Bv1G252270.3	0.0677548	0.2100996 05578762	0.3224891 04402995	1296	304.25	991.75	64.25	55.75	0.065	0.183	16.1615081

Td--TRIDC5BG083460.4	Tt--TRITD4Av1G206810.2	0.0125377	0.1694722 2514417	0.0739810 322579846	1569	362.58333	1206.4167	15	55	0.012	0.152	13.036325
Td--TRIDC5BG083460.4	Tt--TRITD5Bv1G252270.3	0.0428727	0.1013953 07637	0.4228270 6860533	1239	289.08333	949.91667	39.58	27.42	0.042	0.095	7.79963905
Td--TRIDC5AG020820.4	Tt--TRITD5Av1G091640.3	0.0542024	0.0865880 72808598	0.6259797 76360957	843	200.75	642.25	33.58	16.42	0.052	0.082	6.66062099
Td--TRIDC5AG020820.4	Tt--TRITD5Bv1G075270.1	0.0167661	0.0684352 487877035	0.2449916 78006738	885	211.5	673.5	11.17	13.83	0.017	0.065	5.26424991
Td--TRIDC5BG021620.3	Tt--TRITD5Av1G091640.3	0.0215665	0.0572124 78562223	0.3769552 66216645	816	196.66667	619.33333	13.17	10.83	0.021	0.055	4.40095989
Td--TRIDC5BG021620.3	Tt--TRITD5Bv1G075270.1	0.0135256	0.0488260 693050803	0.2770158 75193783	1266	296.16667	969.83333	13	14	0.013	0.047	3.75585149
Td--TRIDC4AG041540.1	Tt--TRITD4Av1G192120.1	0.0305103	0.1350169 24595119	0.2259741 24026006	1011	275.16667	735.83333	22	34	0.03	0.124	10.3859173
Td--TRIDC4AG041540.1	Tt--TRITD4Bv1G014100.1	0.2379509	0.5064016 22956579	0.4698857 10906565	984	270	714	145.6	99.42	0.204	0.368	38.953971
Td--TRIDC4BG007520.1	Tt--TRITD4Av1G192120.1	0.2392845	0.5253115 56754041	0.4555096 1817642	984	268.5	715.5	146.6	101.4	0.205	0.378	40.4085813
Td--TRIDC4BG007520.1	Tt--TRITD4Bv1G014100.1	0.0013417	0.0142691 581083784	0.0940267 058401689	1029	283	746	1	4	0.001	0.014	1.09762755
Td--TRIDC3BG008530.2	Tt--TRITD3Bv1G017840.1	0.0326584	0.0281619 247560474	1.1596645 0543059	975	268.33333	706.66667	22.58	7.417	0.032	0.028	2.1663019

Td--TRIDC2AG058830.1	Tt--TRITD2Bv1G201730.10	0.0244122	0.0790440680872091	0.308843474581227	2460	586.5	1873.5	45	44	0.024	0.075	6.08031293
Td--TRIDC2AG058830.1	Tt--TRITD6Av1G156460.10	0.1517447	0.907555974135041	0.167201525921507	2427	579.91667	1847.0833	253.8	305.3	0.137	0.526	69.811998
Td--TRIDC2AG058830.1	Tt--TRITD6Bv1G142910.11	0.1371448	0.873582894625792	0.156991213467956	2364	567.5	1796.5	225.2	292.8	0.125	0.516	67.1986842
Td--TRIDC2BG061830.1	Tt--TRITD2Bv1G201730.10	0.0004933	0.0015665802040436	0.3148634 28603852	2667	639	2028	1	1	5E-04	0.002	0.12050617
Td--TRIDC2BG061830.1	Tt--TRITD6Av1G156460.10	0.1586372	0.860845215308567	0.184280777719342	2616	628.58333	1987.4167	284.2	321.8	0.143	0.512	66.2188627
Td--TRIDC2BG061830.1	Tt--TRITD6Bv1G142910.11	0.1587558	0.832942555202414	0.190596379634392	2616	629.91667	1986.0833	284.2	316.8	0.143	0.503	64.0725042
Td--TRIDC6AG037840.4	Tt--TRITD2Bv1G201730.10	0.1586224	0.861273244682	0.184171995412 33	2616	628.41667	1987.5833	284.2	321.8	0.143	0.512	66.2517881
Td--TRIDC6AG037840.4	Tt--TRITD6Av1G156460.10	0.0005001	0		2634	633.83333	2000.1667	1	0	5E-04	0	0
Td--TRIDC6AG037840.4	Tt--TRITD6Bv1G142910.11	0.0065322	0.037114321193218 3	0.176000996916 41	2634	635.16667	1998.8333	13	23	0.007	0.036	2.85494778
Td--TRIDC6BG044800.1	Tt--TRITD2Bv1G201730.10	0.1593634	0.833346822418081	0.191232979049828	2616	629.75	1986.25	285.2	316.8	0.144	0.503	64.1036017
Td--TRIDC6BG044800.1	Tt--TRITD6Av1G156460.10	0.007037	0.037114321193218 3	0.189603240847122	2634	635.16667	1998.8333	14	23	0.007	0.036	2.85494778

Td--TRIDC6BG044800.1	Tt--TRITD6Bv1G142910.11	0	0	NaN	2634	636.5	1997.5	0	0	0	0	0
Td--TRIDC4AG043860.6	Tt--TRITD4Av1G198600.3	0.0007756	0.0069284557387022	0.1119433071064782	1725	435	1290	1	3	0.001	0.007	0.53295813
Td--TRIDC4BG004990.4	Tt--TRITD4Av1G198600.3	0.0203814	0.178250233899183	0.114341632462028	1728	434.91667	1293.0833	26	69	0.02	0.159	13.7115565
Td--TRIDC4AG012750.6	Tt--TRITD4Av1G042360.2	0	0	NaN	2130	515.66667	1614.3333	0	0	0	0	0
Td--TRIDC4AG012750.6	Tt--TRITD4Bv1G128900.2	0.0081591	0.0715313693800487	0.114062911879357	2115	513	1602	13	35	0.008	0.068	5.50241303
Td--TRIDC4BG037560.5	Tt--TRITD4Av1G042360.2	0.007833	0.071328011617978	0.109816174503288	2025	485	1540	12	33	0.008	0.068	5.48677012
Td--TRIDC4BG037560.5	Tt--TRITD4Bv1G128900.2	0.0006496	0.0041365151392998 7	0.157031115488524	2025	484.83333	1540.1667	1	2	0.001	0.004	0.31819347
Td--TRIDC2AG025680.4	Tt--TRITD2Av1G072210.1	0.0380104	0.0606793079162398	0.626413831984514	1527	348.83333	1178.1667	43.67	20.33	0.037	0.058	4.66763907
Td--TRIDC2AG025680.4	Tt--TRITD2Bv1G081010.1	0.0104356	0.0640611878648543	0.162901272124366	1629	374.58333	1254.4167	13	23	0.01	0.061	4.92778368
Td--TRIDC2BG030100.5	Tt--TRITD2Av1G072210.1	0.0397752	0.11236887939933	0.353969672394324	1527	348.16667	1178.8333	45.67	36.33	0.039	0.104	8.64375995
Td--TRIDC2BG030100.5	Tt--TRITD2Bv1G081010.1	0.0072053	0.0080664008564610 6	0.893253313547796	1629	373.91667	1255.0833	9	3	0.007	0.008	0.62049237

Td--TRIDC1BG061690.1	Tt--TRITD3Av1G171650.1	0.2284842	0.5789959 16315227	0.3946213 62950363	1035	267.08333	767.91667	151.2	107.8	0.197	0.403	44.5381474
Td--TRIDC1BG061690.1	Tt--TRITD3Bv1G151660.1	0.2292926	0.5867858 2296574	0.3907603 6136575	1044	266.16667	777.83333	153.7	108.3	0.198	0.407	45.137371
Td--TRIDC3BG043440.2	Tt--TRITD3Bv1G151660.1	0.0051516	0		1305	331.08333	973.91667	5	0	0.005	0	0
Td--TRIDC1AG053880.1	Tt--TRITD1Av1G205950.1	0.0021284	0		609	138.5	470.5	1	0	0.002	0	0
Td--TRIDC1AG053880.1	Tt--TRITD1Bv1G200860.1	0.0284177	0.1001485 44468392	0.2837554 78883934	1485	373.33333	1111.6667	31	35	0.028	0.094	7.70373419
Td--TRIDC1AG053880.1	Tt--TRITD3Av1G171180.1	0.2861648	0.5634666 0719439	0.5078647 82488311	1092	279.33333	812.66667	193.3	110.7	0.238	0.396	43.3435852
Td--TRIDC1AG053880.1	Tt--TRITD3Bv1G150780.1	0.3071565	0.5768415 99716673	0.5324797 69666476	1035	266.91667	768.08333	193.6	107.4	0.252	0.402	44.3724307
Td--TRIDC3AG038300.1	Tt--TRITD1Bv1G200860.1	0.3239761	0.5403131 2010137	0.5996081 28188567	1239	311.83333	927.16667	243.9	120.1	0.263	0.385	41.5625477
Td--TRIDC3AG038300.1	Tt--TRITD3Av1G171180.1	0.2227947	0.5372741 02996463	0.4146761 08156998	1098	279.58333	818.41667	157.8	107.3	0.193	0.384	41.3287772
Td--TRIDC3AG038300.1	Tt--TRITD3Bv1G150780.1	0.2326162	0.5281824 6389706	0.4404087 83191285	1041	266.83333	774.16667	154.8	101.2	0.2	0.379	40.6294203
Td--TRIDC3BG043280.1	Tt--TRITD1Bv1G200860.1	0.277579	0.6223445 59877688	0.4460214 76202718	1167	299.91667	867.08333	201.2	126.8	0.232	0.423	47.8726585

Td--TRIDC3BG043280.1	Tt--TRITD3Av1G171180.1	0.2402904	0.5735037 74226506	0.4189865 62156567	1113	282.5	830.5	170.8	113.3	0.206	0.401	44.1156749
Td--TRIDC3BG043280.1	Tt--TRITD3Bv1G150780.1	0.2475903	0.6068657 69753381	0.4079819 46869876	1056	269.58333	786.41667	165.8	112.2	0.211	0.416	46.6819823
Td--TRIDC5AG066400.8	Tt--TRITD5Av1G228010.3	0.0031244	0.0052528 120168373 5	0.5948041 30834112	1665	382.08333	1282.9167	4	2	0.003	0.005	0.40406246
Td--TRIDC5AG066400.8	Tt--TRITD5Bv1G226960.4	0.0016261	0.1008954 72487721	0.0161169 478497392	1602	370.75	1231.25	2	35	0.002	0.094	7.76119019
Td--TRIDC5BG071320.5	Tt--TRITD5Av1G228010.3	0.0503831	0.1798062 54805906	0.2802079 54752309	1620	378.41667	1241.5833	60.5	60.5	0.049	0.16	13.8312504
Td--TRIDC5BG071320.5	Tt--TRITD5Bv1G226960.4	0.0372988	0.0418790 883787865	0.8906311 18594394	1551	360.08333	1190.9167	43.33	14.67	0.036	0.041	3.22146834
Td--TRIDC5AG020280.1	Tt--TRITD5Av1G086470.1	0.0495012	0.0652585 327422225	0.7585396 47030267	1596	380	1216	58.25	23.75	0.048	0.063	5.01988713
Td--TRIDC5AG032410.5	Tt--TRITD5Bv1G121250.4	0.0019256	0.0619250 067196664	0.0310964 782888502	2031	471.08333	1559.9167	3	28	0.002	0.059	4.76346206
Td--TRIDC5AG032410.5	Tt--TRITD0Uv1G042030.1	0.0245754	0.0289733 090894047	0.8482080 89307106	1632	363.58333	1268.4167	30.67	10.33	0.024	0.028	2.22871608
Td--TRIDC5BG034210.7	Tt--TRITD5Bv1G121250.4	0.0006381	0		2043	475.16667	1567.8333	1	0	0.001	0	0
Td--TRIDC5BG034210.7	Tt--TRITD0Uv1G042030.1	0.026203	0.0884877 733817011	0.2961194 9321391	1632	363.41667	1268.5833	32.67	30.33	0.026	0.083	6.8067518

Td--TRIDC2AG070140.10	Tt--TRITD2Av1G270510.6	0.0013128	0		3966	916.5	3049.5	4	0	0.001	0	0
Td--TRIDC2AG070140.10	Tt--TRITD2Bv1G233690.10	0.0082466	0.0828666073744607	0.0995165506588824	3966	917.75	3048.25	25	72	0.008	0.078	6.37435441
Td--TRIDC2BG075830.1	Tt--TRITD2Av1G270510.6	0.0089088	0.0804830033446936	0.110691578926508	3966	917.25	3048.75	27	70	0.009	0.076	6.19100026
Td--TRIDC2BG075830.1	Tt--TRITD2Bv1G233690.10	0.0006561	0.0021782552977294 8	0.301219119629607	3969	919.5	3049.5	2	2	0.001	0.002	0.1675581
Td--TRIDC6AG020750.1	Tt--TRITD6Av1G054950.1	0.0007911	0		1626	361.33333	1264.6667	1	0	0.001	0	0
Td--TRIDC6AG020750.1	Tt--TRITD6Bv1G065890.1	0.013174	0.1209769 73211965	0.1088966 85544764	1626	362.5	1263.5	16.5	40.5	0.013	0.112	9.30592102
Td--TRIDC6BG026600.3	Tt--TRITD6Av1G054950.1	0.0123665	0.1210675 79367253	0.1021452 58798394	1626	362.25	1263.75	15.5	40.5	0.012	0.112	9.31289072
Td--TRIDC6BG026600.3	Tt--TRITD6Bv1G065890.1	0.0015857	0		1626	363.41667	1262.5833	2	0	0.002	0	0
Td--TRIDC5AG057130.2	Tt--TRITD5Av1G205000.3	0.0022727	0.0073439999284632 3	0.309467461059725	2310	547.33333	1762.6667	4	4	0.002	0.007	0.56492307
Td--TRIDC5AG057130.2	Tt--TRITD5Bv1G200940.1	0.008856	0.0603648 30835347	0.1467078 31087657	2469	594.83333	1874.1667	16.5	34.5	0.009	0.058	4.64344853
Td--TRIDC5BG061270.2	Tt--TRITD5Av1G205000.3	0.0072934	0.0634324681209124	0.114979168161857	2163	509.66667	1653.3333	12	31	0.007	0.061	4.87942062

Td--TRIDC5BG061270.2	Tt--TRITD5Bv1G200940.1	0.0011345	0.0090172411721506	0.1258186842354477	2322	557.83333	1764.1667	2	5	0.001	0.009	0.69363394
Td--TRIDC5AG032000.2	Tt--TRITD5Bv1G119650.1	0.0201853	0.0936472148657488	0.2155459483661011	1554	382.41667	1171.5833	23.33	33.67	0.02	0.088	7.20363191
Td--TRIDC5AG032000.2	Tt--TRITD0Uv1G047610.1	0.0037007	0.0097074454186488	0.38122531414588	1554	380.16667	1173.8333	4.333	3.667	0.004	0.01	0.74672657
Td--TRIDC5BG033660.2	Tt--TRITD5Bv1G119650.1	0.0008562	0		1554	385.33333	1168.6667	1	0	0.001	0	0
Td--TRIDC5BG033660.2	Tt--TRITD0Uv1G047610.1	0.0172781	0.0944599268834398	0.1829150404632196	1554	383.08333	1170.9167	20	34	0.017	0.089	7.26614822
Td--TRIDC2AG010980.4	Tt--TRITD2Av1G024070.6	0	0.0020745107875935 2	0	3996	965.41667	3030.5833	0	2	0	0.002	0.15957775
Td--TRIDC2AG010980.4	Tt--TRITD2Bv1G031320.6	0.0072973	0.0796098003311754	0.0916634636871207	3996	966.5	3029.5	22	73	0.007	0.076	6.12383079
Td--TRIDC2BG013430.2	Tt--TRITD2Av1G024070.6	0.0072971	0.0796170426266173	0.0916525921802457	3996	966.41667	3029.5833	22	73	0.007	0.076	6.12438789
Td--TRIDC2BG013430.2	Tt--TRITD2Bv1G031320.6	0	0 0	NaN	4005	969.83333	3035.1667	0	0	0	0	0
Td--TRIDC5AG024780.6	Tt--TRITD5Av1G112160.1	0.0006988	0.0062849529800631	0.111188114269111	1911	479.33333	1431.6667	1	3	0.001	0.006	0.48345792
Td--TRIDC5AG024780.6	Tt--TRITD5Bv1G092620.2	0.0091459	0.0887460629299847	0.103057175454398	1908	477.91667	1430.0833	13	40	0.009	0.084	6.82662023

Td--	Tt--											
TRIDC5BG025890.5	TRITD5Av1G112160.1	0.0084374	0.0887789295178338	0.0950385889968959	1908	477.75	1430.25	12	40	0.008	0.084	6.82914842
Td--	Tt--											
TRIDC5BG025890.5	TRITD5Bv1G092620.2	0	0.0020862322214076	0	1920	480	1440	0	1	0	0.002	0.1604794
Td--	Tt--											
TRIDC6AG039240.3	TRITD6Av1G162640.1	0.0234732	0.019717056650243	1.19049999211312	1167	265.5	901.5	20.83	5.167	0.023	0.019	1.51669667
Td--	Tt--											
TRIDC6AG039240.3	TRITD6Bv1G148270.1	0.0623976	0.0795182990242753	0.784695177566379	1167	265.08333	901.91667	54	20	0.06	0.075	6.11679223
Td--	Tt--											
TRIDC6BG046090.3	TRITD6Av1G162640.1	0.0307168	0.0778452659565614	0.394587263577064	1848	419.25	1428.75	43	31	0.03	0.074	5.98809738
Td--	Tt--											
TRIDC6BG046090.3	TRITD6Bv1G148270.1	0.0006986	0		1851	419	1432	1	0	0.001	0	0
Td--	Tt--											
TRIDC2AG025210.3	TRITD2Av1G069790.2	0	0	NaN	2079	480.16667	1598.8333	0	0	0	0	0
Td--	Tt--											
TRIDC2AG025210.3	TRITD2Bv1G079430.3	0.0091225	0.0825309635481236	0.11053400565534	2079	479.83333	1599.1667	14.5	37.5	0.009	0.078	6.34853566
Td--	Tt--											
TRIDC2BG029650.2	TRITD2Av1G069790.2	0.0068285	0.0782042588314467	0.0873156730442644	2103	484.75	1618.25	11	36	0.007	0.074	6.01571222
Td--	Tt--											
TRIDC2BG029650.2	TRITD2Bv1G079430.3	0.0021593	0.0072401872384622	0.298234484444953	2109	485.75	1623.25	3.5	3.5	0.002	0.007	0.55693748
Td--	Tt--											
TRIDC2AG024350.1	TRITD2Av1G066770.1	0.0869896	0.11193563419003	0.777139866011752	972	236.41667	735.58333	60.42	24.58	0.082	0.104	8.6104334

Td--TRIDC2AG024350.1	Tt--TRITD2Bv1G076660.1	0.0109879	0.0758728 91291839	0.1448204 96226415	969	235.58333	733.41667	8	17	0.011	0.072	5.83637625
Td--TRIDC2BG028790.2	Tt--TRITD2Av1G069790.2	0.4536053	0.7415933 61128086	0.6116631 23071611	888	212.5	675.5	229.9	100.1	0.34	0.471	57.0456432
Td--TRIDC2BG028790.2	Tt--TRITD2Av1G066770.1	0.0775346	0.1977010 06191836	0.3921811 60108862	969	235.91667	733.08333	54	41	0.074	0.174	15.2077697
Td--TRIDC2BG028790.2	Tt--TRITD2Bv1G076660.1	0.0013667	0		969	236.66667	732.33333	1	0	0.001	0	0
Td--TRIDC1AG002650.1	Tt--TRITD0Uv1G000510.7	0.0014288	0		1815	413.91667	1401.0833	2	0	0.001	0	0
Td--TRIDC1AG002650.1	Tt--TRITD0Uv1G004130.5	0.0184536	0.1181960 62931122	0.1561267 15834684	1815	416.08333	1398.9167	25.5	45.5	0.018	0.109	9.09200484
Td--TRIDC6AG024780.3	Tt--TRITD6Av1G073760.2	0.1832943	0.2712904 1935898	0.6756386 45537406	822	205	617	100.3	46.67	0.163	0.228	20.8684938
Td--TRIDC6AG024780.3	Tt--TRITD7Av1G209280.1	0.3155857	0.9340371 45898307	0.3378727 72954532	846	210	636	163.8	112.2	0.258	0.534	71.8490112
Td--TRIDC6AG024780.3	Tt--TRITD7Bv1G162110.1	0.3153921	0.9505475 45282606	0.3318004 84979582	846	210.33333	635.66667	163.7	113.3	0.257	0.539	73.1190419
Td--TRIDC7AG054160.3	Tt--TRITD6Av1G073760.2	0.2072379	0.5859285 08332545	0.3536914 19239156	1098	266.83333	831.16667	150.5	108.5	0.181	0.407	45.0714237
Td--TRIDC7AG054160.3	Tt--TRITD6Bv1G077930.1	0.2046463	0.5908438 10669946	0.3463627 84436033	1098	267	831	148.8	109.2	0.179	0.409	45.4495239

Td--TRIDC7AG054160.3	Tt--TRITD7Av1G209280.1	0	0.0070258125027001 2	0	1188	286	902	0	2	0	0.007	0.54044712
Td--TRIDC7AG054160.3	Tt--TRITD7Bv1G162110.1	0.0011099	0.0505606560281201	0.0219514184182557	1188	286.33333	901.66667	1	14	0.001	0.049	3.88928123
Td--TRIDC7BG046810.3	Tt--TRITD6Av1G073760.2	0.2106117	0.567610355823165	0.371049794291614	1098	267.5	830.5	152.5	106.5	0.184	0.398	43.6623351
Td--TRIDC7BG046810.3	Tt--TRITD6Bv1G077930.1	0.2080071	0.572406035590732	0.363390740687512	1098	267.66667	830.33333	150.8	107.2	0.182	0.4	44.0312335
Td--TRIDC7BG046810.3	Tt--TRITD7Av1G209280.1	0.0033358	0.0617782480748455	0.0539965101411712	1188	286.66667	901.33333	3	17	0.003	0.059	4.75217293
Td--TRIDC7BG046810.3	Tt--TRITD7Bv1G162110.1	0.002223	0.0034924393724632 2	0.6365313 6473622	1188	287	901	2	1	0.002	0.003	0.26864918
Td--TRIDC1AG050190.1	Tt--TRITD1Av1G197990.2	0.0014657	0.0023068068935391 8	0.6353972 82851082	1800	434.16667	1365.8333	2	1	0.001	0.002	0.17744668
Td--TRIDC1AG050190.1	Tt--TRITD1Bv1G187410.2	0.007386	0.134508289498696	0.0549114011556151	1791	430.41667	1360.5833	10	53	0.007	0.123	10.3467915
Td--TRIDC1AG050190.1	Tt--TRITD3Av1G181840.2	0.3345657	1.28815173176702	0.25972541647255	1734	411	1323	357.1	252.9	0.27	0.615	99.0885948
Td--TRIDC1AG050190.1	Tt--TRITD3Bv1G162740.2	0.3259125	1.25624537336748	0.259433814973163	1731	409.75	1321.25	349.3	249.7	0.264	0.61	96.6342595
Td--TRIDC1BG057000.1	Tt--TRITD1Av1G197990.2	0.0059023	0.129023890418143	0.0457455942832789	1791	430.25	1360.75	8	51	0.006	0.119	9.92491465

Td--	Tt--		0.0023282									
TRIDC1BG0570	TRITD1Bv1G18		905776523									
00.1	7410.2	0	1	0	1794	430.16667	1363.8333	0	1	0	0.002	0.17909928
Td--	Tt--											
TRIDC1BG0570	TRITD3Av1G18		1.2739644	0.2624059								
00.1	1840.2	0.3342959	2395981	58611797	1734	408.91667	1325.0833	357.4	250.6	0.27	0.613	97.9972634
Td--	Tt--											
TRIDC1BG0570	TRITD3Bv1G16		1.2441307	0.2596540								
00.1	2740.2	0.3230436	5712993	43033045	1731	408	1323	347.2	247.7	0.262	0.607	95.7023659
Td--	Tt--											
TRIDC3AG040	TRITD1Av1G19		1.3000719	0.2548463								
710.1	7990.2	0.3313186	7761386	44381073	1734	410.66667	1323.3333	354.4	253.6	0.268	0.617	100.005537
Td--	Tt--											
TRIDC3AG040	TRITD1Bv1G18		1.3008473	0.2435443								
710.1	7410.2	0.3168141	4326506	94626008	1704	402.75	1301.25	336.2	248.8	0.258	0.618	100.06518
Td--	Tt--											
TRIDC3AG040	TRITD3Av1G18											
710.1	1840.2	0.001446	0		1803	418.5	1384.5	2	0	0.001	0	0
Td--	Tt--											
TRIDC3AG040	TRITD3Bv1G16		0.0663762	0.3148467								
710.1	2740.2	0.0208983	067337091	59708261	1800	417.16667	1382.8333	28.5	26.5	0.021	0.064	5.10586206
Td--	Tt--											
TRIDC3BG0458	TRITD1Av1G19		1.2472301	0.2583821								
70.3	7990.2	0.322262	9157164	01941531	1731	409.25	1321.75	346.3	248.7	0.262	0.608	95.940784
Td--	Tt--											
TRIDC3BG0458	TRITD1Bv1G18		1.2647992	0.2539571								
70.3	7410.2	0.3212048	1517767	08814932	1731	408	1323	345.7	249.3	0.261	0.611	97.2922473
Td--	Tt--											
TRIDC3BG0458	TRITD3Av1G18		0.0650950	0.3152947								
70.3	1840.2	0.0205241	450031555	29559683	1800	417	1383	28	26	0.02	0.062	5.00731115
Td--	Tt--											
TRIDC3BG0458	TRITD3Bv1G16											
70.3	2740.2	0.0007219	0		1803	417.16667	1385.8333	1	0	0.001	0	0

Td--TRIDC7AG009510.2	Tt--TRITD7Av1G024300.1	0.0051209	0.0113746256035582	0.450206490956674	765	177.16667	587.83333	3	2	0.005	0.011	0.8749712
Td--TRIDC7AG012240.3	Tt--TRITD7Av1G030560.1	0.0157936	0.0297212119320387	0.531392181055493	1962	469	1493	23.33	13.67	0.016	0.029	2.28624707
Td--TRIDC6AG042270.3	Tt--TRITD6Av1G173820.1	0.1118106	0.178767375370161	0.62545314169559	1182	293.91667	888.08333	92.25	46.75	0.104	0.159	13.7513366
Td--TRIDC6AG042270.3	Tt--TRITD6Bv1G161420.1	0.1472336	0.281974552836387	0.522152146382099	1188	297.83333	890.16667	119	70	0.134	0.235	21.6903502
Td--TRIDC6AG042270.3	Tt--TRITD7Av1G083120.2	0.2577164	0.545085748949433	0.472799677421988	1146	289.75	856.25	186.8	112.3	0.218	0.387	41.929673
Td--TRIDC6AG042270.3	Tt--TRITD7Bv1G058080.2	0.4579181	1.22730677190666	0.373108094901961	591	158.66667	432.33333	148.2	95.83	0.343	0.604	94.4082132
Td--TRIDC6BG04930.2	Tt--TRITD6Av1G173820.1	0.0202785	0.086438668040675	0.234600233027205	1287	312.33333	974.66667	19.5	25.5	0.02	0.082	6.64912831
Td--TRIDC6BG04930.2	Tt--TRITD6Bv1G161420.1	0.0010471	0.0032608747020775 4	0.321116474752615	1263	307.33333	955.66667	1	1	0.001	0.003	0.25083652
Td--TRIDC6BG04930.2	Tt--TRITD7Av1G083120.2	0.1867691	0.448504124127258	0.416426642189408	1281	314.75	966.25	159.8	106.3	0.165	0.338	34.5003172
Td--TRIDC6BG04930.2	Tt--TRITD7Bv1G058080.2	0.4300403	1.33915637446288	0.321127744504063	597	160.33333	436.66667	142.9	100.1	0.327	0.624	103.012029
Td--TRIDC7AG029400.6	Tt--TRITD6Av1G173820.1	0.1931971	0.365466659887451	0.528631273689721	1257	310.25	946.75	161.3	89.75	0.17	0.289	28.11282

Td--TRIDC7AG029400.6	Tt--TRITD6Bv1G161420.1	0.1677721	0.4266924 27367973	0.3931920 04991309	1251	308.08333	942.91667	141.8	100.3	0.15	0.325	32.8224944
Td--TRIDC7AG029400.6	Tt--TRITD7Av1G083120.2	0.0010373	0		1284	319.33333	964.66667	1	0	0.001	0	0
Td--TRIDC7AG029400.6	Tt--TRITD7Bv1G058080.2	0.3318493	0.7078010 22400452	0.4688454 11243417	663	180.08333	482.91667	129.5	82.5	0.268	0.458	54.4462325
Td--TRIDC7BG020300.3	Tt--TRITD6Av1G173820.1	0.157325	0.3348225 78745814	0.4698756 31139311	1143	279.25	863.75	122.6	75.42	0.142	0.27	25.755583
Td--TRIDC7BG020300.3	Tt--TRITD6Bv1G161420.1	0.1559019	0.3761098 21010814	0.4145115 33793417	1143	278.08333	864.91667	121.8	82.25	0.141	0.296	28.9315247
Td--TRIDC7BG020300.3	Tt--TRITD7Av1G083120.2	0.0011612	0.0669174 226371055	0.0173529 641708794	1143	281.16667	861.83333	1	18	0.001	0.064	5.14749405
Td--TRIDC7BG020300.3	Tt--TRITD7Bv1G058080.2	0.381206	0.8212319 40768545	0.4641879 26158886	507	137.25	369.75	110.5	68.5	0.299	0.499	63.1716878
Td--TRIDC1AG052430.1	Tt--TRITD1Av1G203640.1	0.0211809	0.0373429 983772616	0.5671994 81468634	2343	583.33333	1759.6667	36.75	21.25	0.021	0.036	2.87253834
Td--TRIDC1AG052430.1	Tt--TRITD3Av1G164820.1	0.1147778	0.3957078 52589574	0.2900568 01465112	1602	380.5	1221.5	130	117	0.106	0.307	30.4390656
Td--TRIDC1AG052430.1	Tt--TRITD3Bv1G142220.1	0.3514902	2.1177639 0663665	0.1659723 35986967	2346	557.08333	1788.9167	502	393	0.281	0.705	162.904916
Td--TRIDC1BG059980.1	Tt--TRITD1Av1G203640.1	0.0545668	0.1434800 67903826	0.3803094 08704363	2331	581.33333	1749.6667	92.08	75.92	0.053	0.131	11.0369283

Td--TRIDC1BG059 80.1	Tt--TRITD1Av1G20 1620.1	0.0487389	0.1763222 78082073	0.2764196 91227632	372	85.916667	286.08333	13.5	13.5	0.047	0.157	13.5632522
Td--TRIDC1BG059 80.1	Tt--TRITD1Bv1G19 9190.1	0.1210778	0.3174675 94792552	0.3813862 67631744	2376	587.25	1788.75	200	152	0.112	0.259	24.4205842
Td--TRIDC1BG059 80.1	Tt--TRITD3Av1G16 4820.1	0.1203193	0.3579282 91418113	0.3361547 5446977	1605	383.83333	1221.1667	135.8	109.3	0.111	0.285	27.5329455
Td--TRIDC3AG036 880.3	Tt--TRITD1Av1G20 3640.1	0.2588967	0.6489289 81782857	0.3989599 82918882	1953	489.5	1463.5	320.4	212.6	0.219	0.434	49.917614
Td--TRIDC3AG036 880.3	Tt--TRITD1Bv1G19 9190.1	0.2108178	0.6001377 35044423	0.3512823 34416608	2019	501.33333	1517.6667	278.9	207.1	0.184	0.413	46.1644412
Td--TRIDC3AG036 880.3	Tt--TRITD3Av1G16 4820.1	0.006696	0.0042429 927180869 6	1.5781372 0236106	1644	393.91667	1250.0833	8.333	1.667	0.007	0.004	0.32638406
Td--TRIDC3AG036 880.3	Tt--TRITD3Bv1G14 2350.1	0.1260918	0.3015697 33812641	0.4181182 56727455	2043	505.75	1537.25	178.4	125.6	0.116	0.248	23.1976718
Td--TRIDC3BG0409 40.1	Tt--TRITD1Bv1G19 9190.1	0.3541204	1.8073779 0825242	0.1959304 50882675	2349	556.91667	1792.0833	505.8	380.2	0.282	0.683	139.02907
Td--TRIDC3BG0409 40.1	Tt--TRITD3Av1G16 4850.1	0.2528121	1.5478721 3105319	0.1633288 14856083	2337	534.91667	1802.0833	386.8	350.3	0.215	0.655	119.067087
Td--TRIDC3BG0409 40.1	Tt--TRITD3Bv1G14 2220.1	0	0.0017991 013124811 8	0	2433	556.5	1876.5	0	1	0	0.002	0.13839241
Td--TRIDC7BG0677 00.1	Tt--TRITD7Bv1G21 7320.3	0.168896	0.5899166 92738967	0.2863048 84632633	585	134.25	450.75	68.17	54.83	0.151	0.408	45.3782071

Td--TRIDC7BG067700.1	Tt--TRITD7Bv1G218360.3	0.1743293	0.5921524 17662069	0.2943993 35647513	585	133.91667	451.08333	70.17	54.83	0.156	0.409	45.550186
Td--TRIDC1AG061210.1	Tt--TRITD1Bv1G218630.1	0.0019934	0.1543890 40653111	0.0129112 57474677	660	157.66667	502.33333	1	22	0.002	0.14	11.8760801
Td--TRIDC1AG061210.1	Tt--TRITD3Av1G155690.2	0.0610403	0.7984149 51807141	0.0764518 250583799	894	211.66667	682.33333	40	104	0.059	0.491	61.4165348
Td--TRIDC1AG061210.1	Tt--TRITD3Bv1G135290.1	0.0610403	0.7984149 51807141	0.0764518 250583799	894	211.66667	682.33333	40	104	0.059	0.491	61.4165348
Td--TRIDC1BG070170.4	Tt--TRITD1Bv1G218630.1	0	0.1171430 11731485	0	660	156.75	503.25	0	17	0	0.108	9.0110009
Td--TRIDC1BG070170.4	Tt--TRITD3Av1G155690.2	0.0625284	0.7338076 92263891	0.0852109 406220229	918	217.91667	700.08333	42	102	0.06	0.468	56.4467456
Td--TRIDC1BG070170.4	Tt--TRITD3Bv1G135290.1	0.0625284	0.7216984 48387851	0.0866406 791273554	918	217.91667	700.08333	42	101	0.06	0.463	55.5152653
Td--TRIDC3AG034530.2	Tt--TRITD1Bv1G218630.1	0.0648148	0.7095588 18050817	0.0913452 342297723	654	154.75	499.25	31	71	0.062	0.459	54.5814475
Td--TRIDC3AG034530.2	Tt--TRITD3Av1G155690.2	0	0 0	NaN	945	222.33333	722.66667	0	0	0	0	0
Td--TRIDC3AG034530.2	Tt--TRITD3Bv1G135290.1	0	0.0760143 706952155	0	933	221.33333	711.66667	0	16	0	0.072	5.84725928
Td--TRIDC3BG038930.3	Tt--TRITD1Bv1G218630.1	0.0648148	0.6930972 51872527	0.0935147 502887126	654	154.75	499.25	31	70	0.062	0.452	53.3151732

Td--	Tt--											
TRIDC3BG038930.3	TRITD3Av1G155690.2	0	0.0761350440528097	0	942	221	721	0	16	0	0.072	5.85654185
Td--	Tt--											
TRIDC3BG038930.3	TRITD3Bv1G135290.1	0.0097903	0		942	222.33333	719.66667	7	0	0.01	0	0
Td--	Tt--											
TRIDC2AG028890.5	TRITD2Av1G084730.2	0.4427342	2.6006053 7632376	0.1702427 35787871	1944	463.91667	1480.0833	494.9	337.1	0.334	0.727	200.046567
Td--	Tt--											
TRIDC2BG032550.5	TRITD2Av1G084730.2	0.453775	2.9899943 1599426	0.1517645 09822024	1947	465.41667	1481.5833	504.4	342.6	0.34	0.736	229.999563
Td--	Tt--											
TRIDC2BG032550.5	TRITD2Bv1G090370.1	0	0	NaN	2100	518.33333	1581.6667	0	0	0	0	0
Td--	Tt--		0.0035928									
TRIDC6BG030200.2	TRITD6Bv1G077930.1	0.001183	212419745	0.3292581 1368404	1125	279	846	1	1	0.001	0.004	0.27637086
Td--	Tt--											
TRIDC6BG030200.2	TRITD7Av1G209280.1	0.2010591	0.6091334 07760861	0.3300739 93985945	1098	267.33333	830.66667	146.5	111.5	0.176	0.417	46.856416
Td--	Tt--											
TRIDC6BG030200.2	TRITD7Bv1G162110.1	0.2011517	0.5831685 52429674	0.3449288 71658064	1098	267.66667	830.33333	146.5	108.5	0.176	0.405	44.8591194
Td--	Tt--											
TRIDC4AG047400.2	TRITD4Av1G206190.2	0.0008098	0.0025652 013035985	0.3156968 48032724	3252	781	2471	2	2	0.001	0.003	0.19732318
Td--	Tt--											
TRIDC5BG083500.1	TRITD4Av1G206190.2	0.1490584	0.4020385 36940989	0.3707565 51794264	2946	714.41667	2231.5833	301.7	222.3	0.135	0.311	30.9260413
Td--	Tt--											
TRIDC7AG002140.2	TRITD7Av1G004690.5	0.0179356	0.0364042 045856986	0.4926803 79335556	1008	232.16667	775.83333	13.75	8.25	0.018	0.036	2.80032343

Td--TRIDC2AG080090.1	Tt--TRITD2Av1G291610.2	0.0566158	0.1047056 27478431	0.5407141 45124144	1287	296.75	990.25	54	29	0.055	0.098	8.05427904
Td--TRIDC2AG080090.1	Tt--TRITD2Bv1G261380.1	0.0677454	0.1637131 70069208	0.4138053 9240602	588	132.58333	455.41667	29.5	19.5	0.065	0.147	12.5933208
Td--TRIDC2BG088230.2	Tt--TRITD2Av1G291610.2	0.059962	0.1619096 14151363	0.3703426 12796858	1293	301	992	57.17	43.83	0.058	0.146	12.4545857
Td--TRIDC6AG000550.4	Tt--TRITD6Av1G000920.4	0.0038486	0.0137573 460987946	0.2797508 56630974	2337	513.5	1823.5	7	7	0.004	0.014	1.05825739
Td--TRIDC3BG001050.1	Tt--TRITD3Bv1G001440.2	0	0	NaN	1560	385	1175	0	0	0	0	0
Td--TRIDC3AG004290.4	Tt--TRITD3Av1G008980.2	0.0417496	0.1910565 1781488	0.2185194 71248368	1737	417.5	1319.5	53.58	70.42	0.041	0.169	14.6966552
Td--TRIDC3AG004290.4	Tt--TRITD3Bv1G011530.1	0.0993272	0.3291329 10186198	0.3017844 28714638	2001	483.58333	1517.4167	141.2	128.8	0.093	0.266	25.3179162
Td--TRIDC3BG006020.1	Tt--TRITD3Av1G008980.2	0.042369	0.1798912 16186298	0.2355255 67137798	1722	413.16667	1308.8333	53.92	66.08	0.041	0.16	13.8377859
Td--TRIDC3BG006020.1	Tt--TRITD3Bv1G011530.1	0.0957248	0.3251563 19881328	0.2943961 00619572	1986	480.08333	1505.9167	135.3	126.7	0.09	0.264	25.0120246
Td--TRIDC3AG011590.6	Tt--TRITD3Av1G028450.2	0.0013806	0.0020519 848641560 6	0.6728023 47368806	1938	488	1450	2	1	0.001	0.002	0.15784499
Td--TRIDC3BG015640.4	Tt--TRITD3Av1G028450.2	0.0111004	0.1028745 229051	0.1079022 58986652	1941	488.91667	1452.0833	16	47	0.011	0.096	7.91342484

Td--TRIDC5BG047840.2	Tt--TRITD5Av1G170840.1	0.1234669	0.315380609777428	0.391485496445416	1884	421.41667	1462.5833	166.5	108.5	0.114	0.257	24.2600469
Td--TRIDC5BG047840.2	Tt--TRITD5Bv1G162020.4	0.0123813	0.060492264923813	0.204676461677485	1896	430.16667	1465.8333	18	25	0.012	0.058	4.65325115
Td--TRIDC5AG055160.3	Tt--TRITD5Av1G199510.5	0	0.0076531276306813	0	1119	262.66667	856.33333	0	2	0	0.008	0.58870213
Td--TRIDC5AG055160.3	Tt--TRITD5Av1G202570.2	0.4379037	NaN	NaN	1065	249.25	815.75	270.6	194.4	0.332	0.78	High Sequence Divergence Value (pS>=0.75)
Td--TRIDC5AG055160.3	Tt--TRITD5Bv1G194390.4	0.0023403	0.123694083778229	0.018920255696599	1119	263.08333	855.91667	2	30	0.002	0.114	9.51492952
Td--TRIDC5AG055160.3	Tt--TRITD5Bv1G198000.2	0.353001	1.7928682933406	0.196891739015922	1074	254.16667	819.83333	230.8	173.2	0.282	0.681	137.912946
Td--TRIDC5AG056200.2	Tt--TRITD5Av1G202570.2	0.1453941	0.238307937901449	0.610110041530824	1032	244.5	787.5	104.1	49.92	0.132	0.204	18.3313798
Td--TRIDC5AG056200.2	Tt--TRITD5Av1G199510.5	0.3518928	1.57557323336148	0.223342735258737	1056	250.16667	805.83333	226.3	164.7	0.281	0.658	121.197941
Td--TRIDC5AG056200.2	Tt--TRITD5Bv1G198000.2	0.0048241	0.084369796802120	9 0.057178485882465	3 1095	263.16667	831.83333	4	21	0.005	0.08	6.48998437
Td--TRIDC5AG056200.2	Tt--TRITD5Bv1G194390.4	0.3509878	1.64991377837595	0.212731023459429	1056	250.91667	805.08333	225.7	167.3	0.28	0.667	126.916444

Td--	Tt--											
TRIDC5BG059170.3	TRITD5Av1G199510.5	0.0023408	0.123608948443107	0.018936980197437	4	1119	263.25	855.75	2	30	0.002	0.114	9.50838065
Td--	Tt--											
TRIDC5BG059170.3	TRITD5Bv1G194390.4	0	0.0076239538326380	0	4	1119	263.66667	855.33333	0	2	0	0.008	0.58645799
Td--	Tt--											
TRIDC5AG049770.1	TRITD5Av1G187760.2	0	0.0024174074111765	0	4	1761	414.33333	1346.6667	0	1	0	0.002	0.18595442
Td--	Tt--											
TRIDC5AG049770.1	TRITD5Bv1G177650.5	0.006	0.0878043629503894	0.0683340986563195	4	1749	410.33333	1338.6667	8	34	0.006	0.083	6.75418177
Td--	Tt--											
TRIDC5BG053430.2	TRITD5Av1G187760.2	0.0065987	0.074437593881568	0.0886480588887442	4	1719	399.83333	1319.1667	8.667	28.33	0.007	0.071	5.72596876
Td--	Tt--											
TRIDC5BG053430.2	TRITD5Bv1G177650.5	0.0007582	0.0050230409606411	0.15095355	4	1719	399.5	1319.5	1	2	0.001	0.005	0.38638777
Td--	Tt--											
TRIDC5AG033270.1	TRITD5Bv1G125410.2	0.167217	0.225227150593817	0.742437287929162	4	1167	315.25	851.75	127.7	61.33	0.15	0.195	17.3251654
Td--	Tt--											
TRIDC5AG033270.1	TRITD0Uv1G046260.2	0.147273	0.198073199569571	0.743528128034025	4	1155	311.16667	843.83333	112.8	54.17	0.134	0.174	15.2364
Td--	Tt--											
TRIDC5BG035150.3	TRITD5Bv1G125410.2	0.1547054	0.208702678702075	0.741271683100083	4	1164	313.33333	850.66667	118.9	57.08	0.14	0.182	16.0540522
Td--	Tt--											
TRIDC5BG035150.3	TRITD0Uv1G046260.2	0.1619175	0.245864643775762	0.65856342272815	4	1167	313.25	853.75	124.3	65.67	0.146	0.21	18.9126649
Td--	Tt--											
TRIDC5AG051290.3	TRITD5Bv1G183720.1	0.1219701	0.674239178141445	0.180900353429972	4	510	116.16667	393.83333	44.33	51.67	0.113	0.445	51.8645522

Td--TRIDC5AG067100.1	Tt--TRITD5Av1G229390.2	0	0.0041350897305817	5	0	1032	242.5	789.5	0	1	0	0.004	0.31808383
Td--TRIDC5AG067100.1	Tt--TRITD5Bv1G228940.2	0.0063668	0.0870541284395653	0.0731356640725363	1032	243.33333	788.66667	5	20	0.006	0.082	6.69647142
Td--TRIDC5BG072290.4	Tt--TRITD5Av1G229390.2	0.0551004	0.1409078 44978917	0.3910382 98255491	1014	240.66667	773.33333	41.08	30.92	0.053	0.128	10.839065
Td--TRIDC5BG072290.4	Tt--TRITD5Bv1G228940.2	0.0337764	0.0792939168477378	0.4259645 15464878	999	237	762	25.17	17.83	0.033	0.075	6.09953207
Td--TRIDC3AG003160.1	Tt--TRITD3Av1G003600.2	0	0	NaN	777	187.83333	589.16667	0	0	0	0	0
Td--TRIDC3BG000190.2	Tt--TRITD3Av1G003600.2	0.0256962	0.1518540 5301196	0.1692162 36315174	1059	260.66667	798.33333	20.17	35.83	0.025	0.137	11.681081
Td--TRIDC3BG000190.2	Tt--TRITD0Uv1G022400.1	0.0095351	0.0128400311303118	0.7426091 52080375	1071	261.83333	809.16667	7.667	3.333	0.009	0.013	0.9876947
Td--TRIDC6AG021710.1	Tt--TRITD6Av1G059560.3	0.001039	0.0069085117149277 4	0.1503885 71081626	1254	290.83333	963.16667	1	2	0.001	0.007	0.53142398
Td--TRIDC6AG021710.1	Tt--TRITD6Bv1G068340.3	0.0031207	0.0913536554131526	0.0341603215575783	1254	290.66667	963.33333	3	25	0.003	0.086	7.02720426
Td--TRIDC6AG021710.1	Tt--TRITD7Av1G255570.2	0.0911213	0.7300868 59285578	0.1248088 46421006	1254	292.5	961.5	82.5	136.5	0.086	0.467	56.1605276
Td--TRIDC6AG021710.1	Tt--TRITD7Bv1G205360.3	0.0917426	0.8299592 4850139	0.1105386 31359594	1254	292.83333	961.16667	83	147	0.086	0.502	63.8430191

Td--	Tt--											
TRIDC6BG027410.1	TRITD6Av1G059560.3	0.002079	0.0759685005383254	0.02736665059236	1254	290.66667	963.33333	2	21	0.002	0.072	5.84373081
Td--	Tt--											
TRIDC6BG027410.1	TRITD6Bv1G068340.3	0	0.0138973287208706	0	1254	290.5	963.5	0	4	0	0.014	1.06902529
Td--	Tt--											
TRIDC6BG027410.1	TRITD7Av1G255570.2	0.0893453	0.735336931205108	0.12150255993614	1254	292.33333	961.66667	81	137	0.084	0.469	56.5643793
Td--	Tt--											
TRIDC6BG027410.1	TRITD7Bv1G205360.3	0.0899644	0.825669593525126	0.10895937579007	1254	292.66667	961.33333	81.5	146.5	0.085	0.501	63.5130457
Td--	Tt--											
TRIDC7AG068050.1	TRITD6Av1G059560.3	0.0899478	0.739191675198536	0.12168402608794	1254	292.5	961.5	81.5	137.5	0.085	0.47	56.8608981
Td--	Tt--											
TRIDC7AG068050.1	TRITD6Bv1G068340.3	0.0893453	0.744511357531834	0.12000531442958	1254	292.33333	961.66667	81	138	0.084	0.472	57.2701044
Td--	Tt--		0.0066704									
TRIDC7AG068050.1	TRITD7Av1G255570.2	0	163986375 4	0	1281	301.16667	979.83333	0	2	0	0.007	0.51310895
Td--	Tt--											
TRIDC7AG068050.1	TRITD7Bv1G205360.3	0.0030817	0.163506964677769	0.018847322132892	1275	299.5	975.5	3	44	0.003	0.147	12.5774588
Td--	Tt--											
TRIDC7BG061870.1	TRITD6Bv1G068340.3	0.089981	0.856231636998301	0.10508957948703	1254	292.83333	961.16667	81.5	149.5	0.085	0.511	65.8639721
Td--	Tt--											
TRIDC7BG061870.1	TRITD7Av1G255570.2	0.0025676	0.157206976847221	0.01633272390595	1275	299.66667	975.33333	2.5	42.5	0.003	0.142	12.0928444
Td--	Tt--											
TRIDC7BG061870.1	TRITD7Bv1G205360.3	0.0020541	0		1275	300	975	2	0	0.002	0	0

Td--TRIDC7AG045740.2	Tt--TRITD7Av1G173340.3	0.0008125	0.0026601668322810	0.30543677373536	1608	376.58333	1231.4167	1	1	0.001	0.003	0.20462822
Td--TRIDC7AG045740.2	Tt--TRITD7Bv1G130380.4	0.0190882	0.0470634079226066	0.40558404214897	1593	372.66667	1220.3333	23	17	0.019	0.046	3.62026215
Td--TRIDC7BG037680.2	Tt--TRITD7Av1G173340.3	0.018739	0.0455223847945452	0.41164357796426	1551	362.25	1188.75	22	16	0.019	0.044	3.50172191
Td--TRIDC7BG037680.2	Tt--TRITD7Bv1G130380.4	0	0.0027649800901641 3	0	1551	362.33333	1188.6667	0	1	0	0.003	0.21269078
Td--TRIDC1AG040730.2	Tt--TRITD1Av1G170240.2	0.0013263	0.0019193868441161 3	0.69098123529508	2031	521.66667	1509.3333	2	1	0.001	0.002	0.14764514
Td--TRIDC1AG040730.2	Tt--TRITD1Bv1G156400.1	0.0777881	0.1627690161017068	0.47790458458020	2025	516	1509	111.5	75.5	0.074	0.146	12.5206935
Td--TRIDC1BG046350.4	Tt--TRITD1Av1G170240.2	0.0785745	0.1616458964320917	0.48609021771524	2007	512.33333	1494.6667	111.5	74.5	0.075	0.145	12.4342997
Td--TRIDC1BG046350.4	Tt--TRITD1Bv1G156400.1	0	0.0019569482727102 9	0	2016	511.66667	1504.3333	0	1	0	0.002	0.15053448
Td--TRIDC3AG005110.2	Tt--TRITD3Av1G011010.3	0.001119	0.0066372114577368 7	0.16859273926811	1197	302.66667	894.33333	1	2	0.001	0.007	0.51055473
Td--TRIDC3AG005110.2	Tt--TRITD3Bv1G009870.4	0.0170996	0.1199285 08409559	0.14258185550982	1185	297.75	887.25	15	33	0.017	0.111	9.22526988
Td--TRIDC3BG005340.1	Tt--TRITD3Av1G011010.3	0.0148139	0.1273855 36926584	0.11629177056494	1185	298.75	886.25	13	35	0.015	0.117	9.79888746

Td--TRIDC3BG005340.1	Tt--TRITD3Bv1G009870.4	0.0136497	0.0521344743064754	0.261816504845455	1185	297.83333	887.16667	12	15	0.014	0.05	4.01034418
Td--TRIDC4AG067540.2	Tt--TRITD4Av1G255960.1	0.0330435	0.0841249275951196	0.392790723555208	1959	458.66667	1500.3333	48.5	36.5	0.032	0.08	6.47114828
Td--TRIDC4AG067540.2	Tt--TRITD7Av1G006960.1	0.033066	0.0790808194415211	0.418129493874075	1959	459.66667	1499.3333	48.5	34.5	0.032	0.075	6.08313996
Td--TRIDC3BG003740.4	Tt--TRITD3Av1G001260.2	0.0454819	0.1245565 59659091	0.3651508 5286017	1266	299.16667	966.83333	42.67	34.33	0.044	0.115	9.58127382
Td--TRIDC2AG028370.1	Tt--TRITD2Av1G083210.1	0.0006532	0.0019575867557427	0.333696075523793	2043	511.5	1531.5	1	1	0.001	0.002	0.1505836
Td--TRIDC4AG002010.1	Tt--TRITD4Bv1G170030.2	0.1516284	0.2710075 90476187	0.5594986 37007512	1080	285.41667	794.58333	109.1	64.92	0.137	0.227	20.8467377
Td--TRIDC4BG049660.1	Tt--TRITD4Av1G004390.1	0.0315283	0.1062378 8779727	0.2967706 30047815	795	212	583	18	21	0.031	0.099	8.17214522
Td--TRIDC4BG049660.1	Tt--TRITD4Bv1G170030.2	0.0006652	0.0037406561332792 8	0.1778266 94026476	2040	536	1504	1	2	0.001	0.004	0.28774278
Td--TRIDC3AG046380.3	Tt--TRITD3Av1G202040.8	0.0010527	0		2466	564.83333	1901.1667	2	0	0.001	0	0
Td--TRIDC3AG046380.3	Tt--TRITD3Bv1G178340.3	0.0497061	0.0673883262055209	0.73760654264633	1623	363.33333	1259.6667	60.58	23.42	0.048	0.064	5.1837174
Td--TRIDC3BG052620.2	Tt--TRITD3Av1G202040.8	0.0389654	0.0490856 00209437	0.7938262 87436215	1320	301.66667	1018.3333	38.67	14.33	0.038	0.048	3.7758154

Td--TRIDC3BG052620.2	Tt--TRITD3Bv1G178340.3	0.0350502	0.0370966312101704	0.944834650270738	1326	303.91667	1022.0833	35	11	0.034	0.036	2.85358702
Td--TRIDC5AG051310.6	Tt--TRITD5Bv1G183000.5	0.2351317	0.724758240067772	0.324427785588307	1803	445.5	1357.5	274	207	0.202	0.465	55.7506339
Td--TRIDC7AG018660.25	Tt--TRITD7Bv1G021510.1	0.1975801	0.381903658401193	0.517355829158243	180	45.666667	134.33333	23.33	13.67	0.174	0.299	29.3772045
Td--TRIDC6BG052000.1	Tt--TRITD6Av1G181680.1	0.4503656	0.669904210998038	0.672283602392527	381	95.75	285.25	96.58	42.42	0.339	0.443	51.5310932
Td--TRIDC6BG052000.1	Tt--TRITD6Bv1G171100.1	0.1320585	0.187122184471385	0.705734226482892	795	196.25	598.75	72.5	32.5	0.121	0.166	14.3940142
Td--TRIDC6AG027120.2	Tt--TRITD6Av1G085990.3	0.0011735	0.0038314259570418	0.30627754	2229	523.33333	1705.6667	2	2	0.001	0.004	0.29472507
Td--TRIDC6AG027120.2	Tt--TRITD6Bv1G090340.3	0.011827	0.0271742485110101	0.435227614815954	2229	524.58333	1704.4167	20	14	0.012	0.027	2.09032681
Td--TRIDC6BG033330.6	Tt--TRITD6Av1G085990.3	0.0139003	0.0419282461401825	0.331525773699893	1821	441.41667	1379.5833	19	18	0.014	0.041	3.2252497
Td--TRIDC6BG033330.6	Tt--TRITD6Bv1G090340.3	0.0007258	0.0068104894768098 6	0.106567559573051	1821	442.5	1378.5	1	3	0.001	0.007	0.52388381
Td--TRIDC1BG000450.3	Tt--TRITD1Av1G000530.1	0.0097931	0.282694718241685	0.0346418204517112	1077	254.75	822.25	8	60	0.01	0.236	21.7457476
Td--TRIDC3AG067170.2	Tt--TRITD3Av1G263280.2	0	0.0156527420441852	0	795	193.66667	601.33333	0	3	0	0.015	1.20405708

Td--TRIDC5AG013160.4	Tt--TRITD5Av1G045620.11	0.0197938	0.0276829253871922	0.715019975198079	2202	521.25	1680.75	32.83	14.17	0.02	0.027	2.1294558
Td--TRIDC5AG013160.4	Tt--TRITD5Bv1G043010.13	0.0381645	0.120502436525644	0.316711530575384	2247	531.5	1715.5	63.83	59.17	0.037	0.111	9.26941819
Td--TRIDC5BG01510.1	Tt--TRITD4Av1G134780.6	0.2192454	0.97357992212686	0.225195039032581	1923	440.5	1482.5	281.8	240.2	0.19	0.545	74.8907632
Td--TRIDC5BG01510.1	Tt--TRITD5Av1G045620.11	0.0294258	0.11412809800106	0.257831692528109	1890	434.5	1455.5	42	46	0.029	0.106	8.77908446
Td--TRIDC5BG01510.1	Tt--TRITD5Bv1G043010.13	0.0277551	0.0359738765094755	0.77153450662917	1893	434.16667	1458.8333	39.75	15.25	0.027	0.035	2.76722127
Td--TRIDC2AG028730.4	Tt--TRITD2Av1G084500.2	0.0013233	0.0020505822753511 2	0.645346038019313	2001	488.33333	1512.6667	2	1	0.001	0.002	0.1577371
Td--TRIDC2AG028730.4	Tt--TRITD2Bv1G089940.2	0.0369545	0.0992190295197042	0.372454155456731	2001	489.58333	1511.4167	54.5	45.5	0.036	0.093	7.63223304
Td--TRIDC2BG032450.3	Tt--TRITD2Av1G084500.2	0.0376499	0.1015541 16052796	0.370737409304238	2001	489.58333	1511.4167	55.5	46.5	0.037	0.095	7.81185508
Td--TRIDC2BG032450.3	Tt--TRITD2Bv1G089940.2	0.0019892	0		2001	490.83333	1510.1667	3	0	0.002	0	0
Td--TRIDC3AG002440.3	Tt--TRITD3Bv1G001440.2	0.0270498	0.158675556124908	0.170472108279048	2037	531.41667	1505.5833	40	76	0.027	0.143	12.205812
Td--TRIDC3AG012960.1	Tt--TRITD3Av1G032230.2	0.0023021	0		1731	425.83333	1305.1667	3	0	0.002	0	0

Td--TRIDC3AG012960.1	Tt--TRITD3Bv1G039450.3	0.0222819	0.0854218746334456	0.260845510697612	1731	425.25	1305.75	28.67	34.33	0.022	0.081	6.57091343
Td--TRIDC3BG017420.1	Tt--TRITD3Av1G032230.2	0.0199343	0.0852096429892616	0.233944158885565	1731	426.25	1304.75	25.67	34.33	0.02	0.081	6.55458792
Td--TRIDC3BG017420.1	Tt--TRITD3Bv1G039450.3	0.0015337	0		1731	425.66667	1305.3333	2	0	0.002	0	0
Td--TRIDC7AG049870.2	Tt--TRITD7Av1G192070.4	0.000429	0.0039185895172667 6	0.109490022899238	3099	767.58333	2331.4167	1	3	4E-04	0.004	0.30142996
Td--TRIDC7AG049870.2	Tt--TRITD7Bv1G152370.2	0.0497018	0.121284736946398	0.409794251879709	3084	762	2322	111.7	85.33	0.048	0.112	9.32959515
Td--TRIDC7BG043940.1	Tt--TRITD7Av1G192070.4	0.0485464	0.12520568586254	0.387732826915449	2898	714	2184	102.7	82.33	0.047	0.115	9.6312066
Td--TRIDC7BG043940.1	Tt--TRITD7Bv1G152370.2	0.0009139	0.0028057082054386	0.325717427557193	2904	714.16667	2189.8333	2	2	0.001	0.003	0.21582371
Td--TRIDC1AG027610.11	Tt--TRITD1Av1G118910.11	0	0	NaN	2067	473.5	1593.5	0	0	0	0	0
Td--TRIDC1AG027610.11	Tt--TRITD1Bv1G117690.3	0.0044044	0.0457658297442697	0.0962371948287374	2067	473	1594	7	21	0.004	0.044	3.52044844
Td--TRIDC1BG033320.4	Tt--TRITD1Av1G118910.11	0.0047452	0.0472039363097519	0.100526412173093	1917	437.16667	1479.8333	7	20	0.005	0.046	3.63107202
Td--TRIDC1BG033320.4	Tt--TRITD1Bv1G117690.3	0.0013523	0		1917	436.66667	1480.3333	2	0	0.001	0	0

Td--TRIDC2AG030300.1	Tt--TRITD2Av1G095350.5	0.0098801	0.0131983101377534	0.7485879 6567626	2076	496.83333	1579.1667	15.5	6.5	0.01	0.013	1.01525463
Td--TRIDC2AG030300.1	Tt--TRITD2Bv1G096060.3	0.004443	0.0435958062133858	0.1019145 49522575	2076	495.83333	1580.1667	7	21	0.004	0.042	3.35352355
Td--TRIDC2BG033980.3	Tt--TRITD2Av1G095350.5	0.0130938	0.0596965353346621	0.2193393 03481989	2076	496.66667	1579.3333	20.5	28.5	0.013	0.057	4.59204118
Td--TRIDC2BG033980.3	Tt--TRITD2Bv1G096060.3	0.000633	0.0020202032416672 1	0.3133570 77504967	2076	495.66667	1580.3333	1	1	0.001	0.002	0.15540025
Td--TRIDC5AG078780.1	Tt--TRITD4Bv1G207930.11	0.0280784	0.0983929473184089	0.2853696 51533873	2061	482.58333	1578.4167	43.5	44.5	0.028	0.092	7.56868826
Td--TRIDC5AG078780.1	Tt--TRITD5Av1G258690.15	0.0135437	0.0256755327798694	0.5274927 81220761	2040	475.41667	1564.5833	21	12	0.013	0.025	1.97504098
Td--TRIDC6AG053160.4	Tt--TRITD6Av1G209030.4	0	0 0	NaN	1806	410.16667	1395.8333	0	0	0	0	0
Td--TRIDC6AG053160.4	Tt--TRITD6Bv1G205270.3	0.0021636	0.0325254218363474	0.0665200 615485585	1797	408.41667	1388.5833	3	13	0.002	0.032	2.50195553
Td--TRIDC6BG06171 0.3	Tt--TRITD6Av1G209030.4	0.002658	0.0391718894193417	0.0678536 905882627	1953	445.41667	1507.5833	4	17	0.003	0.038	3.01322226
Td--TRIDC6BG06171 0.3	Tt--TRITD6Bv1G205270.3	0.0006636	0.0022488772471924 1	0.2950672 61119309	1953	445.33333	1507.6667	1	1	0.001	0.002	0.17299056
Td--TRIDC7AG029890.1	Tt--TRITD7Av1G084620.26	0.0118291	0.0198475846758864	0.5959994 00914857	2067	476.5	1590.5	18.67	9.333	0.012	0.02	1.52673728

Td--TRIDC7AG029890.1	Tt--TRITD7Bv1G059260.26	0.0175961	0.0804704712156252	0.2186654 89880116	2067	476.16667	1590.8333	27.67	36.33	0.017	0.076	6.19003625
Td--TRIDC7BG020630.1	Tt--TRITD7Av1G084620.26	0.0182438	0.0827508 41243805	0.2204664 52986428	2067	476.5	1590.5	28.67	37.33	0.018	0.078	6.36544933
Td--TRIDC7BG020630.1	Tt--TRITD7Bv1G059260.26	0.0124655	0.0220212338645908	0.5660679 45203166	2067	476.16667	1590.8333	19.67	10.33	0.012	0.022	1.69394107
												Average=27.634017812 5438

The Ka/Ks ratio and divergence times between the genes of *T.turgidum* and *A.speltoides*												
Gene ID	**Gene ID**	**Ka**	**Ks**	**Ka/Ks**	**EffectiveLen**	**Average S-sites**	**Average N-sites**	**cN**	**cS**	**pN**	**pS**	**Divergence times (Mya)**
Tt--TRITD6Av1G170870.1	Aes-CH6S01G388700.1	0.105272	0.25056838 9028305	0.42013262 960469	1140	270.333	869.667	85.4167	57.5833	0.098	0.21	19.2744915
Tt--TRITD6Bv1G157460.4	Aes-CH6S01G388700.1	0.009032	0.03605844 6260535	0.25048924 4720249	1245	298.25	946.75	8.5	10.5	0.009	0.04	2.77372664
Tt--TRITD4Av1G214900.3	Aes-CH5S01G635300.1	0.009957	0.04627017 67540049	0.21519260 5160078	1323	312	1011	10	14	0.01	0.04	3.55924437
Tt--TRITD5Bv1G245660.3	Aes-CH5S01G635300.1	0.008967	0.03595459 67168393	0.24940419 8620978	1323	313.333	1009.67	9	11	0.009	0.04	2.76573821
Tt--TRITD4Av1G049530.4	Aes-CH4S01G275300.1	0.025036	0.10353316 5597153	0.24181772 0611919	984	232.667	751.333	18.5	22.5	0.025	0.1	7.96408966
Tt--TRITD4Bv1G124550.2	Aes-CH4S01G275300.1	0	0.02362400 02945282	0	1107	258	849	0	6	0	0.02	1.81723079
Tt--TRITD1Av1G032550.8	Aes-CH1S01G121300.1	0.004774	0.07627342 68698046	0.06258539 13690585	1647	386.083	1260.92	6	28	0.005	0.07	5.86718668
Tt--TRITD1Bv1G041580.2	Aes-CH1S01G121300.1	0.000867	0.06169368 21058823	0.01404907 21543162	1509	354.583	1154.42	1	21	0.001	0.06	4.74566785
Tt--TRITD1Av1G220750.2	Aes-CH1S01G422500.1	0.010845	0.03864033 55785428	0.28066187 5092429	1818	424.833	1393.17	15	16	0.011	0.04	2.97233351
Tt--TRITD1Av1G220750.2	Aes-CH3S01G287600.1	0.116746	1.37796524 082199	0.08472326 93703563	1185	267.75	917.25	99.1667	168.833	0.108	0.63	105.997326

Tt--TRITD1Bv1G218290.1	Aes-CH1S01G422500.1	0.005792	0.03119202 02169871	0.18569600 1956616	1812	425.5	1386.5	8	13	0.006	0.03	2.39938617
Tt--TRITD1Bv1G218290.1	Aes-CH3S01G287600.1	0.120198	1.33524278 151607	0.09001937 26488985	1185	268.083	916.917	101.833	167.167	0.111	0.62	102.710983
Tt--TRITD3Av1G155110.1	Aes-CH1S01G422500.1	0.131744	1.30052768 422985	0.10130012 29066	1440	328.167	1111.83	134.333	202.667	0.121	0.62	100.040591
Tt--TRITD3Av1G155110.1	Aes-CH3S01G287600.1	0.016172	0.06465832 57422691	0.25010979 1081995	1212	274.417	937.583	15	17	0.016	0.06	4.97371736
Tt--TRITD3Bv1G135620.1	Aes-CH1S01G422500.1	0.122936	1.32163028 928653	0.09301821 71527697	1440	330.25	1109.75	125.833	205.167	0.113	0.62	101.663868
Tt--TRITD3Bv1G135620.1	Aes-CH3S01G287600.1	0.003213	0.02951502 8952746	0.10887436 0126327	1212	276.417	935.583	3	8	0.003	0.03	2.27038684
Tt--TRITD7Av1G032080.4	Aes-CH7S01G034800.1	0.004416	0.11855052 4752603	0.03725198 52884539	1182	273.583	908.417	4	30	0.004	0.11	9.11927113
Tt--TRITD7Av1G032080.4	Aes-CH7S01G040500.1	0.014617	0.12086390 6464681	0.12093589 077302	174	35.8333	138.167	2	4	0.014	0.11	9.29722357
Tt--TRITD7Bv1G002620.4	Aes-CH7S01G034800.1	0.003538	0.06150986 37456262	0.05751504 2192818	1104	254	850	3	15	0.004	0.06	4.73152798
Tt--TRITD7Bv1G002620.4	Aes-CH7S01G040500.1	0.014617	0.05799990 25523778	0.25201394 394436	174	35.8333	138.167	2	2	0.014	0.06	4.46153097
Tt--TRITD7Av1G178880.7	Aes-CH7S01G479200.1	0	0.05265319 40049364	0	435	98.3333	336.667	0	5	0	0.05	4.05024569

Tt--TRITD7Av1G178880.7	Aes-CH7S01G477100.1	0.001084	0.03788684 26026762	0.02860663 86918701	1194	270.667	923.333	1	10	0.001	0.04	2.91437251
Tt--TRITD7Bv1G140030.6	Aes-CH7S01G479100.1	0.012498	0.04445745 74471552	0.28112913 0147292	675	150.583	524.417	6.5	6.5	0.012	0.04	3.41980442
Tt--TRITD7Bv1G140030.6	Aes-CH7S01G477100.1	0	0.02475180 43527187	0	1263	287.5	975.5	0	7	0	0.02	1.90398495
Tt--TRITD1Av1G222580.3	Aes-CH1S01G431400.1	0.008873	0.09583570 91220637	0.09258095 93007284	1794	433.5	1360.5	12	39	0.009	0.09	7.37197762
Tt--TRITD1Av1G222580.3	Aes-CH3S01G281200.1	0.157947	1.03385847 950683	0.15277386 5744122	1767	421.25	1345.75	191.667	236.333	0.142	0.56	79.5275753
Tt--TRITD1Bv1G220000.2	Aes-CH1S01G431400.1	0.002927	0.08924387 90498591	0.03279789 59523383	1809	439.75	1369.25	4	37	0.003	0.08	6.86491377
Tt--TRITD1Bv1G220000.2	Aes-CH3S01G281200.1	0.155374	1.13434289 729373	0.13697225 5185271	1770	424.417	1345.58	188.833	248.167	0.14	0.58	87.2571459
Tt--TRITD3Av1G151000.4	Aes-CH1S01G431400.1	0.155093	1.02255020 345943	0.15167283 869453	1770	423.417	1346.58	188.667	236.333	0.14	0.56	78.657708
Tt--TRITD3Av1G151000.4	Aes-CH3S01G281200.1	0.000713	0.05721597 75533474	0.01246029 24012231	1839	435.667	1403.33	1	24	0.001	0.06	4.40122904
Tt--TRITD3Av1G151000.4	Aes-CH3S01G300500.1	0.195384	2.73473987 977138	0.07144522 00488085	1701	392.917	1308.08	225	287	0.172	0.73	210.364606
Tt--TRITD3Bv1G133770.2	Aes-CH1S01G431400.1	0.15655	1.00548754 279242	0.15569596 695384	1770	424.083	1345.92	190.167	234.833	0.141	0.55	77.3451956

Tt--TRITD3Bv1G133770.2	Aes-CH3S01G281200.1	0.003574	0.01619808 42889023	0.22066893 5044077	1839	436.833	1402.17	5	7	0.004	0.02	1.24600648
Tt--TRITD3Bv1G133770.2	Aes-CH3S01G300300.1	0.132592	2.44057814 362181	0.05432828 86721166	1473	340.25	1132.75	137.667	245.333	0.122	0.72	187.73678
Tt--TRITD1Bv1G214990.2	Aes-CH1S01G408400.1	0.010244	0.07541670 15730403	0.13582897 6729899	1668	390.25	1277.75	13	28	0.01	0.07	5.80128474
Tt--TRITD1Bv1G214990.2	Aes-CH3S01G300300.1	0.126641	1.16346835 06924	0.10884821 9217405	1494	343.333	1150.67	134.083	202.917	0.117	0.59	89.4975654
Tt--TRITD3Av1G162410.11	Aes-CH1S01G408400.1	0.135474	1.25740218 445295	0.10774097 7267222	1638	376.667	1261.33	156.333	229.667	0.124	0.61	96.723245
Tt--TRITD3Av1G162410.11	Aes-CH3S01G300300.1	0.007797	0.03585447 44535693	0.21747191 4046156	1503	342.75	1160.25	9	12	0.008	0.04	2.7580365
Tt--TRITD3Bv1G140820.6	Aes-CH1S01G408400.1	0.135671	1.30910986 782328	0.10363574 291475	1650	378.25	1271.75	157.833	234.167	0.124	0.62	100.700759
Tt--TRITD3Bv1G140820.6	Aes-CH3S01G300300.1	0.008584	0.04501350 72946896	0.19069353 1792783	1515	343.333	1171.67	10	15	0.009	0.04	3.46257748
Tt--TRITD1Av1G209190.3	Aes-CH3S01G300300.1	0.128141	1.05006576 243917	0.12203140 3208924	1491	340.667	1150.33	135.5	192.5	0.118	0.57	80.7742894
Tt--TRITD6Av1G037430.3	Aes-CH6S01G223700.1	0.003205	0.11494723 0865338	0.02788351 71487635	813	187.667	625.333	2	20	0.003	0.11	8.84209468
Tt--TRITD6Av1G037430.3	Aes-CH7S01G615700.1	0.046758	1.11343770 157145	0.04199419 43560718	1107	254	853	38.6667	147.333	0.045	0.58	85.649054

Tt--TRITD6Av1G037030.3	Aes-CH7S01G592100.1	0.04681	1.07084141346941	0.04371312453611	76	1107	254.917	852.083	38.6667	145.333	0.045	0.57	82.3724164
Tt--TRITD6Bv1G050580.1	Aes-CH6S01G223700.1	0.0016	0.0440089568527774	0.0363465568784514	76	813	187.167	625.833	1	8	0.002	0.04	3.38530437
Tt--TRITD6Bv1G050580.1	Aes-CH7S01G615700.1	0.045484	1.02009166299726	0.0445878777141053	76	1107	253.5	853.5	37.6667	141.333	0.044	0.56	78.4685895
Tt--TRITD6Bv1G050580.1	Aes-CH7S01G592100.1	0.045534	0.997297920439844	0.0456575099732291	76	1107	254.417	852.583	37.6667	140.333	0.044	0.55	76.7152246
Tt--TRITD7Av1G227590.3	Aes-CH6S01G223700.1	0.051366	1.01719459446228	0.0504975395007521	76	813	188.583	624.417	31	105	0.05	0.56	78.245738
Tt--TRITD7Av1G227590.3	Aes-CH7S01G615700.1	0.046856	0.235309888194804	0.1991263107138731	76	1248	295.833	952.167	43.25	59.75	0.045	0.2	18.1007606
Tt--TRITD7Av1G227590.3	Aes-CH7S01G592100.1	0.04804	0.185187135365258	0.2594148602329981	76	1248	297.083	950.917	44.25	48.75	0.047	0.16	14.2451643
Tt--TRITD6Av1G027670.1	Aes-CH6S01G197100.1	0.109455	0.180511336279558	0.6063585267676441	76	1086	262.833	823.167	83.8333	42.1667	0.102	0.16	13.8854874
Tt--TRITD6Av1G027670.1	Aes-CH6S01G225500.1	0.029791	0.0548121425538575	0.5435021917359651	76	1497	350	1147	33.5	18.5	0.029	0.05	4.21631866
Tt--TRITD6Bv1G041120.1	Aes-CH6S01G197100.1	0.113074	0.232361987661441	0.4866291624939111	76	1101	268.167	832.833	87.4167	53.5833	0.105	0.2	17.8739991
Tt--TRITD6Bv1G041120.1	Aes-CH6S01G225500.1	0.019046	0.039511696280512	0.4820301888902181	76	1494	350.75	1143.25	21.5	13.5	0.019	0.04	3.03936125

Tt--TRITD4Av1G251160.7	Aes-CH7S01G875500.1	0.011221	0.05310622 73628451	0.21128496 5323988	1452	344.583	1107.42	12.3333	17.6667	0.011	0.05	4.08509441
Tt--TRITD7Av1G011740.1	Aes-CH7S01G875500.1	0.021414	0.11505765 997465	0.18611698 7396476	1449	343.75	1105.25	23.3333	36.6667	0.021	0.11	8.85058923
Tt--TRITD7Av1G221430.1	Aes-CH7S01G583200.1	0.013574	0.11523649 5246923	0.11779143 6367129	1719	405.667	1313.33	17.6667	43.3333	0.013	0.11	8.86434579
Tt--TRITD7Av1G221430.1	Aes-CH7S01G560300.1	0.012542	0.11041205 6839335	0.11359646 4923078	1719	405.833	1313.17	16.3333	41.6667	0.012	0.1	8.49323514
Tt--TRITD7Bv1G170250.1	Aes-CH7S01G560300.1	0.017897	0.07318715 21317476	0.24453798 3139636	1734	409.917	1324.08	23.4167	28.5833	0.018	0.07	5.62978093
Tt--TRITD7Bv1G170250.1	Aes-CH7S01G583200.1	0.015835	0.06696606 04809241	0.23646674 6132782	1734	409.75	1324.25	20.75	26.25	0.016	0.06	5.15123542
Tt--TRITD6Bv1G202800.1	Aes-CH6S01G486800.1	0.15913	0.25625285 9532278	0.62098783 4911066	1059	287.167	771.833	110.667	62.3333	0.143	0.22	19.7117584
Tt--TRITD6Bv1G202800.1	Aes-CH6S01G486100.1	0.004331	0.10710540 5370392	0.04043912 15116197	1116	305.583	810.417	3.5	30.5	0.004	0.1	8.23887734
Tt--TRITD6Bv1G202800.1	Aes-CH7S01G128000.1	0.109122	0.40065102 3322969	0.27236069 7175106	1020	274.917	745.083	75.6667	85.3333	0.102	0.31	30.8193095
Tt--TRITD7Av1G048910.1	Aes-CH7S01G128000.1	0.002633	0.09616225 13292521	0.02737806 49076557	1038	277	761	2	25	0.003	0.09	7.39709626
Tt--TRITD7Bv1G022360.1	Aes-CH6S01G486800.1	0.266712	0.50297123 7768445	0.53027194 3876969	1002	268.333	733.667	164.667	98.3333	0.224	0.37	38.6900952

Tt--TRITD7Bv1G022360.1	Aes-CH7S01G128000.1	0.001319	0.04095310 05261388	0.03219980 02948671	1035	276	759	1	11	0.001	0.04	3.1502385
Tt--TRITD4Av1G206810.2	Aes-CH5S01G665200.1	0.011695	0.18700944 2781175	0.06253435 61241292	1569	362.5	1206.5	14	60	0.012	0.17	14.3853418
Tt--TRITD5Bv1G252270.3	Aes-CH5S01G665200.1	0.019564	0.03690432 2238023	0.53014054 9196177	1164	270.75	893.25	17.25	9.75	0.019	0.04	2.83879402
Tt--TRITD5Av1G091640.3	Aes-CH5S01G146600.1	0.020066	0.06964194 67394346	0.28812431 4098006	873	208	665	13.1667	13.8333	0.02	0.07	5.35707283
Tt--TRITD5Bv1G075270.1	Aes-CH5S01G146600.1	0.018257	0.03268958 21136056	0.55850010 4085056	1362	317.833	1044.17	18.8333	10.1667	0.018	0.03	2.51458324
Tt--TRITD4Av1G192120.1	Aes-CH4S01G066000.1	0.240159	0.53890231 0923573	0.44564385 9839499	987	269.25	717.75	147.5	103.5	0.206	0.38	41.4540239
Tt--TRITD4Bv1G014100.1	Aes-CH4S01G066000.1	0.020384	0.11425274 8719646	0.17841143 8827204	1029	283.083	745.917	15	30	0.02	0.11	8.78867298
Tt--TRITD2Bv1G201730.10	Aes-CH2S01G410800.1	0.005443	0.03197926 46706658	0.17021413 4658332	2667	638.833	2028.17	11	20	0.005	0.03	2.45994344
Tt--TRITD2Bv1G201730.10	Aes-CH6S01G361000.1	0.158178	0.80806796 0217736	0.19574866 2274665	2616	630.417	1985.58	283.167	311.833	0.143	0.49	62.1590739
Tt--TRITD6Av1G156460.10	Aes-CH2S01G410800.1	0.154284	0.87137582 4822425	0.17705750 7565776	2616	628.417	1987.58	277.167	323.833	0.139	0.52	67.0289096
Tt--TRITD6Av1G156460.10	Aes-CH6S01G361000.1	0.007039	0.04538246 21193559	0.15511177 933772	2634	635.833	1998.17	14	28	0.007	0.04	3.49095862

Tt--TRITD6Bv1G142910.11	Aes-CH2S01G410800.1	0.154399	0.82853847 1502112	0.18635058 692384	2616	629.75	1986.25	277.167	315.833	0.14	0.5	63.7337286
Tt--TRITD6Bv1G142910.11	Aes-CH6S01G361000.1	0.003011	0.01425973 7710894	0.21113941 6707664	2634	637.167	1996.83	6	9	0.003	0.01	1.0969029
Tt--TRITD4Av1G198600.3	Aes-CH4S01G045900.1	0.012248	0.14121914 0034339	0.08673325 36499366	1707	431.167	1275.83	15.5	55.5	0.012	0.13	10.8630108
Tt--TRITD4Av1G042360.2	Aes-CH4S01G288500.1	0.062643	0.12690035 1623443	0.49363823 6498916	549	141.333	407.667	24.5	16.5	0.06	0.12	9.76156551
Tt--TRITD4Bv1G128900.2	Aes-CH4S01G288500.1	0.060058	0.10990622 2020403	0.54644417 2010317	549	141.833	407.167	23.5	14.5	0.058	0.1	8.45432477
Tt--TRITD2Av1G072210.1	Aes-CH2S01G206600.1	0.0362	0.12250924 1501212	0.29549153 7153017	1527	348	1179	41.6667	39.3333	0.035	0.11	9.42378781
Tt--TRITD2Bv1G081010.1	Aes-CH2S01G206600.1	0.003994	0.04407970 2765306	0.09060599 87749453	1629	373.75	1255.25	5	16	0.004	0.04	3.39074637
Tt--TRITD3Av1G171650.1	Aes-CH3S01G320300.1	0.266838	0.63802713 2594916	0.41822355 5174867	1191	305.083	885.917	198.917	131.083	0.225	0.43	49.0790102
Tt--TRITD1Bv1G200860.1	Aes-CH1S01G358800.1	0.023772	0.09168667 70674624	0.25927505 800895	1575	399.75	1175.25	27.5	34.5	0.023	0.09	7.05282131
Tt--TRITD3Av1G171180.1	Aes-CH1S01G358800.1	0.304656	0.65211883 0121486	0.46717818 717868	1134	291.917	842.083	210.833	127.167	0.25	0.44	50.1629869
Tt--TRITD3Av1G171180.1	Aes-CH3S01G320300.1	0.022482	0.12552237 8871155	0.17911114 0417861	1152	294.167	857.833	19	34	0.022	0.12	9.65556761

Tt--TRITD3Bv1G150780.1	Aes-CH1S01G358800.1	0.325805	0.64779832 1944976	0.50294188 5672488	1077	279.5	797.5	210.75	121.25	0.264	0.43	49.8306401
Tt--TRITD3Bv1G150780.1	Aes-CH3S01G320300.1	0.044364	0.13966722 2025121	0.31763724 4003039	1095	282.5	812.5	35	36	0.043	0.13	10.7436325
Tt--TRITD5Av1G228010.3	Aes-CH5S01G571400.1	0.001627	0.08544079 08989227	0.01904382 28057703	1602	371.5	1230.5	2	30	0.002	0.08	6.57236853
Tt--TRITD5Bv1G226960.4	Aes-CH5S01G571400.1	0.000813	0.05873020 22696126	0.01384779 34849731	1602	371.75	1230.25	1	21	0.001	0.06	4.51770787
Tt--TRITD5Av1G086470.1	Aes-CH5S01G135500.1	0.033137	0.07083045 3628411	0.46783332 3532586	1569	373.583	1195.42	38.75	25.25	0.032	0.07	5.44849643
Tt--TRITD5Bv1G121250.4	Aes-CH5S01G228100.1	0.00192	0.03883664 62279456	0.04944050 63438468	2040	475.583	1564.42	3	18	0.002	0.04	2.98743433
Tt--TRITD0Uv1G042030.1	Aes-CH5S01G228100.1	0.02851	0.07401214 82122232	0.38521164 647193	1629	363	1266	35.4167	25.5833	0.028	0.07	5.69324217
Tt--TRITD2Av1G270510.6	Aes-CH2S01G510600.1	0.00827	0.07467421 64637182	0.11075402 8654497	3954	914.5	3039.5	25	65	0.008	0.07	5.7441705
Tt--TRITD2Bv1G233690.10	Aes-CH2S01G510600.1	0.001976	0.02777838 10997533	0.07113888 30397603	3957	916.75	3040.25	6	25	0.002	0.03	2.13679855
Tt--TRITD6Av1G054950.1	Aes-CH6S01G239300.1	0.01196	0.10996169 8922761	0.10876143 0418351	1626	361.75	1264.25	15	37	0.012	0.1	8.45859222
Tt--TRITD6Bv1G065890.1	Aes-CH6S01G239300.1	0.006361	0.01671766 45225422	0.38047196 2132943	1626	362.917	1263.08	8	6	0.006	0.02	1.28597419

Tt--TRITD5Av1G205000.3	Aes-CH5S01G459300.1	0.006821	0.05481027 51379005	0.12444404 69502	2316	548.667	1767.33	12	29	0.007	0.05	4.21617501
Tt--TRITD5Bv1G200940.1	Aes-CH5S01G459300.1	0.00213	0.02898911 58257094	0.07349289 71921728	2478	597.833	1880.17	4	17	0.002	0.03	2.22993199
Tt--TRITD5Bv1G119650.1	Aes-CH5S01G223800.1	0.00719	0.04828698 64807181	0.14890117 7759489	1299	320.75	978.25	7	15	0.007	0.05	3.71438358
Tt--TRITD0Uv1G047610.1	Aes-CH5S01G223800.1	0.013374	0.07252420 61553695	0.18440316 8413933	1299	318.25	980.75	13	22	0.013	0.07	5.57878509
Tt--TRITD5Av1G112160.1	Aes-CH5S01G171800.1	0.007828	0.06418661 36241277	0.12195470 7796117	1884	471.417	1412.58	11	29	0.008	0.06	4.93743182
Tt--TRITD5Bv1G092620.2	Aes-CH5S01G171800.1	0.003524	0.03677737 49447345	0.09580930 29027097	1896	473.667	1422.33	5	17	0.004	0.04	2.82902884
Tt--TRITD6Av1G162640.1	Aes-CH6S01G373100.1	0.059463	0.09466116 67118609	0.62816844 6467165	1536	352.333	1183.67	67.6667	31.3333	0.057	0.09	7.28162821
Tt--TRITD6Bv1G148270.1	Aes-CH6S01G373100.1	0.023727	0.05102089 30518217	0.46504472 4753242	1536	351.417	1184.58	27.6667	17.3333	0.023	0.05	3.92468408
Tt--TRITD2Av1G069790.2	Aes-CH2S01G202900.1	0.0064	0.10294013 4689408	0.06217243 50359807	2037	467.833	1569.17	10	45	0.006	0.1	7.9184719
Tt--TRITD2Bv1G079430.3	Aes-CH2S01G202900.1	0.005101	0.07149595 40977767	0.07134256 93667414	2043	469.25	1573.75	8	32	0.005	0.07	5.49968878
Tt--TRITD2Av1G066770.1	Aes-CH2S01G196500.1	0.079502	0.18151748 1848183	0.43798344 0544963	966	234.667	731.333	55.1667	37.8333	0.075	0.16	13.9628832

Tt--TRITD2Bv1G076660.1	Aes-CH2S01G196500.1	0.001369	0.02161532 89016188	0.06331680 28439896	966	234.667	731.333	1	5	0.001	0.02	1.66271761
Tt--TRITD0Uv1G000510.7	Aes-CH1S01G030400.1	0.016327	0.09617425 63439188	0.16976658 836637	1761	398.833	1362.17	22	36	0.016	0.09	7.39801972
Tt--TRITD0Uv1G004130.5	Aes-CH1S01G030400.1	0.010736	0.07749669 98216712	0.13853006 1495741	1761	400.667	1360.33	14.5	29.5	0.011	0.07	5.9612846
Tt--TRITD6Av1G073760.2	Aes-CH6S01G267500.1	0.011514	0.04957556 51565165	0.23225818 7977808	1167	291.833	875.167	10	14	0.011	0.05	3.81350501
Tt--TRITD6Av1G073760.2	Aes-CH7S01G572000.1	0.207406	0.56787484 7945159	0.36523108 5699519	1098	267.417	830.583	150.5	106.5	0.181	0.4	43.6826806
Tt--TRITD6Av1G073760.2	Aes-CH7S01G534900.1	0.207334	0.59302925 6307023	0.34961792 639015	1098	267.167	830.833	150.5	109.5	0.181	0.41	45.6176351
Tt--TRITD7Av1G209280.1	Aes-CH6S01G267500.1	0.206134	0.59196828 0834634	0.34821746 5262988	1098	266.667	831.333	149.833	109.167	0.18	0.41	45.5360216
Tt--TRITD7Av1G209280.1	Aes-CH7S01G534900.1	0	0.05430598 21634854	0	1188	286.333	901.667	0	15	0	0.05	4.17738324
Tt--TRITD7Av1G209280.1	Aes-CH7S01G572000.1	0	0.05425685 2862061	0	1188	286.583	901.417	0	15	0	0.05	4.17360407
Tt--TRITD7Bv1G162110.1	Aes-CH6S01G267500.1	0.206229	0.56653925 3690104	0.36401513 8196783	1098	267	831	149.833	106.167	0.18	0.4	43.5799426
Tt--TRITD7Bv1G162110.1	Aes-CH7S01G534900.1	0.00111	0.03938852 57125847	0.02818812 9861152	1188	286.667	901.333	1	11	0.001	0.04	3.02988659

Tt--TRITD7Bv1G162110.1	Aes-CH7S01G572000.1	0.001111	0.05419148 52970241	0.02049394 1856555	1188	286.917	901.083	1	15	0.001	0.05	4.16857579
Tt--TRITD6Bv1G077930.1	Aes-CH6S01G267500.1	0.003413	0.00339751 43038125	1.00455064 13814	1176	295	881	3	1	0.003	0	0.26134725
Tt--TRITD6Bv1G077930.1	Aes-CH7S01G572000.1	0.204812	0.57267355 7981767	0.35764110 9038273	1098	267.583	830.417	148.833	107.167	0.179	0.4	44.0518122
Tt--TRITD6Bv1G077930.1	Aes-CH7S01G534900.1	0.204741	0.59798078 5901273	0.34238680 5593968	1098	267.333	830.667	148.833	110.167	0.179	0.41	45.998522
Tt--TRITD1Av1G197990.2	Aes-CH1S01G324900.1	0.010316	0.12521194 1650912	0.08239153 9189843	1800	433.583	1366.42	14	50	0.01	0.12	9.63168782
Tt--TRITD1Av1G197990.2	Aes-CH3S01G359100.1	0.274845	1.25437564 72696	0.21910938 7999411	1293	307.25	985.75	226.833	187.167	0.23	0.61	96.4904344
Tt--TRITD1Bv1G187410.2	Aes-CH1S01G324900.1	0.005151	0.10987619 8997481	0.04688456 90315337	1794	430.5	1363.5	7	44	0.005	0.1	8.45201531
Tt--TRITD1Bv1G187410.2	Aes-CH3S01G359100.1	0.272404	1.32648478 026529	0.20535745 3951548	1293	306.5	986.5	225.333	190.667	0.228	0.62	102.037291
Tt--TRITD3Av1G181840.2	Aes-CH1S01G324900.1	0.321732	1.34918169 196563	0.23846417 8165405	1731	409.417	1321.58	345.75	256.25	0.262	0.63	103.783207
Tt--TRITD3Av1G181840.2	Aes-CH3S01G359100.1	0.015966	0.07168613 50579924	0.22272104 9163425	1320	307.167	1012.83	16	21	0.016	0.07	5.51431808
Tt--TRITD3Bv1G162740.2	Aes-CH1S01G324900.1	0.303096	1.29630321 663795	0.23381561 4882939	1713	405.167	1307.83	326.083	249.917	0.249	0.62	99.715632

Tt--TRITD3Bv1G162740.2	Aes-CH3S01G359100.1	0.003951	0.01642101 72052585	0.24058353 8110935	1323	307.833	1015.17	4	5	0.004	0.02	1.26315517
Tt--TRITD6Av1G173820.1	Aes-CH6S01G396400.1	0.053081	0.08459662 06090083	0.62746501 6964092	324	83.3333	240.667	12.3333	6.66667	0.051	0.08	6.50743235
Tt--TRITD6Av1G173820.1	Aes-CH7S01G293100.1	0.221359	0.44876668 8942792	0.49326037 3832198	1356	336.083	1019.92	195.5	113.5	0.192	0.34	34.5205145
Tt--TRITD6Av1G173820.1	Aes-CH7S01G292300.1	0.234012	0.48999590 8361605	0.47757850 84182	1386	342.583	1043.42	209.75	123.25	0.201	0.36	37.691993
Tt--TRITD6Bv1G161420.1	Aes-CH6S01G396400.1	0.053081	0.09815120 64037792	0.54081271 0616793	324	83.3333	240.667	12.3333	7.66667	0.051	0.09	7.5500928
Tt--TRITD6Bv1G161420.1	Aes-CH7S01G293100.1	0.169421	0.42197510 1311121	0.40149625 83378	1254	308.833	945.167	143.333	99.6667	0.152	0.32	32.4596232
Tt--TRITD6Bv1G161420.1	Aes-CH7S01G292300.1	0.169388	0.46320026 9427842	0.36569044 4618567	1254	308.667	945.333	143.333	106.667	0.152	0.35	35.63079
Tt--TRITD7Av1G083120.2	Aes-CH6S01G396400.1	0.168767	0.37502085 796009	0.45002065 6336791	324	83.5833	240.417	36.3333	24.6667	0.151	0.3	28.8477583
Tt--TRITD7Av1G083120.2	Aes-CH7S01G293100.1	0.033803	0.08672833 06824468	0.38975842 7116124	1413	354.083	1058.92	35	29	0.033	0.08	6.67141005
Tt--TRITD7Av1G083120.2	Aes-CH7S01G292300.1	0.032124	0.06990410 85036541	0.45954824 254818	1416	353.333	1062.67	33.4167	23.5833	0.031	0.07	5.37723912
Tt--TRITD1Av1G203640.1	Aes-CH1S01G345800.1	0.052485	0.15893690 9681011	0.33022642 471187	2331	581.833	1749.17	88.6667	83.3333	0.051	0.14	12.2259161

Tt--TRITD3Av1G164820.1	Aes-CH1S01G345800.1	0.119795	0.33613216 9650911	0.35639171 8216885	1605	382.667	1222.33	135.333	103.667	0.111	0.27	25.8563207
Tt--TRITD3Av1G164820.1	Aes-CH3S01G303500.1	0.030853	0.17264603 2765129	0.17870694 3220297	1578	381.5	1196.5	36.1667	58.8333	0.03	0.15	13.2804641
Tt--TRITD3Bv1G142220.1	Aes-CH3S01G303200.1	0.010199	0.05008040 44045429	0.20364774 7629072	2433	557.333	1875.67	19	27	0.01	0.05	3.8523388
Tt--TRITD1Bv1G199190.1	Aes-CH1S01G345800.1	0.122627	0.30298563 8665569	0.40472944 1850311	2385	589.083	1795.92	203.167	146.833	0.113	0.25	23.3065876
Tt--TRITD3Av1G164850.1	Aes-CH3S01G303200.1	0.250197	1.56164432 419734	0.16021352 8491737	2337	535.917	1801.08	383.167	351.833	0.213	0.66	120.126486
Tt--TRITD1Bv1G218630.1	Aes-CH1S01G423700.1	0.003988	0.11680696 0772631	0.03414218 86387693	660	157.167	502.833	2	17	0.004	0.11	8.98515083
Tt--TRITD1Bv1G218630.1	Aes-CH3S01G286400.1	0.064815	0.67698925 0164609	0.09573980 1509245	654	154.75	499.25	31	69	0.062	0.45	52.0760962
Tt--TRITD3Av1G155690.2	Aes-CH1S01G423700.1	0.067549	0.78915534 1376171	0.08559695 47681668	699	164.917	534.083	34.5	80.5	0.065	0.49	60.704257
Tt--TRITD3Av1G155690.2	Aes-CH3S01G286400.1	0.023523	0.10274396 690584	0.22895196 9644575	990	234.333	755.667	17.5	22.5	0.023	0.1	7.90338207
Tt--TRITD3Bv1G135290.1	Aes-CH1S01G423700.1	0.067549	0.78915534 1376171	0.08559695 47681668	699	164.917	534.083	34.5	80.5	0.065	0.49	60.704257
Tt--TRITD3Bv1G135290.1	Aes-CH3S01G286400.1	0	0.03039489 74249952	0	984	235	749	0	7	0	0.03	2.33806903

Tt--TRITD2Av1G084730.2	Aes-CH2S01G225300.1	0.437188	3.00372926185952	0.145548428193269	1908	446.583	1461.42	484.167	328.833	0.331	0.74	231.056097
Tt--TRITD2Bv1G090370.1	Aes-CH2S01G225200.1	0.01405	0.0795852977293504	0.176545642529286	2097	516.5	1580.5	22	39	0.014	0.08	6.12194598
Tt--TRITD7Av1G004690.5	Aes-CH7S01G846700.1	0.077608	0.196655836641592	0.394636477419282	1005	230.75	774.25	57.0833	39.9167	0.074	0.17	15.127372
Tt--TRITD7Av1G004690.5	Aes-CH7S01G847900.1	0.114489	0.356430553297247	0.321211134083509	981	224.417	756.583	80.3333	63.6667	0.106	0.28	27.4177349
Tt--TRITD2Av1G291610.2	Aes-CH2S01G633500.1	0.058331	0.159801748239495	0.365020782994529	1293	301.083	991.917	55.6667	43.3333	0.056	0.14	12.2924422
Tt--TRITD6Av1G000920.4	Aes-CH6S01G007900.1	0.099679	0.181289952665359	0.549832888941937	489	108.667	380.333	35.5	17.5	0.093	0.16	13.945381
Tt--TRITD3Bv1G011530.1	Aes-CH3S01G029900.1	0.077347	0.369654123214705	0.209241298364992	1242	287.25	954.75	70.1667	83.8333	0.073	0.29	28.4349326
Tt--TRITD3Av1G028450.2	Aes-CH3S01G103500.1	0.013197	0.107660269622227	0.122580744872265	1941	488.583	1452.42	19	49	0.013	0.1	8.2815592
Tt--TRITD5Av1G170840.1	Aes-CH5S01G330400.1	0.04464	0.0888767065112392	0.502268851571693	1308	304.25	1003.75	43.5	25.5	0.043	0.08	6.83666973
Tt--TRITD5Av1G199510.5	Aes-CH5S01G438200.1	0.002342	0.110139826373957	0.0212610992027364	1119	263.583	855.417	2	27	0.002	0.1	8.47229434
Tt--TRITD5Av1G202570.2	Aes-CH5S01G446700.1	0.14269	0.292256479781646	0.488235034561334	1053	251.333	801.667	104.167	60.8333	0.13	0.24	22.4812677

Tt--TRITD5Bv1G194390.4	Aes-CH5S01G438200.1	0.002343	0.09690879 86100044	0.02417568 65100649	1119	264	855	2	24	0.002	0.09	7.45452297
Tt--TRITD5Bv1G198000.2	Aes-CH5S01G446700.1	0.003468	0.05709794 85169519	0.06072978 52177565	1140	272.833	867.167	3	15	0.003	0.05	4.39214989
Tt--TRITD5Av1G187760.2	Aes-CH5S01G383000.1	0.005869	0.12226878 0825224	0.04800143 42340689	1785	416.583	1368.42	8	47	0.006	0.11	9.40529083
Tt--TRITD5Bv1G177650.5	Aes-CH5S01G383000.1	0.002185	0.07791053 92690779	0.02804325 72423906	1794	418.917	1375.08	3	31	0.002	0.07	5.99311841
Tt--TRITD5Bv1G125410.2	Aes-CH5S01G234600.1	0.165494	0.21314888 5020312	0.77642373 3139837	1167	315.75	851.25	126.417	58.5833	0.149	0.19	16.3960681
Tt--TRITD0Uv1G046260.2	Aes-CH5S01G234600.1	0.162903	0.23796995 6799587	0.68455324 6209904	1155	311	844	123.583	63.4167	0.146	0.2	18.3053813
Tt--TRITD5Av1G229390.2	Aes-CH5S01G579200.1	0.004247	0.07043294 95874262	0.06029915 39710432	1242	297.5	944.5	4	20	0.004	0.07	5.4179192
Tt--TRITD5Bv1G228940.2	Aes-CH5S01G579200.1	0.004243	0.05898992 9712129	0.07193249 44206817	1245	299.667	945.333	4	17	0.004	0.06	4.5376869
Tt--TRITD6Av1G059560.3	Aes-CH6S01G246400.1	0.002079	0.08753091 17576116	0.02374753 37883332	1254	290.5	963.5	2	24	0.002	0.08	6.73314706
Tt--TRITD6Bv1G068340.3	Aes-CH6S01G246400.1	0	0.03165768 90012354	0	1254	290.333	963.667	0	9	0	0.03	2.43520685
Tt--TRITD7Av1G255570.2	Aes-CH6S01G246400.1	0.089329	0.72697263 3199035	0.12287791 0390838	1254	292.167	961.833	81	136	0.084	0.47	55.9209718

Tt--TRITD7Bv1G205360.3	Aes-CH6S01G246400.1	0.089948	0.85805599705865	0.10482744 6457087	1254	292.5	961.5	81.5	149.5	0.085	0.51	66.0043075
Tt--TRITD7Av1G173340.3	Aes-CH7S01G417300.1	0.016078	0.03147554 25123037	0.51079548 9868722	1599	373.083	1225.92	19.5	11.5	0.016	0.03	2.42119558
Tt--TRITD7Bv1G130380.4	Aes-CH7S01G417300.1	0.00782	0.02321532 63596053	0.33684960 8321048	1593	371.833	1221.17	9.5	8.5	0.008	0.02	1.78579434
Tt--TRITD1Av1G170240.2	Aes-CH1S01G249300.1	0.079011	0.16427036 7467962	0.48098248 4841285	2022	515.167	1506.83	113	76	0.075	0.15	12.6361821
Tt--TRITD1Bv1G156400.1	Aes-CH1S01G249300.1	0.066631	0.13669260 9763071	0.48745407 3676192	2031	514.833	1516.17	96.6667	64.3333	0.064	0.12	10.5148161
Tt--TRITD3Av1G011010.3	Aes-CH3S01G024500.1	0.020725	0.11233604 8214884	0.18449426 5450723	1155	290.75	864.25	17.6667	30.3333	0.02	0.1	8.64123448
Tt--TRITD3Bv1G009870.4	Aes-CH3S01G024500.1	0.022885	0.11741217 5920595	0.19490843 1144324	1155	289.833	865.167	19.5	31.5	0.023	0.11	9.03170584
Tt--TRITD7Av1G006960.1	Aes-CH7S01G856400.1	0.015368	0.05116883 78479657	0.30033945 7224188	1977	465	1512	23	23	0.015	0.05	3.93606445
Tt--TRITD3Av1G001260.2	Aes-CH3S01G011500.1	0.048228	0.13052172 3808777	0.36950302 2911355	2301	554.417	1746.58	81.5833	66.4167	0.047	0.12	10.0401326
Tt--TRITD2Av1G083210.1	Aes-CH2S01G221400.1	0.224394	1.89681134 612709	0.11830045 9412427	552	136.917	415.083	80.5	94.5	0.194	0.69	145.908565
Tt--TRITD4Bv1G170030.2	Aes-CH4S01G415500.1	0.013459	0.07468118 37582654	0.18021348 8120449	2034	534.583	1499.42	20	38	0.013	0.07	5.74470644

Tt--TRITD4Bv1G170030.2	Aes-CH4S01G404900.1	0.015802	0.09199727 87562797	0.17176116 1384436	2040	537.083	1502.92	23.5	46.5	0.016	0.09	7.07671375
Tt--TRITD3Av1G202040.8	Aes-CH3S01G393100.1	0.017683	0.09260178 09171765	0.19096214 0179784	2424	554.833	1869.17	32.6667	48.3333	0.017	0.09	7.12321392
Tt--TRITD3Bv1G178340.3	Aes-CH3S01G393100.1	0.052979	0.10623412 3237836	0.49869995 4773756	1617	360.917	1256.08	64.25	35.75	0.051	0.1	8.17185563
Tt--TRITD6Av1G085990.3	Aes-CH6S01G288200.1	0.012091	0.04737760 98543071	0.25521192 018948	2580	620.75	1959.25	23.5	28.5	0.012	0.05	3.64443153
Tt--TRITD6Bv1G090340.3	Aes-CH6S01G288200.1	0.008732	0.03287296 9220032	0.26563550 3836382	2580	621.833	1958.17	17	20	0.009	0.03	2.52868994
Tt--TRITD1Av1G000530.1	Aes-CH1S01G005100.1	0.011445	0.17910027 0476067	0.06390137 51181213	1077	255.25	821.75	9.33333	40.6667	0.011	0.16	13.7769439
Tt--TRITD5Av1G045620.11	Aes-CH5S01G108100.1	0.025412	0.10930267 3120492	0.23249257 8738636	2202	521.083	1680.92	42	53	0.025	0.1	8.40789793
Tt--TRITD5Bv1G043010.13	Aes-CH5S01G108100.1	0.026749	0.08688438 29832222	0.30787377 0895023	2205	521.083	1683.92	44.25	42.75	0.026	0.08	6.68341408
Tt--TRITD4Av1G134780.6	Aes-CH4S01G202500.1	0.01012	0.03791961 53814435	0.26688575 4058882	2205	513.833	1691.17	17	19	0.01	0.04	2.91689349
Tt--TRITD4Av1G134780.6	Aes-CH5S01G108100.1	0.244969	0.96859480 0616026	0.25291166 2025259	2163	504.583	1658.42	346.583	274.417	0.209	0.54	74.5072924
Tt--TRITD2Av1G084500.2	Aes-CH2S01G224000.1	0.034953	0.10614916 1901035	0.32928351 9483	1998	490	1508	51.5	48.5	0.034	0.1	8.16532015

Tt--TRITD2Bv1G089940.2	Aes-CH2S01G224000.1	0.010022	0.02063758 75560002	0.48561212 9089382	1998	491.25	1506.75	15	10	0.01	0.02	1.58750674
Tt--TRITD3Av1G032230.2	Aes-CH3S01G115500.1	0.017055	0.09488946 56543	0.17973542 5310561	1731	426.333	1304.67	22	38	0.017	0.09	7.29918967
Tt--TRITD3Bv1G039450.3	Aes-CH3S01G115500.1	0.00925	0.06883025 47185429	0.13439518 0687933	1731	425.75	1305.25	12	28	0.009	0.07	5.29463498
Tt--TRITD7Av1G192070.4	Aes-CH7S01G509000.1	0.046324	0.10504676 5345887	0.44098783 8379926	3066	758.333	2307.67	103.667	74.3333	0.045	0.1	8.08052041
Tt--TRITD7Av1G192070.4	Aes-CH7S01G458800.1	0.039171	0.10919260 571489	0.35873357 2120284	2649	644.583	2004.42	76.5	65.5	0.038	0.1	8.39943121
Tt--TRITD7Bv1G152370.2	Aes-CH7S01G509000.1	0.012666	0.04912520 62355354	0.25783832 9358305	3066	757.083	2308.92	29	36	0.013	0.05	3.77886202
Tt--TRITD7Bv1G152370.2	Aes-CH7S01G458800.1	0.009518	0.04463468 31567349	0.21325055 7218117	2655	646.167	2008.83	19	28	0.009	0.04	3.43343717
Tt--TRITD2Av1G095350.5	Aes-CH2S01G234400.1	0.094022	0.18241127 3964383	0.51544104 7626232	558	131.75	426.25	37.6667	21.3333	0.088	0.16	14.0316365
Tt--TRITD2Bv1G096060.3	Aes-CH2S01G234400.1	0.094022	0.14465756 334155	0.64996434 3233419	558	131.75	426.25	37.6667	17.3333	0.088	0.13	11.1275049
Tt--TRITD4Bv1G207930.11	Aes-CH4S01G568500.1	0.007702	0.06834320 12778051	0.11269957 8510867	2217	520.5	1696.5	13	34	0.008	0.07	5.25716933
Tt--TRITD5Av1G258690.15	Aes-CH4S01G568500.1	0.009345	0.04555287 52698572	0.20515600 1408206	2178	509.083	1668.92	15.5	22.5	0.009	0.04	3.50406733

Tt--TRITD6Av1G209030.4	Aes-CH6S01G495000.1	0.003211	0.04205416 46048345	0.07635716 60392743	2025	464.583	1560.42	5	19	0.003	0.04	3.23493574
Tt--TRITD6Bv1G205270.3	Aes-CH6S01G495000.1	0.001283	0.02406331 08479577	0.05330674 67454556	2025	464.5	1560.5	2	11	0.001	0.02	1.85102391
Tt--TRITD7Av1G084620.26	Aes-CH7S01G296700.1	0.02818	0.09863098 90251347	0.28570984 8995147	2067	476.083	1590.92	44	44	0.028	0.09	7.58699916
Tt--TRITD7Av1G084620.26	Aes-CH7S01G268600.1	0.03355	0.09439930 52449784	0.35540161 6577939	2121	490.417	1630.58	53.5	43.5	0.033	0.09	7.26148502
Tt--TRITD7Bv1G059260.26	Aes-CH7S01G296700.1	0.022324	0.08681163 56111995	0.25715749 8518642	2067	475.75	1591.25	35	39	0.022	0.08	6.67781812
Tt--TRITD7Bv1G059260.26	Aes-CH7S01G268600.1	0.029068	0.08298425 24189104	0.35027912 9930066	2121	490.083	1630.92	46.5	38.5	0.029	0.08	6.38340403
												Average=24.408892459 8461

The Ka/Ks ratio and divergence times between the genes of *A.speltoides* and *T.urartu*												
Gene ID	**Gene ID**	**Ka**	**Ks**	**Ka/Ks**	**EffectiveLen**	**AverageS-sites**	**AverageN-sites**	**cN**	**cS**	**pN**	**pS**	**Divergence times (Mya)**
Aes-CH4S01G275300.1	Tu--TuG1812G0400002351.01.T01	0.0011783	0.0819367870481388	0.0143808320594586	1107	257.66667	849.33333	1	20	0.001	0.078	6.30282977
Aes-CH1S01G121300.1	Tu--TuG1812G0100001066.01.T01	0.0039759	0.0762734268698046	0.0521267909096672	1647	386.08333	1260.9167	5	28	0.004	0.073	5.86718668
Aes-CH1S01G422500.1	Tu--TuG1812G0100004520.01.T02	0.0169465	0.0452053417446256	0.374877251480609	1818	425.5	1392.5	23.33	18.67	0.017	0.044	3.47733398
Aes-CH1S01G422500.1	Tu--TuG1812G0300002745.01.T01	0.1306509	1.30230703060867	0.100322621026937	1440	328	1112	133.3	202.7	0.12	0.618	100.177464
Aes-CH3S01G287600.1	Tu--TuG1812G0300002745.01.T01	0.0150799	0.0646993644273757	0.233077163374837	1212	274.25	937.75	14	17	0.015	0.062	4.97687419
Aes-CH7S01G477100.1	Tu--TuG1812G0700003597.01.T01	0.0041544	0.0469750134988024	0.0884388468198459	1251	285.5	965.5	4	13	0.004	0.046	3.61346258
Aes-CH1S01G431400.1	Tu--TuG1812G0100004629.01.T01	0.0081272	0.0985425040468546	0.0824736244558751	1794	433.16667	1360.8333	11	40	0.008	0.092	7.58019262

Aes-CH3S01G281200.1	Tu--TuG1812G0100004629.01.T01	0.1574447	1.0309130593167	0.152723517071063	1767	420.91667	1346.0833	191.2	235.8	0.142	0.56	79.3010046
Aes-CH3S01G281200.1	Tu--TuG1812G0300002551.01.T01	0.0108758	0.0619691682854432	0.17550369512793	1839	434.33333	1404.6667	15.17	25.83	0.011	0.059	4.7668591
Aes-CH7S01G615700.1	Tu--TuG1812G0700004566.01.T01	0.0468564	0.230698036614541	0.203107016419973	1248	295.83333	952.16667	43.25	58.75	0.045	0.199	17.7460028
Aes-CH7S01G592100.1	Tu--TuG1812G0700004566.01.T01	0.0480403	0.180890668191215	0.265576413189793	1248	297.08333	950.91667	44.25	47.75	0.047	0.161	13.9146668
Aes-CH6S01G225500.1	Tu--TuG1812G0601016.01.T02	0.0297773	0.0487616299489188	0.610670272798829	1497	349.5	1147.5	33.5	16.5	0.029	0.047	3.75089461
Aes-CH7S01G583200.1	Tu--TuG1812G0700004443.01.T01	0.0053	0.0992967804246585	0.0533757586321119	1734	408.58333	1325.4167	7	38	0.005	0.093	7.63821388
Aes-CH7S01G560300.1	Tu--TuG1812G0700004443.01.T01	0.0030244	0.0936888934181125	0.0322811817364989	1734	408.75	1325.25	4	36	0.003	0.088	7.20683796
Aes-CH6S01G486800.1	Tu--TuG1812G0600003691.01.T01	0.1621645	0.257053184937537	0.63085988150873	1059	286.41667	772.58333	112.7	62.33	0.146	0.218	19.7733219

Aes-CH6S01G486800.1	Tu--TuG1812G0700001616.01.T01	0.2789343	0.545030532789184	0.511777409949768	1002	269.33333	732.66667	170.7	104.3	0.233	0.387	41.9254256
Aes-CH7S01G128000.1	Tu--TuG1812G0700001616.01.T01	0.0013149	0.0880551203114362	0.0149329729380583	1038	276.83333	761.16667	1	23	0.001	0.083	6.77347079
Aes-CH4S01G066000.1	Tu--TuG1812G0400000463.01.T01	0.2343334	0.537286601069677	0.436142323385515	984	268.5	715.5	144	103	0.201	0.384	41.3297385
Aes-CH2S01G410800.1	Tu--TuG1812G0600002720.01.T01	0.1537231	0.854579852023839	0.17988146200477	2616	629.08333	1986.9167	276.2	320.8	0.139	0.51	65.7369117
Aes-CH6S01G361000.1	Tu--TuG1812G0600002720.01.T01	0.0065365	0.0436663323580672	0.149692828654531	2634	636.5	1997.5	13	27	0.007	0.042	3.35894864
Aes-CH3S01G320300.1	Tu--TuG1812G0100004071.01.T01	0.29772	0.6120213011709	0.486453640276547	1191	303.16667	887.83333	218.2	126.8	0.246	0.418	47.0785616
Aes-CH3S01G320300.1	Tu--TuG1812G0300003030.01.T01	0.311075	0.678576320758312	0.458422961761321	1185	298.41667	886.58333	225.8	133.3	0.255	0.447	52.1981785
Aes-CH1S01G358800.1	Tu--TuG1812G0100004071.01.T01	0.0409964	0.119134409751092	0.344118762660927	1458	367.66667	1090.3333	43.5	40.5	0.04	0.11	9.16418537

Aes-CH1S01G358800.1	Tu--TuG1812G0300003030.01.T01	0.3148171	0.7807436 2539595	0.4032272 78288915	1260	320.33333	939.66667	241.6	155.4	0.257	0.485	60.057202
Aes-CH5S01G571400.1	Tu--TuG1812G0500004830.01.T01	0.000813	0.0824693 581318243	0.0098583 065045102 9	1602	371.33333	1230.6667	1	29	0.001	0.078	6.34379678
Aes-CH5S01G228100.1	Tu--TuG1812G0500002311.01.T01	0.0038351	0.0364748 313303763	0.1051437 19656632	2046	477.5	1568.5	6	17	0.004	0.036	2.80575626
Aes-CH2S01G510600.1	Tu--TuG1812G0200005431.01.T03	0.0072812	0.0698311 478482388	0.1042687 84888706	3951	914.83333	3036.1667	22	61	0.007	0.067	5.37162676
Aes-CH5S01G223800.1	Tu--TuG1812G0500002254.01.T01	0.0123619	0.0658497 822801345	0.1877281 21938305	1296	317.25	978.75	12	20	0.012	0.063	5.06536787
Aes-CH5S01G171800.1	Tu--TuG1812G0500001767.01.T01	0.0063985	0.0618793 631984733	0.1034031 67077156	1884	471.41667	1412.5833	9	28	0.006	0.059	4.75995102
Aes-CH2S01G202900.1	Tu--TuG1812G0200002096.01.T01	0.4406804	0.8310226 24873256	0.5302868 59009922	822	195.58333	626.41667	208.8	98.25	0.333	0.502	63.9248173
Aes-CH2S01G196500.1	Tu--TuG1812G0200002096.01.T01	0.0130932	0.0693230 556785387	0.1888728 95819973	966	234.08333	731.91667	9.5	15.5	0.013	0.066	5.33254274

Aes-CH6S01G267500.1	Tu--TuG1812G0600001715.01.T01	0.0092008	0.0495170953733576	0.185810685625442	1167	292.16667	874.83333	8	14	0.009	0.048	3.80900734
Aes-CH6S01G267500.1	Tu--TuG1812G0700004249.01.T01	0.2061337	0.583756519967381	0.353115874885377	1098	266.66667	831.33333	149.8	108.2	0.18	0.406	44.9043477
Aes-CH7S01G572000.1	Tu--TuG1812G0700004249.01.T01	0	0.046791783455825	8 0	1188	286.58333	901.41667	0	13	0	0.045	3.59936796
Aes-CH1S01G324900.1	Tu--TuG1812G0100003823.01.T01	0.0159659	0.129501396370546	0.123287855603543	1794	433	1361	21.5	51.5	0.016	0.119	9.96164587
Aes-CH3S01G359100.1	Tu--TuG1812G0100003823.01.T01	0.277234	1.365368045451409	0.203047109000297	1284	306	978	226.7	192.3	0.232	0.629	105.028311
Aes-CH1S01G345800.1	Tu--TuG1812G0100003984.01.T01	0.0721759	0.278953321268972	0.258738445326066	2385	590.25	1794.75	123.5	137.5	0.069	0.233	21.4579478
Aes-CH1S01G345800.1	Tu--TuG1812G0100003933.01.T01	0.0353006	0.122096350832699	0.289121115436606	303	71	232	8	8	0.034	0.113	9.39202699
Aes-CH3S01G303200.1	Tu--TuG1812G0300002902.01.T01	0.251813	1.531090200963019	0.164466490426571	2337	535.91667	1801.0833	385.3	349.8	0.214	0.653	117.776169

Aes-CH1S01G423700.1	Tu--TuG1812G0100004544.01.T01	0.0018634	0.166240206114792	0.0112088106679786	705	167.66667	537.33333	1	25	0.002	0.149	12.7877082
Aes-CH1S01G423700.1	Tu--TuG1812G0300002735.01.T01	0.0675493	0.789155341376171	0.0855969547681668	699	164.91667	534.08333	34.5	80.5	0.065	0.488	60.704257
Aes-CH2S01G225200.1	Tu--TuG1812G0200002657.01.T01	0.4053403	0.912481096235994	0.444217731974035	1929	465.58333	1463.4167	458.3	245.8	0.313	0.528	70.1908536
Aes-CH2S01G225200.1	Tu--TuG1812G0200002474.01.T01	0.3549384	NaN	NaN	1407	327.5	1079.5	305.3	270.7	0.283	0.827	High Sequence Divergence Value (pS>=0.75)
Aes-CH7S01G846700.1	Tu--TuG1812G0700000286.01.T01	0.1121885	0.413743832750576	0.271154608185072	462	106.91667	355.08333	37	34	0.104	0.318	31.8264487
Aes-CH7S01G847900.1	Tu--TuG1812G0700000286.01.T01	0.1326304	0.489010644309415	0.271221954960689	465	107.16667	357.83333	43.5	38.5	0.122	0.359	37.6162034
Aes-CH2S01G633500.1	Tu--TuG1812G0200006101.01.T01	0.0086957	0.0941251378043485	0.0923849865034429	1668	395.66667	1272.3333	11	35	0.009	0.088	7.24039522
Aes-CH3S01G029900.1	Tu--TuG1812G0300000417.01.T01	0.0242467	0.173851210542993	0.139467912019651	1254	290	964	23	45	0.024	0.155	13.37317

Aes-CH3S01G103500.1	Tu--TuG1812G0300001074.01.T02	0.0082367	0.1041574 08587433	0.0790793 319101409	1785	442.16667	1342.8333	11	43	0.008	0.097	8.01210835
Aes-CH5S01G330400.1	Tu--TuG1812G0500003267.01.T02	0.0303455	0.0730665 847556012	0.4153126 80741179	696	158	538	16	11	0.03	0.07	5.62050652
Aes-CH5S01G383000.1	Tu--TuG1812G0500003673.01.T01	0.0058691	0.1222687 80825224	0.0480014 342340689	1785	416.58333	1368.4167	8	47	0.006	0.113	9.40529083
Aes-CH5S01G234600.1	Tu--TuG1812G0500002335.01.T01	0.0135373	0.0779922 851430357	0.1735727 300046	1320	351	969	13	26	0.013	0.074	5.99940655
Aes-CH5S01G579200.1	Tu--TuG1812G0500004860.01.T01	0.0073762	0.0697366 111169322	0.1057729 18938188	1254	300.33333	953.66667	7	20	0.007	0.067	5.3643547
Aes-CH6S01G246400.1	Tu--TuG1812G0600001625.01.T01	0.0010386	0.0836723 823466833	0.0124127 159646731	1254	290.5	963.5	1	23	0.001	0.079	6.4363371
Aes-CH7S01G856400.1	Tu--TuG1812G0700000347.01.T01	0.0169365	0.0583471 668574607	0.2902707 6423613	1956	463.16667	1492.8333	25	26	0.017	0.056	4.4882436
Aes-CH1S01G005100.1	Tu--TuG1812G0100000037.01.T01	0.0323787	0.1827394 82090037	0.1771849 94745305	1911	501.5	1409.5	44.67	81.33	0.032	0.162	14.0568832

Aes-CH5S01G108100.1	Tu--TuG1812G0500000997.01.T01	0.0069832	0.0896439612271905	0.0778995355442498	2259	532.58333	1726.4167	12	45	0.007	0.084	6.89568933	
Aes-CH2S01G224000.1	Tu--TuG1812G0200002486.01.T01	0.0342704	0.103688266402051	0.330513303772615	1998	490.5	1507.5	50.5	47.5	0.033	0.097	7.97602049	
Aes-CH3S01G115500.1	Tu--TuG1812G0300001179.01.T01	0.0135383	0.0988104531232662	0.137012566041847	1731	426.66667	1304.3333	17.5	39.5	0.013	0.093	7.60080409	
Aes-CH7S01G509000.1	Tu--TuG1812G0700003889.01.T01	0.0458635	0.0990034222564522	0.463252067661587	3066	758.33333	2307.6667	102.7	70.33	0.044	0.093	7.61564787	
Aes-CH7S01G458800.1	Tu--TuG1812G0700003889.01.T01	0.0386456	0.102048631473971	0.378697782157535	2649	644.58333	2004.4167	75.5	61.5	0.038	0.095	7.84989473	
Aes-CH2S01G234400.1	Tu--TuG1812G0200002891.01.T01	0.0962172	0.164552423773864	0.584720380915915	327	77.833333	249.16667	22.5	11.5	0.09	0.148	12.6578788	
Aes-CH4S01G568500.1	Tu--TuG1812G0500005695.01.T01	0.0095136	0.0480644914227494	0.197933132886887	2208	515.5	1692.5	16	24	0.009	0.047	3.69726857	
Aes-CH6S01G495000.1	Tu--TuG1812G0600003785.01.T06	0.0025682	0.0420309009556518	0.0611031586212621	2025	464.83333	1560.1667	4	19	0.003	0.041	3.23314623	
												Average=22.1596285155407	

The Ka/Ks ratio and divergence times between the genes of *T.urartu* and *A.tauschii*												
Gene ID	**Gene ID**	**Ka**	**Ks**	**Ka/Ks**	**Effective Len**	**AverageS-sites**	**Average N-sites**	**cN**	**cS**	**pN**	**pS**	**Divergence times (Mya)**
Tu-- TuG1812G0400002351.01.T01	Aet-:AET4Gv20512600.2	0	0.06892084 32992557	0	1107	258.16667	848.833	0	17	0	0.0658	5.30160333
Tu-- TuG1812G0100001066.01.T01	Aet-:AET1Gv20214200.10	0.0048	0.09352760 8875718	0.05106319 72220011	1647	386.66667	1260.33	6	34	0.0048	0.0879	7.19443145
Tu-- TuG1812G0100004520.01.T02	Aet-:AET1Gv20987400.1	0.017	0.03775461 06718633	0.45096406 1209805	1725	398.33333	1326.67	22.333	14.667	0.0168	0.0368	2.90420082
Tu-- TuG1812G0100004520.01.T02	Aet-:AET3Gv20567900.18	0.1255	1.26283408 254075	0.09939222 57548571	1440	330.33333	1109.67	128.25	201.75	0.1156	0.6107	97.1410833
Tu-- TuG1812G0300002745.01.T01	Aet-:AET1Gv20987400.1	0.1309	1.25327918 270647	0.10446353 9926869	1440	327.33333	1112.67	133.67	199.33	0.1201	0.609	96.406091
Tu-- TuG1812G0300002745.01.T01	Aet-:AET3Gv20567900.18	0.0363	0.08587544 06979184	0.42254640 3567249	1458	335.83333	1122.17	39.75	27.25	0.0354	0.0811	6.60580313
Tu-- TuG1812G0700003597.01.T01	Aet-:AET7Gv20853400.1	0.0073	0.04322925 1154466	0.16855864 1312925	1251	285.66667	965.333	7	12	0.0073	0.042	3.32532701
Tu-- TuG1812G0100004629.01.T01	Aet-:AET1Gv20998400.2	0.0089	0.12608225 9559629	0.07038856 38903304	1791	430.83333	1360.17	12	50	0.0088	0.1161	9.69863535
Tu-- TuG1812G0100004629.01.T01	Aet-:AET3Gv20558100.1	0.1485	1.01440376 366681	0.14640694 9757957	1767	419.91667	1347.08	181.5	233.5	0.1347	0.5561	78.0310587
Tu-- TuG1812G0300002551.01.T01	Aet-:AET3Gv20558100.1	0.0014	0.04273307 60569053	0.03332696 50444869	1839	433.33333	1405.67	2	18	0.0014	0.0415	3.2871597

Tu--TuG1812G0700004566.01.T01	Aet-:AET7Gv21020800.4	0.0029	0.07212141 36778505	0.04074101 43095772	1107	254.5	852.5	2.5	17.5	0.0029	0.0688	5.54780105
Tu--TuG1812G0600001016.01.T02	Aet-:AET6Gv20256900.11	0.0114	0.05348800 57367498	0.21270402 880801	1500	348.66667	1151.33	13	18	0.0113	0.0516	4.11446198
Tu--TuG1812G0700004443.01.T01	Aet-:AET7Gv20996900.4	0.0045	0.06899946 63193708	0.06585607 59696207	1734	409.58333	1324.42	6	27	0.0045	0.0659	5.30765126
Tu--TuG1812G0600003691.01.T01	Aet-:AET6Gv20859000.1	0.0096	0.08121255 08979431	0.11799417 7104405	1008	272.83333	735.167	7	21	0.0095	0.077	6.2471193
Tu--TuG1812G0700001616.01.T01	Aet-:AET7Gv20388900.1	0.0229	0.14454178 8542599	0.15877015 3659166	1026	273.83333	752.167	17	36	0.0226	0.1315	11.1185991
Tu--TuG1812G0400000463.01.T01	Aet-:AET4Gv20097400.1	0.2413	0.53147161 0109033	0.45393406 287235	984	269.41667	714.583	147.42	102.58	0.2063	0.3808	40.8824315
Tu--TuG1812G0600002720.01.T01	Aet-:AET2Gv20903900.5	0.1538	0.81663532 615612	0.18829552 5832228	2616	628.41667	1987.58	276.33	312.67	0.139	0.4975	62.818102
Tu--TuG1812G0600002720.01.T01	Aet-:AET6Gv20637800.1	0.0065	0.03374966 82818668	0.19366083 9041328	2634	636.33333	1997.67	13	21	0.0065	0.033	2.59612833
Tu--TuG1812G0100004071.01.T01	Aet-:AET1Gv20883200.1	0.027	0.11742679 5518655	0.23004259 8326359	1461	368	1093	29	40	0.0265	0.1087	9.03283042
Tu--TuG1812G0100004071.01.T01	Aet-:AET3Gv20622200.1	0.3013	0.65075976 0758272	0.46297509 5537248	1260	317.58333	942.417	233.83	138.17	0.2481	0.4351	50.0584431
Tu--TuG1812G0300003030.01.T01	Aet-:AET1Gv20883200.1	0.3035	0.71738402 605807	0.42299933 7790689	1230	311.08333	918.917	229.33	143.67	0.2496	0.4618	55.1833866

Tu--TuG1812G0300003030.01.T01	Aet-:AET3Gv20622200.1	0.2948	0.68815691 8212449	0.42842837 1489293	1194	299.75	894.25	218	135	0.2438	0.4504	52.9351476
Tu--TuG1812G0500004830.01.T01	Aet-:AET5Gv21075800.4	0.0033	0.07050749 51700408	0.04620468 01684237	1602	371.5	1230.5	4	25	0.0033	0.0673	5.42365347
Tu--TuG1812G0500002311.01.T01	Aet-:AET5Gv20490900.10	0.0026	0.03018733 02205371	0.08520376 2352627	2031	473.16667	1557.83	4	14	0.0026	0.0296	2.32210232
Tu--TuG1812G0200005431.01.T03	Aet-:AET2Gv21094700.6	0.0119	0.07315206 5664957	0.16275680 1087456	3966	918.25	3047.75	36	64	0.0118	0.0697	5.62708197
Tu--TuG1812G0500002254.01.T01	Aet-:AET5Gv20485300.2	0.0147	0.08644655 3978471	0.16953410 0202832	1551	379.66667	1171.33	17	31	0.0145	0.0817	6.64973492
Tu--TuG1812G0500001767.01.T01	Aet-:AET5Gv20380700.1	0.0092	0.04295322 878838	0.21310229 6440828	1908	479.08333	1428.92	13	20	0.0091	0.0417	3.30409452
Tu--TuG1812G0200002096.01.T01	Aet-:AET2Gv20411300.2	0.4684	0.77660306 3734958	0.60311506 2118616	945	227.58333	717.417	249.92	110.08	0.3484	0.4837	59.7386972
Tu--TuG1812G0200002096.01.T01	Aet-:AET2Gv20397600.3	0.0109	0.06252773 80608518	0.17358297 0034577	879	213.91667	665.083	7.1667	12.833	0.0108	0.06	4.809826
Tu--TuG1812G0600001715.01.T01	Aet-:AET6Gv20435900.1	0.0506	0.11468206 723452	0.44118594 6972528	1107	275.83333	831.167	40.667	29.333	0.0489	0.1063	8.82169748
Tu--TuG1812G0700004249.01.T01	Aet-:AET6Gv20435900.1	0.228	0.71969606 2505103	0.31686812 9660233	1116	272.66667	843.333	165.83	126.17	0.1966	0.4627	55.3612356
Tu--TuG1812G0100003823.01.T01	Aet-:AET1Gv20814900.1	0.0126	0.12030733 072903	0.10460808 4987805	1794	431.83333	1362.17	17	48	0.0125	0.1112	9.25441006

Tu--TuG1812G0100003823.01.T01	Aet-:AET3Gv20654200.3	0.3323	1.32564508688524	0.250669932744008	1731	411.08333	1319.92	354.33	255.67	0.2685	0.6219	101.972699
Tu--TuG1812G0100003984.01.T01	Aet-:AET1Gv20861500.1	0.2889	0.52059545298151	0.55501059037392	1179	311.91667	867.083	207.92	117.08	0.2398	0.3754	40.0458039
Tu--TuG1812G0300002902.01.T01	Aet-:AET3Gv20596900.1	0.2492	1.424770224899	0.174885440119388	2337	536.75	1800.25	381.67	342.33	0.212	0.6378	109.59771
Tu--TuG1812G0100004544.01.T01	Aet-:AET1Gv20988700.4	0.0035	0.157766368269016	0.022373363685757	1119	267.08333	851.917	3	38	0.0035	0.1423	12.1358745
Tu--TuG1812G0100004544.01.T01	Aet-:AET3Gv20565300.1	0.1068	0.758017187858094	0.140858427551491	1119	266.58333	852.417	84.833	127.17	0.0995	0.477	58.3090145
Tu--TuG1812G0300002735.01.T01	Aet-:AET1Gv20988700.4	0.0957	0.673627687173771	0.142036339268602	1113	265.08333	847.917	76.167	117.83	0.0898	0.4445	51.8175144
Tu--TuG1812G0200002657.01.T01	Aet-:AET2Gv20463700.1	0.2872	NaN	NaN	990	226.25	763.75	182.25	189.75	0.2386	0.8387	High Sequence Divergence Value (pS>=0.75)
Tu--TuG1812G0200002657.01.T01	Aet-:AET2Gv20462800.7	0.4162	0.953097440882319	0.436717095386415	1941	467.83333	1473.17	470.58	252.42	0.3194	0.5395	73.3151878
Tu--TuG1812G0200002474.01.T01	Aet-:AET2Gv20462900.1	0.3861	NaN	NaN	1443	331.91667	1111.08	335.33	260.67	0.3018	0.7853	High Sequence Divergence Value (pS>=0.75)
Tu--TuG1812G0200006101.01.T01	Aet-:AET2Gv21265400.2	0.0714	0.149238265816286	0.478733567325328	1536	362.08333	1173.92	80	49	0.0681	0.1353	11.4798666

TuG1812G0300001074.01.T02	Aet-:AET3Gv20208200.4	0.0105	0.05159290 85464107	0.20335443 4926737	1785	441.25	1343.75	14	22	0.0104	0.0499	3.96868527
TuG1812G0500003267.01.T02	Aet-:AET5Gv20680900.1	0.0437	0.13423140 5074957	0.32526590 2887181	198	44.75	153.25	6.5	5.5	0.0424	0.1229	10.3254927
TuG1812G0500003673.01.T01	Aet-:AET5Gv20774000.3	0.0044	0.07582208 76535267	0.05797277 69805434	1785	416	1369	6	30	0.0044	0.0721	5.83246828
TuG1812G0500002335.01.T01	Aet-:AET5Gv20505600.1	0.0104	0.05617004 71395463	0.18501811 0220011	1320	351.08333	968.917	10	19	0.0103	0.0541	4.32077286
TuG1812G0500004860.01.T01	Aet-:AET5Gv21088300.4	0.0128	0.05600268 28092803	0.22856602 6851822	1242	296.5	945.5	12	16	0.0127	0.054	4.30789868
TuG1812G0600001625.01.T01	Aet-:AET6Gv20396400.1	0.001	0.06451736 81433777	0.01610916 83246037	1254	291.16667	962.833	1	18	0.001	0.0618	4.96287447
TuG1812G0600001625.01.T01	Aet-:AET7Gv21189400.1	0.0882	0.77234281 551536	0.11417588 5447156	1254	292.41667	961.583	80	141	0.0832	0.4822	59.4109858
TuG1812G0700000347.01.T01	Aet-:AET7Gv20063100.2	0.0128	0.06528303 25380597	0.19672018 4341483	1956	463.83333	1492.17	19	29	0.0127	0.0625	5.02177173
TuG1812G0100000037.01.T01	Aet-:AET1Gv20001400.6	0.0199	0.22101577 4276258	0.08988040 75221016	1185	283.83333	901.167	17.667	54.333	0.0196	0.1914	17.0012134
TuG1812G0500000997.01.T01	Aet-:AET5Gv20234400.6	0.0058	0.03660437 50210879	0.15878683 7991951	2259	531.83333	1727.17	10	19	0.0058	0.0357	2.81572116
TuG1812G0300001179.01.T01	Aet-:AET3Gv20232400.2	0.0198	0.07763954 4852257	0.25523018 6457891	1731	427.08333	1303.92	25.5	31.5	0.0196	0.0738	5.97227268

Tu--TuG1812G0700003889.01.T01	Aet-:AET7Gv20906800.1	0.022	0.06601402 12071353	0.33294135 5640537	3099	767.5	2331.5	50.5	48.5	0.0217	0.0632	5.07800163
Tu--TuG1812G0500005695.01.T01	Aet-:AET4Gv20885100.12	0.0053	0.04818515 75604212	0.11008120 5880307	2217	514.25	1702.75	9	24	0.0053	0.0467	3.70655058
Tu--TuG1812G0600003785.01.T06	Aet-:AET6Gv20872100.4	0.0019	0.03782080 23040004	0.05087699 19960789	2022	460.91667	1561.08	3	17	0.0019	0.0369	2.90929248
												Average=25.3955129918934