

Additional_File8_TableS3_QTLs_Summary_DTA

QTLs summary for the male flowering time trait																
Trait	QTL	Chr	LowerLimit	UpperLimit	Rec	NbSNP50	LogPva Max50	NbSNP600	LogPva Max600	NbSNPGBS	LogPva MaxGBS	PosMax	R2_LDMax	EffectMax	MAF	NbDiffEnv
DTA	1	1	9412760	9462485	High_rec	0	-	0	-	1	5.24	9437625	0.07	0.65	0.19	1
DTA	2	1	33276980	33489937	High_rec	0	-	0	-	2	5.21	33382893	0.07	0.89	0.09	1
DTA	3	1	59721553	60348656	Low_rec	0	-	0	-	2	5.13	60035082	0.07	0.6	0.23	2
DTA	4	1	68437550	69242150	Low_rec	7	5.47	51	5.38	2	5.5	68928621	0.08	0.64	0.34	1
DTA	5	1	73144566	73461963	High_rec	2	5.22	2	5.12	5	6.11	73375502	0.09	-0.7	0.45	2
DTA	6	1	91410236	91536749	High_rec	0	-	2	5.4	0	-	91463722	0.08	-0.81	0.1	1
DTA	7	1	91815839	91925069	High_rec	0	-	2	5.05	0	-	91870110	0.07	-0.61	0.13	1
DTA	8	1	98678514	98847235	High_rec	0	-	0	-	1	5.29	98762607	0.08	0.73	0.07	1
DTA	9	1	103106337	103733395	Low_rec	0	-	1	5.86	0	-	103419866	0.09	0.81	0.21	1
DTA	10	1	119340917	119968011	Low_rec	0	-	0	-	2	6.58	119654482	0.1	-0.68	0.14	1
DTA	11	1	121084843	121711901	Low_rec	0	-	1	5.44	0	-	121398372	0.08	-0.59	0.06	1
DTA	12	1	141448618	143627067	Low_rec	3	6.29	30	7.04	3	7.1	142779888	0.11	0.82	0.12	2
DTA	13	1	161013482	161320968	High_rec	0	-	3	5.44	0	-	161225117	0.08	-0.78	0.41	1
DTA	14	1	190520394	190828595	High_rec	0	-	1	5.41	1	5.82	190601479	0.08	0.6	0.11	2
DTA	15	1	191441325	191659759	High_rec	0	-	5	6.32	1	5.16	191520075	0.09	-0.7	0.17	2
DTA	16	1	191817817	191973452	High_rec	1	5.03	0	-	0	-	191895721	0.07	-0.8	0.29	1
DTA	17	1	192330250	192483813	High_rec	1	5.1	0	-	0	-	192407092	0.07	0.69	0.13	1
DTA	18	1	199041361	199182647	High_rec	0	-	1	5.17	0	-	199112016	0.07	0.73	0.28	1
DTA	19	1	200550690	200698677	High_rec	0	-	5	6.87	0	-	200621381	0.1	0.74	0.38	1
DTA	20	1	206383128	206520487	High_rec	0	-	1	5.49	0	-	206451847	0.08	-0.69	0.06	1
DTA	21	1	214062424	214204391	High_rec	0	-	0	-	3	5.5	214152875	0.08	-0.72	0.34	1
DTA	22	1	223991500	224070597	High_rec	0	-	1	5.91	0	-	224031064	0.08	-0.58	0.16	1
DTA	23	1	224730522	224809021	High_rec	0	-	1	6.4	0	-	224769772	0.09	0.73	0.44	1
DTA	24	1	240198770	240350204	High_rec	0	-	1	5.09	1	5.11	240273784	0.07	-0.67	0.25	1
DTA	25	1	243773599	244211557	High_rec	0	-	16	6	1	5.06	244069402	0.09	-0.59	0.07	3
DTA	26	1	244372611	244613336	High_rec	0	-	2	5.9	0	-	244469790	0.09	-0.55	0.07	3
DTA	27	1	250197969	250426759	High_rec	0	-	1	5.12	0	-	250312380	0.07	-0.71	0.11	1
DTA	28	1	251327883	251554744	High_rec	0	-	0	-	1	5.55	251441389	0.08	-0.66	0.37	1
DTA	29	1	253611791	253828149	High_rec	0	-	0	-	1	5.5	253720139	0.08	-0.67	0.2	1
DTA	30	1	258714118	258893025	High_rec	0	-	0	-	4	5.11	258803741	0.07	0.53	0.08	1
DTA	31	1	274919781	275050382	High_rec	0	-	1	5.49	0	-	274985167	0.08	-0.69	0.12	1

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DTA	32	1	277996116	278146962	High_rec	0	-	2	5.15	11	7.58	278053884	0.11	-0.69	0.41	9
DTA	33	1	285059501	285131438	High_rec	0	-	0	-	2	5.26	285095492	0.07	-0.6	0.17	1
DTA	34	1	287154946	287222350	High_rec	0	-	0	-	1	5.54	287188664	0.08	-0.81	0.11	1
DTA	35	1	290488613	290555045	High_rec	0	-	0	-	3	5.56	290520629	0.08	0.54	0.14	1
DTA	36	1	292245640	292309610	High_rec	0	-	2	6.75	0	-	292277680	0.1	-1.14	0.42	6
DTA	37	1	296219681	296285986	High_rec	0	-	0	-	1	5.4	296252824	0.08	-0.76	0.31	1
DTA	38	1	296957424	297024127	High_rec	0	-	1	6.24	1	6.02	296990773	0.09	0.48	0.34	2
DTA	39	1	297756106	297823122	High_rec	0	-	1	5.7	0	-	297789612	0.08	0.94	0.36	1
DTA	40	1	298097191	298175479	High_rec	0	-	1	5.34	6	5.77	298136801	0.08	0.89	0.16	3
DTA	41	1	299437038	299504398	High_rec	0	-	0	-	1	5.16	299470717	0.07	0.52	0.1	1
DTA	42	2	6986272	7001685	High_rec	0	-	0	-	1	5.18	6993989	0.07	0.51	0.14	1
DTA	43	2	7033036	7048461	High_rec	0	-	0	-	1	5.53	7040758	0.08	0.54	0.1	1
DTA	44	2	8997009	9012987	High_rec	0	-	1	5.28	0	-	9005005	0.07	0.73	0.43	1
DTA	45	2	11358522	11375394	High_rec	0	-	1	5.02	0	-	11366954	0.07	0.54	0.05	1
DTA	46	2	13270400	13288322	High_rec	0	-	1	5.41	0	-	13279352	0.08	0.69	0.09	1
DTA	47	2	13293495	13311432	High_rec	0	-	0	-	1	5.57	13302453	0.08	-0.92	0.49	1
DTA	48	2	13581537	13599681	High_rec	0	-	0	-	2	5.28	13590587	0.07	0.6	0.28	1
DTA	49	2	14213352	14239093	High_rec	0	-	1	6.34	3	6.25	14227211	0.09	0.73	0.16	3
DTA	50	2	14796966	14816087	High_rec	0	-	0	-	1	5.83	14806534	0.08	0.73	0.37	1
DTA	51	2	16391809	16412713	High_rec	0	-	0	-	1	5.06	16402259	0.07	0.66	0.12	1
DTA	52	2	16444935	16465910	High_rec	0	-	1	5.04	0	-	16455422	0.07	0.65	0.09	1
DTA	53	2	16520595	16541672	High_rec	0	-	1	5.04	0	-	16531136	0.07	0.65	0.09	1
DTA	54	2	18120928	18145309	High_rec	0	-	1	5.61	2	5.51	18133446	0.08	0.46	0.17	1
DTA	55	2	55423318	56364083	Low_rec	0	-	0	-	2	5.1	55893619	0.07	0.58	0.12	1
DTA	56	2	56596843	58113790	Low_rec	0	-	1	5.13	7	6.95	57643489	0.1	0.68	0.35	1
DTA	57	2	60331863	61383720	Low_rec	0	-	1	5.39	3	5.33	60802164	0.08	-0.71	0.15	5
DTA	58	2	106809276	107749878	Low_rec	0	-	1	5.15	0	-	107279577	0.07	-0.42	0.31	1
DTA	59	2	148672935	148774173	High_rec	0	-	0	-	2	5.32	148723525	0.07	0.51	0.05	1
DTA	60	2	166858104	167803778	Low_rec	0	-	2	5.22	0	-	167328405	0.08	-0.9	0.49	2
DTA	61	2	168272781	168369711	High_rec	0	-	0	-	1	5.07	168321434	0.07	0.38	0.23	1
DTA	62	2	172683758	172734763	High_rec	0	-	1	5	0	-	172709310	0.07	0.53	0.37	1
DTA	63	2	186521673	186541636	High_rec	0	-	0	-	3	5.26	186531646	0.07	-0.4	0.25	1
DTA	64	2	197067107	197136623	High_rec	0	-	1	5.19	5	5.47	197094623	0.08	0.71	0.44	1
DTA	65	2	199349568	199536919	High_rec	3	5.08	9	6.16	1	5.31	199460654	0.09	0.58	0.49	1

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DTA	66	2	207364073	208827558	Low_rec	0	-	1	6.01	2	5.62	208342478	0.08	-0.43	0.23	2
DTA	67	2	208968586	209119585	High_rec	0	-	2	5.24	1	5.32	209019179	0.07	-0.56	0.1	1
DTA	68	2	211467348	211548324	High_rec	1	5.53	12	5.78	0	-	211498614	0.08	-0.68	0.08	2
DTA	69	2	212500911	212572169	High_rec	0	-	0	-	2	5.65	212528156	0.08	-0.6	0.06	2
DTA	70	2	213819313	213866158	High_rec	0	-	0	-	1	5.46	213842774	0.08	-0.57	0.13	1
DTA	71	2	213928443	213974773	High_rec	0	-	0	-	1	5.1	213951629	0.07	-0.55	0.11	1
DTA	72	2	223928733	223957695	High_rec	0	-	0	-	1	5.54	223943207	0.08	0.86	0.1	1
DTA	73	2	224227355	224256186	High_rec	0	-	0	-	1	5.06	224241764	0.07	0.47	0.06	1
DTA	74	2	224917782	224946323	High_rec	0	-	0	-	1	5.58	224932057	0.08	0.48	0.06	1
DTA	75	2	230278956	230305090	High_rec	0	-	1	5.06	0	-	230291994	0.07	0.5	0.05	1
DTA	76	2	230857985	230883880	High_rec	0	-	0	-	1	5.04	230870945	0.07	0.48	0.06	1
DTA	77	2	230928302	230954171	High_rec	0	-	0	-	1	5.16	230941253	0.07	0.5	0.13	1
DTA	78	2	232368497	232393952	High_rec	0	-	0	-	1	5.04	232381225	0.07	0.47	0.08	1
DTA	79	3	1712890	1730095	High_rec	0	-	0	-	4	5.81	1721803	0.08	-0.68	0.05	2
DTA	80	3	3413843	3430601	High_rec	0	-	0	-	1	5.24	3422282	0.07	-0.58	0.06	1
DTA	81	3	6642338	6659878	High_rec	0	-	1	5.84	0	-	6651074	0.08	-0.72	0.14	1
DTA	82	3	8292602	8311838	High_rec	0	-	0	-	6	6.35	8302274	0.09	0.54	0.08	2
DTA	83	3	8587994	8607612	High_rec	0	-	0	-	1	6.64	8597802	0.09	0.55	0.09	2
DTA	84	3	8815548	8835644	High_rec	0	-	3	5.59	0	-	8825490	0.08	0.77	0.3	3
DTA	85	3	8879633	8913904	High_rec	0	-	3	6.58	0	-	8903812	0.1	0.89	0.42	10
DTA	86	3	12521484	12551971	High_rec	0	-	1	5.01	0	-	12536723	0.07	-0.61	0.31	1
DTA	87	3	25454770	27163541	Low_rec	0	-	0	-	2	5.1	26309157	0.07	-0.77	0.18	1
DTA	88	3	55471352	57180122	Low_rec	0	-	0	-	2	5.63	56325736	0.08	-0.42	0.41	1
DTA	89	3	137532602	140141215	Low_rec	3	5.44	35	6.06	1	5.06	138854581	0.09	-0.95	0.49	2
DTA	90	3	140585208	144639766	Low_rec	2	6.99	26	6.73	16	7.35	142238101	0.11	1.12	0.17	5
DTA	91	3	145752286	150653795	Low_rec	3	6.51	36	6.99	13	5.46	148664485	0.1	0.92	0.15	6
DTA	92	3	154367733	154461554	High_rec	0	-	3	5.45	0	-	154411069	0.08	0.9	0.32	1
DTA	93	3	154519865	154605025	High_rec	1	5.12	1	5.12	0	-	154562528	0.07	0.86	0.33	1
DTA	94	3	155917709	155992889	High_rec	0	-	0	-	1	6.11	155955338	0.09	-0.98	0.31	1
DTA	95	3	158943646	159005990	High_rec	0	-	5	10.03	0	-	158974594	0.15	1.27	0.41	19
DTA	96	3	159360179	159586486	High_rec	0	-	46	5.45	0	-	159448298	0.08	0.58	0.48	4
DTA	97	3	159595541	159655257	High_rec	0	-	1	5.01	0	-	159625434	0.07	0.56	0.47	1
DTA	98	3	159782041	159841200	High_rec	0	-	0	-	3	6.35	159811623	0.09	-0.87	0.46	1
DTA	99	3	162574060	162624496	High_rec	0	-	0	-	1	5.05	162599291	0.07	-0.56	0.27	1

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DTA	100	3	163676681	163723804	High_rec	0	-	1	5.49	0	-	163700269	0.08	-0.95	0.17	2
DTA	101	3	163972187	164018493	High_rec	0	-	0	-	3	5.02	163995336	0.07	-0.57	0.37	1
DTA	102	3	165274981	165317710	High_rec	0	-	1	5.17	0	-	165296347	0.07	0.84	0.16	1
DTA	103	3	165427668	165471724	High_rec	0	-	2	5.18	0	-	165448854	0.07	0.52	0.31	1
DTA	104	3	165592565	165659993	High_rec	0	-	7	5.6	0	-	165635244	0.08	0.78	0.25	3
DTA	105	3	171694302	171727936	High_rec	0	-	0	-	1	5.06	171711133	0.07	0.91	0.16	1
DTA	106	3	201698083	201749279	High_rec	0	-	1	5.74	0	-	201723696	0.08	-0.91	0.21	2
DTA	107	3	204451988	204500058	High_rec	0	-	0	-	1	5.49	204476019	0.07	0.64	0.16	2
DTA	108	3	223546445	223579080	High_rec	3	5.35	1	5.01	0	-	223563333	0.07	-0.56	0.2	1
DTA	109	4	2674628	2698286	High_rec	0	-	1	5.46	2	5.37	2682294	0.08	-0.65	0.28	2
DTA	110	4	4469555	4485666	High_rec	0	-	0	-	1	5.23	4477646	0.07	-0.53	0.26	1
DTA	111	4	4988364	5004759	High_rec	0	-	0	-	1	6.03	4996600	0.08	-0.54	0.17	1
DTA	112	4	13785789	13831012	High_rec	0	-	1	5.78	3	5.54	13798122	0.08	-0.9	0.16	2
DTA	113	4	25989639	27598037	Low_rec	0	-	0	-	3	5.49	26793837	0.08	-0.69	0.11	1
DTA	114	4	64800912	67876192	Low_rec	1	5.08	0	-	1	5.46	67071994	0.07	0.45	0.06	3
DTA	115	4	121388766	124395081	Low_rec	5	5.79	52	5.83	6	5.83	122321775	0.08	-0.63	0.22	4
DTA	116	4	141833004	143441400	Low_rec	0	-	1	5.56	0	-	142637202	0.08	-0.67	0.18	1
DTA	117	4	159960996	159995881	High_rec	0	-	0	-	1	5.12	159978445	0.07	0.59	0.47	1
DTA	118	4	172985441	173011617	High_rec	0	-	1	5.25	0	-	172998530	0.07	-0.56	0.26	1
DTA	119	4	173169703	173195803	High_rec	0	-	1	5.27	0	-	173182750	0.07	-0.58	0.26	1
DTA	120	4	188849307	188905965	High_rec	0	-	0	-	1	5.04	188877625	0.07	0.55	0.39	1
DTA	121	4	189008476	189071538	High_rec	0	-	3	5.78	2	5.51	189042368	0.08	0.59	0.39	1
DTA	122	5	3082687	3099609	High_rec	0	-	0	-	1	5	3091106	0.07	-0.85	0.38	1
DTA	123	5	4495760	4525458	High_rec	0	-	1	5.02	2	5.25	4508247	0.08	0.95	0.43	1
DTA	124	5	4569851	4598515	High_rec	0	-	1	5.48	1	5.15	4578531	0.08	0.93	0.49	3
DTA	125	5	4656747	4674525	High_rec	0	-	0	-	1	6.34	4665429	0.09	-0.95	0.33	2
DTA	126	5	5094316	5112489	High_rec	0	-	0	-	1	5.18	5103359	0.08	0.92	0.34	1
DTA	127	5	5374176	5392671	High_rec	0	-	1	6.32	0	-	5383554	0.09	-0.62	0.36	1
DTA	128	5	11350227	11377461	High_rec	0	-	0	-	1	5.08	11363780	0.07	0.31	0.11	1
DTA	129	5	14837366	14871232	High_rec	0	-	1	5.13	1	5.8	14854900	0.08	0.51	0.39	1
DTA	130	5	17664790	17707101	High_rec	0	-	0	-	4	5.69	17685917	0.08	-0.91	0.46	1
DTA	131	5	17840141	17883206	High_rec	0	-	1	5.6	0	-	17861628	0.08	-0.77	0.48	2
DTA	132	5	22591847	22668642	High_rec	0	-	0	-	1	5.19	22630122	0.07	0.42	0.05	1
DTA	133	5	37284402	38924217	Low_rec	0	-	1	5.75	2	5.16	37940203	0.08	-0.79	0.17	1

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DTA	134	5	54117938	54242622	High_rec	0	-	1	5.13	1	5.15	54186562	0.07	-0.35	0.3	1
DTA	135	5	54361826	54473275	High_rec	0	-	1	5.13	0	-	54417598	0.07	-0.32	0.21	1
DTA	136	5	68669652	70089199	Low_rec	1	5	4	5.42	0	-	69431886	0.08	-0.7	0.19	1
DTA	137	5	71957565	73269167	Low_rec	0	-	1	5.05	0	-	72613366	0.07	-0.65	0.11	1
DTA	138	5	80180536	81492138	Low_rec	0	-	1	5.93	0	-	80836337	0.08	0.55	0.2	1
DTA	139	5	86755980	88067582	Low_rec	0	-	0	-	1	5.27	87411781	0.07	0.35	0.17	1
DTA	140	5	140412491	141724093	Low_rec	0	-	1	5.56	0	-	141068292	0.07	0.34	0.19	1
DTA	141	5	146510325	148940863	Low_rec	2	5.76	7	5.73	3	5.89	147877194	0.08	-0.69	0.44	4
DTA	142	5	150834223	152145825	Low_rec	0	-	1	5.01	0	-	151490024	0.07	-0.58	0.34	1
DTA	143	5	156886729	158306029	Low_rec/High_rec	1	5.19	4	6.44	0	-	158226773	0.09	0.37	0.22	6
DTA	144	5	158320476	158438641	High_rec	0	-	1	5.47	0	-	158379808	0.07	0.34	0.34	1
DTA	145	5	160613723	160701625	High_rec	0	-	1	6.24	0	-	160657801	0.09	0.79	0.22	3
DTA	146	5	161156358	161238645	High_rec	0	-	0	-	1	5.4	161197606	0.08	0.74	0.26	1
DTA	147	5	161240041	161321951	High_rec	1	6.18	1	5.2	0	-	161281322	0.09	0.81	0.28	2
DTA	148	5	161355081	161435460	High_rec	0	-	1	5.2	0	-	161395372	0.07	0.73	0.27	1
DTA	149	5	162721460	162790352	High_rec	0	-	0	-	2	5.57	162755964	0.08	0.52	0.36	1
DTA	150	5	162812372	162943024	High_rec	0	-	7	6.2	1	5.41	162909205	0.09	0.57	0.18	2
DTA	151	5	163079614	163145943	High_rec	0	-	1	5.9	0	-	163112850	0.08	0.57	0.18	1
DTA	152	5	163380177	163444504	High_rec	0	-	1	5.02	0	-	163412392	0.07	0.52	0.19	1
DTA	153	5	165130736	165185477	High_rec	0	-	1	5.91	0	-	165158154	0.08	0.5	0.17	1
DTA	154	5	165199335	165254222	High_rec	0	-	2	5.96	0	-	165226594	0.08	0.5	0.17	1
DTA	155	5	170143051	170185331	High_rec	0	-	0	-	1	5.6	170164180	0.08	0.49	0.29	2
DTA	156	5	172551193	172601400	High_rec	0	-	5	5.01	0	-	172571872	0.07	-0.65	0.16	1
DTA	157	5	174913840	174955811	High_rec	0	-	0	-	1	5.18	174934825	0.07	0.42	0.07	1
DTA	158	5	175584879	175627480	High_rec	0	-	0	-	2	5.39	175606231	0.07	-0.45	0.47	1
DTA	159	5	183654310	183712645	High_rec	0	-	1	5.03	0	-	183683475	0.07	0.84	0.19	1
DTA	160	5	184402325	184460084	High_rec	0	-	0	-	1	5.28	184431216	0.07	0.69	0.15	1
DTA	161	5	186226655	186310811	High_rec	0	-	0	-	5	5.8	186283527	0.08	0.51	0.2	1
DTA	162	5	186356043	186441038	High_rec	0	-	1	5.28	4	5.72	186413892	0.08	0.51	0.2	1
DTA	163	5	186494920	186549003	High_rec	0	-	1	5.11	0	-	186521967	0.07	0.46	0.24	1
DTA	164	5	188438941	188490894	High_rec	0	-	1	6.83	2	5.59	188463898	0.1	0.84	0.19	2
DTA	165	5	197851254	197887928	High_rec	0	-	0	-	3	5.2	197869628	0.07	0.62	0.12	1
DTA	166	5	198699320	198733049	High_rec	0	-	0	-	1	5.65	198716239	0.08	1.02	0.08	2
DTA	167	5	200815469	200842418	High_rec	0	-	1	5.4	0	-	200828955	0.08	0.58	0.3	1

Additional_File8_TableS3_QTLs_Summary_DTA

DTA	168	5	205775773	205798691	High_rec	0	-	2	6.25	1	5.99	205789631	0.09	-0.69	0.11	1
DTA	169	6	12761980	13615092	Low_rec	0	-	1	5.13	0	-	13188536	0.07	0.68	0.16	1
DTA	170	6	18102265	18955377	Low_rec	0	-	0	-	1	5.26	18528821	0.08	-0.78	0.23	1
DTA	171	6	29213757	30066869	Low_rec	0	-	1	5.21	0	-	29640313	0.07	0.31	0.1	1
DTA	172	6	37660245	38693955	Low_rec	0	-	2	5.17	1	5.11	38267399	0.07	-0.67	0.5	1
DTA	173	6	109058831	109087367	High_rec	0	-	0	-	1	5.27	109073088	0.07	-0.56	0.06	1
DTA	174	6	141662089	142515201	Low_rec	0	-	1	5.2	0	-	142088645	0.07	-0.82	0.27	1
DTA	175	6	151735067	151756870	High_rec	0	-	1	5.79	0	-	151745930	0.08	-0.68	0.06	1
DTA	176	6	151777796	151799425	High_rec	0	-	1	6.06	0	-	151788575	0.09	-0.69	0.06	1
DTA	177	6	158184986	158197625	High_rec	0	-	1	6.11	0	-	158191338	0.09	-0.76	0.27	1
DTA	178	6	159377325	159389293	High_rec	0	-	1	5.66	0	-	159383237	0.08	-0.69	0.07	1
DTA	179	7	1282763	1289429	High_rec	0	-	0	-	2	5.56	1286039	0.08	0.54	0.4	1
DTA	180	7	1313672	1320308	High_rec	0	-	0	-	1	5.69	1316938	0.08	-0.89	0.43	1
DTA	181	7	65201021	66299985	Low_rec	0	-	0	-	1	5.02	65750503	0.07	-0.54	0.32	1
DTA	182	7	69352112	70451076	Low_rec	0	-	0	-	1	5.07	69901594	0.07	0.54	0.12	1
DTA	183	7	73156241	74255205	Low_rec	0	-	0	-	1	5.05	73705723	0.07	0.53	0.11	1
DTA	184	7	74588199	76039025	Low_rec	0	-	0	-	2	5.51	75489543	0.08	0.55	0.12	1
DTA	185	7	100254904	101353868	Low_rec	0	-	1	5.11	0	-	100804386	0.07	0.59	0.13	1
DTA	186	7	123746329	123762688	High_rec	0	-	2	6	0	-	123753625	0.08	0.56	0.29	2
DTA	187	7	123872649	123888212	High_rec	1	5.96	2	6.1	2	6.26	123880597	0.09	0.57	0.29	2
DTA	188	7	124114738	124153517	High_rec	0	-	3	6.51	2	7.29	124146487	0.1	0.6	0.3	1
DTA	189	7	124211722	124226031	High_rec	0	-	2	5.98	0	-	124218688	0.08	0.54	0.27	4
DTA	190	7	125375104	125388088	High_rec	0	-	0	-	3	5.18	125381612	0.07	0.47	0.15	1
DTA	191	7	125855347	125868050	High_rec	0	-	1	5.08	0	-	125861690	0.07	-0.59	0.27	1
DTA	192	7	126292920	126305440	High_rec	0	-	1	5.25	0	-	126299177	0.07	0.47	0.18	1
DTA	193	7	126334859	126354652	High_rec	0	-	1	5.02	1	5.05	126341107	0.07	0.45	0.16	1
DTA	194	7	126905782	126918117	High_rec	1	5.32	0	-	0	-	126911957	0.07	-0.6	0.41	1
DTA	195	7	127139372	127151654	High_rec	0	-	0	-	1	5.02	127145524	0.07	-0.81	0.49	1
DTA	196	7	127207019	127219286	High_rec	0	-	1	5.21	0	-	127213162	0.08	-0.98	0.34	1
DTA	197	7	131105710	131117647	High_rec	0	-	0	-	1	5.12	131111686	0.07	0.66	0.09	1
DTA	198	7	164032441	164041201	High_rec	0	-	1	6.51	0	-	164036829	0.09	0.73	0.27	3
DTA	199	7	167807984	167814666	High_rec	0	-	0	-	1	5.18	167811322	0.07	0.83	0.49	1
DTA	200	7	169443032	169449312	High_rec	0	-	0	-	1	5.32	169446169	0.07	0.53	0.25	1
DTA	201	7	171568180	171574155	High_rec	0	-	0	-	1	5.84	171571166	0.08	-0.52	0.34	1

Additional_File8_TableS3_QTLs_Summary_DTA

DTA	202	7	171579249	171585224	High_rec	0	-	0	-	1	5.26	171582235	0.07	0.52	0.46	1
DTA	203	7	171786321	171792276	High_rec	0	-	0	-	1	7.16	171789302	0.1	0.56	0.18	1
DTA	204	7	172199987	172205910	High_rec	0	-	1	5.01	0	-	172202953	0.07	0.48	0.19	1
DTA	205	8	3914688	3940833	High_rec	0	-	0	-	2	5.1	3927670	0.07	0.54	0.35	1
DTA	206	8	3959663	3985862	High_rec	0	-	1	5.14	0	-	3972674	0.07	0.49	0.15	1
DTA	207	8	103135614	103314337	High_rec	0	-	9	5.66	0	-	103196289	0.08	-0.64	0.34	1
DTA	208	8	114724996	114841146	High_rec	0	-	8	5.3	0	-	114744929	0.07	-0.68	0.14	1
DTA	209	8	114999636	115039255	High_rec	0	-	0	-	1	5.39	115019438	0.08	-0.69	0.14	1
DTA	210	8	122682786	122717340	High_rec	0	-	3	6.34	0	-	122700074	0.09	-0.75	0.3	1
DTA	211	8	159472811	159526274	High_rec	0	-	4	5.07	0	-	159498761	0.06	-0.32	0.19	1
DTA	212	8	160076474	160126398	High_rec	0	-	6	5.43	0	-	160101868	0.07	-0.43	0.24	1
DTA	213	8	160184590	160231960	High_rec	0	-	0	-	2	5.21	160208305	0.07	-0.56	0.28	1
DTA	214	8	165540531	165566125	High_rec	0	-	0	-	1	5.02	165553343	0.07	0.49	0.18	1
DTA	215	9	14147158	14164754	High_rec	0	-	0	-	1	5.06	14155952	0.07	0.6	0.09	1
DTA	216	9	15605252	15623873	High_rec	0	-	1	5.24	0	-	15614554	0.07	0.45	0.49	1
DTA	217	9	126570659	128364711	Low_rec	0	-	0	-	1	5.08	127467685	0.07	0.93	0.18	1
DTA	218	9	151482945	151504578	High_rec	0	-	1	5.51	2	5.56	151490165	0.07	-0.32	0.36	1
DTA	219	9	151556530	151572839	High_rec	0	-	7	5.69	0	-	151567191	0.08	-0.53	0.28	2
DTA	220	10	2774011	2782214	High_rec	0	-	0	-	1	5.06	2778123	0.07	0.71	0.15	1
DTA	221	10	5891339	5901798	High_rec	0	-	0	-	1	5.06	5896553	0.07	-0.54	0.06	1
DTA	222	10	5944354	5954890	High_rec	0	-	1	5.43	0	-	5949618	0.08	-0.55	0.12	1
DTA	223	10	6061081	6071795	High_rec	0	-	0	-	2	5.26	6066456	0.07	-0.76	0.08	1
DTA	224	10	7464675	7477951	High_rec	0	-	1	5.28	0	-	7471332	0.07	0.53	0.19	1
DTA	225	10	126789598	128432832	Low_rec	0	-	0	-	1	5.14	127611215	0.07	0.64	0.05	1
DTA	226	10	128530205	128599834	High_rec	0	-	3	5.3	0	-	128563457	0.08	-0.88	0.41	1

plantHT

QTLs Summary plant height trait																
Trait	QTL	Chr	LowerLimit	UpperLimit	Rec	NbSNP50	LogPva Max50	NbSNP600	LogPva Max600	NbSNPGBS	LogPva MaxGBS	PosMax	R2_LDMax	EffectMax	MAF	NbDiffEnv
plantHT	1	1	5321759	5376047	High_rec	0	-	2	6.81	0	-	5349023	0.11	4.2	0.13	1
plantHT	2	1	9034969	9085097	High_rec	1	5.01	0	-	0	-	9060038	0.08	2.77	0.18	1
plantHT	3	1	9095034	9146531	High_rec	0	-	2	5.6	0	-	9120069	0.09	3	0.16	1
plantHT	4	1	17483847	17536946	High_rec	0	-	1	5.07	0	-	17510348	0.08	3.11	0.45	1
plantHT	5	1	27076669	27178570	High_rec	0	-	1	5.87	0	-	27127547	0.09	3.25	0.37	1
plantHT	6	1	38536030	39163088	Low_rec	1	5.43	1	5.38	0	-	38849559	0.08	2.25	0.25	1
plantHT	7	1	95692404	95825908	High_rec	0	-	1	5.18	0	-	95759037	0.08	3.28	0.16	1
plantHT	8	1	119187876	119814934	Low_rec	0	-	1	7.51	0	-	119501405	0.12	-4.71	0.27	2
plantHT	9	1	180336978	180472831	High_rec	0	-	2	5.56	0	-	180406172	0.09	3.06	0.1	1
plantHT	10	1	207399559	207533511	High_rec	0	-	0	-	1	5.16	207466601	0.08	2.72	0.1	1
plantHT	11	1	216635254	216732196	High_rec	0	-	0	-	2	5.74	216684746	0.09	-3.18	0.06	1
plantHT	12	1	255221989	255427501	High_rec	0	-	0	-	1	5.12	255324940	0.09	3.97	0.14	1
plantHT	13	1	255600524	255813191	High_rec	0	-	0	-	2	5.37	255702081	0.09	4.07	0.1	1
plantHT	14	1	271242121	271388144	High_rec	0	-	0	-	1	5.58	271315169	0.09	-2.97	0.08	1
plantHT	15	1	286370234	286546039	High_rec	0	-	1	5.05	3	6.09	286404666	0.1	3.27	0.3	2
plantHT	16	1	295403633	295469508	High_rec	0	-	0	-	2	5.4	295436643	0.06	3.8	0.31	2
plantHT	17	2	12620810	12638329	High_rec	0	-	0	-	1	5.26	12629574	0.09	4.06	0.19	1
plantHT	18	2	23853996	23901562	High_rec	0	-	0	-	1	5.62	23877737	0.09	-3.69	0.36	1
plantHT	19	2	39258562	39355383	High_rec	1	5.7	3	5.68	0	-	39315566	0.09	3.51	0.36	2
plantHT	20	2	60331863	61383720	Low_rec	0	-	1	5.5	3	5.36	60802164	0.09	-3.24	0.15	2
plantHT	21	2	129971437	130912039	Low_rec	0	-	1	9.21	0	-	130441738	0.15	-6.74	0.14	3
plantHT	22	2	177255432	177286081	High_rec	0	-	1	5.28	0	-	177270751	0.08	2.86	0.34	1
plantHT	23	2	206908493	207849099	Low_rec	0	-	0	-	3	5.66	207378798	0.09	2.69	0.38	1
plantHT	24	2	232369190	232394645	High_rec	0	-	1	5.06	0	-	232381918	0.08	-2.77	0.2	1
plantHT	25	3	2101949	2118765	High_rec	0	-	2	5.39	0	-	2110438	0.09	3.19	0.2	1
plantHT	26	3	14663772	14707215	High_rec	0	-	1	5.17	3	5.45	14685414	0.09	-3.08	0.25	1
plantHT	27	3	14785908	14830279	High_rec	0	-	1	5.02	0	-	14807997	0.08	-2.95	0.23	1
plantHT	28	3	14834169	14878926	High_rec	0	-	0	-	1	5.79	14856457	0.09	-3.17	0.24	1
plantHT	29	3	28659805	30394938	Low_rec	0	-	3	5.08	0	-	29514189	0.08	2.6	0.09	1
plantHT	30	3	158943646	159005555	High_rec	0	-	2	6.54	0	-	158974594	0.11	4.66	0.4	1
plantHT	31	3	170004714	170039638	High_rec	0	-	1	5.19	0	-	170022188	0.08	3.11	0.37	1

plantHT

plantHT	32	3	172426304	172459479	High_rec	0	-	0	-	1	5.94	172442890	0.1	2.99	0.32	1
plantHT	33	3	176441161	176473083	High_rec	0	-	0	-	1	5.51	176457119	0.09	3.66	0.18	1
plantHT	34	3	207123467	207167995	High_rec	0	-	1	7.53	0	-	207145740	0.08	3.13	0.22	1
plantHT	35	3	217802939	217838333	High_rec	0	-	0	-	1	5	217820647	0.08	3.08	0.46	1
plantHT	36	4	50492621	52101017	Low_rec	0	-	1	6.26	0	-	51296819	0.1	-5.62	0.15	1
plantHT	37	4	124723660	126332056	Low_rec	0	-	0	-	1	5.25	125527858	0.09	-3.33	0.09	1
plantHT	38	4	149858102	149935074	High_rec	0	-	0	-	3	5.86	149896482	0.1	-3.79	0.07	1
plantHT	39	4	167175978	167204928	High_rec	0	-	0	-	1	5.32	167190461	0.09	-5.41	0.09	1
plantHT	40	4	167301170	167330065	High_rec	0	-	0	-	1	5.45	167315625	0.09	-5.53	0.14	1
plantHT	41	4	172980811	173008781	High_rec	0	-	3	5.38	0	-	172993901	0.09	-3.98	0.2	1
plantHT	42	4	217486859	219095255	Low_rec	0	-	1	5.43	0	-	218291057	0.09	5.24	0.41	1
plantHT	43	4	227024105	227058966	High_rec	0	-	0	-	1	5	227041471	0.08	-2.53	0.08	1
plantHT	44	4	235200478	235218312	High_rec	0	-	1	5.01	0	-	235209415	0.08	2.69	0.2	1
plantHT	45	5	5425496	5444529	High_rec	0	-	1	5.94	2	5.07	5434931	0.09	-3.37	0.22	1
plantHT	46	5	5770887	5789922	High_rec	0	-	0	-	1	5.2	5780589	0.09	-3.29	0.38	1
plantHT	47	5	6424559	6444665	High_rec	0	-	0	-	1	5.99	6434451	0.1	-3.56	0.49	1
plantHT	48	5	17172121	17212311	High_rec	0	-	0	-	1	5.5	17192201	0.09	-3.92	0.11	1
plantHT	49	5	17246847	17287342	High_rec	0	-	1	5.41	0	-	17267084	0.09	-3.72	0.18	1
plantHT	50	5	17475698	17518041	High_rec	0	-	3	5.03	0	-	17496416	0.08	-2.85	0.08	1
plantHT	51	5	29118568	30430170	Low_rec	0	-	1	5.01	0	-	29774369	0.08	2.41	0.1	1
plantHT	52	5	54172315	54284393	High_rec	0	-	0	-	1	5.52	54228403	0.09	3.93	0.22	1
plantHT	53	5	60082722	60180810	High_rec	1	5.7	1	5.12	0	-	60131782	0.09	3.33	0.09	1
plantHT	54	5	96329805	99474044	Low_rec	0	-	4	6.39	13	5.67	97193833	0.11	-3.77	0.19	1
plantHT	55	5	127075524	128387126	Low_rec	0	-	1	5.06	0	-	127731325	0.08	2.97	0.1	1
plantHT	56	5	134619433	136278342	Low_rec	0	-	8	5.24	1	5.22	135275234	0.08	3.12	0.06	1
plantHT	57	5	139101020	140416300	Low_rec	0	-	2	5.02	0	-	139756821	0.09	5.21	0.09	1
plantHT	58	5	169558197	169601045	High_rec	0	-	0	-	1	5.1	169579634	0.08	2.97	0.16	1
plantHT	59	5	189457709	189505795	High_rec	0	-	1	5.47	0	-	189481782	0.09	-4.06	0.46	1
plantHT	60	5	200814660	200841611	High_rec	0	-	1	5.63	0	-	200828147	0.08	-5.44	0.27	1
plantHT	61	5	203386730	203408165	High_rec	0	-	0	-	1	5.35	203397438	0.09	-3.96	0.13	1
plantHT	62	5	206591797	206609076	High_rec	0	-	1	5.5	0	-	206600443	0.09	4	0.26	1
plantHT	63	5	215466106	215489878	High_rec	0	-	0	-	2	5.93	215472581	0.1	3.68	0.1	1
plantHT	64	5	216078616	216091545	High_rec	0	-	0	-	1	5.36	216085094	0.09	3.46	0.09	1
plantHT	65	6	97968	144094	High_rec	0	-	1	5.46	0	-	121052	0.09	-5.32	0.08	1

plantHT

plantHT	66	6	340490	386662	High_rec	0	-	0	-	1	5.34	363667	0.09	-5.51	0.46	1
plantHT	67	6	4424152	4453661	High_rec	0	-	0	-	1	5.16	4438854	0.08	3.43	0.06	1
plantHT	68	6	5140249	5170672	High_rec	1	5.07	1	5	0	-	5155708	0.09	-5.47	0.42	1
plantHT	69	6	5531855	5563284	High_rec	0	-	2	5.18	0	-	5544716	0.09	-5.19	0.19	1
plantHT	70	6	5623945	5659803	High_rec	0	-	1	5.29	4	6.01	5638516	0.1	-5.93	0.23	1
plantHT	71	6	6593785	6636807	High_rec	0	-	7	8.39	1	6.13	6614012	0.13	-4.76	0.18	2
plantHT	72	6	6793841	6837747	High_rec	0	-	12	8.77	0	-	6807230	0.14	-4.87	0.18	2
plantHT	73	6	6878877	6923215	High_rec	0	-	1	7.22	2	5.97	6890199	0.12	4.99	0.48	2
plantHT	74	6	7035995	7085996	High_rec	0	-	3	6.23	1	6.11	7054033	0.1	-3.85	0.32	2
plantHT	75	6	7137095	7200479	High_rec	1	5.03	1	5.03	6	6.64	7173293	0.11	6.43	0.5	2
plantHT	76	6	7580778	7628109	High_rec	0	-	0	-	1	5.52	7621889	0.09	6.09	0.36	1
plantHT	77	6	8319621	9931959	Low_rec	0	-	4	5.66	0	-	9201138	0.1	-5.61	0.39	1
plantHT	78	6	12258527	20758095	Low_rec	15	16.23	179	17.31	40	15.77	20330595	0.27	-8.99	0.26	4
plantHT	79	6	21037721	23951687	Low_rec	6	8.58	45	11.42	16	9.41	22905376	0.19	-5.45	0.31	3
plantHT	80	6	24184017	26606537	Low_rec	1	5.07	6	8.17	0	-	25317825	0.13	-4.41	0.2	2
plantHT	81	6	26695327	28659766	Low_rec	4	7.02	27	7.99	6	9.84	28130108	0.16	-5.14	0.44	2
plantHT	82	6	29889263	31839272	Low_rec	0	-	17	6.33	0	-	30431595	0.1	-4.42	0.28	3
plantHT	83	6	34399636	36132700	Low_rec	0	-	9	7.96	3	5.67	35682625	0.13	-4.22	0.18	2
plantHT	84	6	38774263	39797024	Low_rec	0	-	4	5.24	0	-	39271886	0.09	-5.22	0.31	1
plantHT	85	6	58028052	58937645	Low_rec	0	-	0	-	2	5.47	58454608	0.09	3.73	0.49	1
plantHT	86	6	59838789	60691901	Low_rec	0	-	1	5.53	0	-	60265345	0.09	3.73	0.36	1
plantHT	87	6	70588923	71442056	Low_rec	0	-	0	-	2	5.3	71015479	0.09	-3.48	0.29	1
plantHT	88	6	73211444	74064559	Low_rec	0	-	0	-	2	7.09	73638000	0.1	-3.72	0.07	1
plantHT	89	6	74172319	75025431	Low_rec	0	-	0	-	1	6.07	74598875	0.1	-3.67	0.11	1
plantHT	90	6	76575904	77429419	Low_rec	0	-	0	-	2	5.61	77002460	0.08	-3.33	0.08	1
plantHT	91	6	81184322	82042709	Low_rec	0	-	1	5.33	6	5.62	81616126	0.09	-3.63	0.18	1
plantHT	92	6	82331626	83184738	Low_rec	0	-	0	-	1	7.83	82758182	0.12	-4.07	0.09	2
plantHT	93	6	86161490	86191022	High_rec	0	-	1	5.04	0	-	86176359	0.08	3.42	0.37	1
plantHT	94	6	101463249	101501936	High_rec	0	-	1	8.22	0	-	101482646	0.14	-5.98	0.17	2
plantHT	95	6	102186080	102222483	High_rec	0	-	1	6.21	0	-	102204371	0.1	-3.88	0.07	1
plantHT	96	6	116720299	116766789	High_rec	0	-	4	5.26	0	-	116743071	0.08	-3.14	0.33	1
plantHT	97	6	156746705	156760053	High_rec	0	-	1	5.16	0	-	156753400	0.07	2.72	0.13	1
plantHT	98	6	156814745	156828377	High_rec	0	-	0	-	3	5.24	156821419	0.08	-2.61	0.4	1
plantHT	99	6	156833841	156847573	High_rec	0	-	0	-	2	5.74	156840941	0.07	2.78	0.14	1

plantHT

plantHT	100	6	156871812	156885333	High_rec	0	-	0	-	13	7.69	156878690	0.09	3.18	0.13	1
plantHT	101	6	157013376	157026581	High_rec	0	-	0	-	1	5.85	157019989	0.08	2.81	0.18	1
plantHT	102	6	157138621	157151761	High_rec	0	-	1	5.09	0	-	157145195	0.08	-2.74	0.07	1
plantHT	103	6	157357363	157377851	High_rec	0	-	7	6.79	0	-	157370084	0.09	3.06	0.15	1
plantHT	104	6	157440112	157453102	High_rec	0	-	1	5.59	0	-	157446584	0.07	2.72	0.18	1
plantHT	105	6	157474973	157498551	High_rec	0	-	19	6.12	5	5.04	157481507	0.07	2.81	0.18	1
plantHT	106	6	162717976	162727220	High_rec	0	-	0	-	2	5.23	162722611	0.08	2.91	0.35	1
plantHT	107	6	164671184	164680404	High_rec	0	-	0	-	1	5.26	164675808	0.09	-3.66	0.22	1
plantHT	108	7	140691382	140723467	High_rec	0	-	0	-	1	6.37	140707428	0.1	-3.03	0.34	1
plantHT	109	7	162151164	162162059	High_rec	0	-	1	5.45	0	-	162156601	0.09	-4.77	0.13	1
plantHT	110	8	12767198	12798330	High_rec	0	-	1	12.44	0	-	12782777	0.19	-7.67	0.22	3
plantHT	111	8	20943317	20976973	High_rec	0	-	0	-	1	5.06	20960128	0.08	2.52	0.29	1
plantHT	112	8	72124845	73114139	Low_rec	0	-	0	-	2	5.48	72619486	0.09	2.58	0.08	1
plantHT	113	8	80665872	81669450	Low_rec	1	5.23	6	5.26	0	-	81163273	0.09	3.9	0.42	1
plantHT	114	8	94373062	94503325	High_rec	3	5.02	0	-	0	-	94437634	0.08	-3.48	0.47	1
plantHT	115	8	97758673	97896418	High_rec	0	-	1	5.11	0	-	97827521	0.08	-3.52	0.47	1
plantHT	116	8	105286143	105395246	High_rec	0	-	1	6.02	1	5.56	105341062	0.09	-3.06	0.31	1
plantHT	117	8	105418259	105830430	High_rec	0	-	25	6.35	2	6.24	105589632	0.1	-3.15	0.31	1
plantHT	118	8	107166679	107275984	High_rec	0	-	3	6.17	2	5.78	107214791	0.1	4.02	0.45	1
plantHT	119	8	116460940	116500225	High_rec	0	-	1	5.06	0	-	116480574	0.09	-4.33	0.23	1
plantHT	120	8	117537409	117576295	High_rec	0	-	0	-	1	5.95	117556845	0.1	3.27	0.09	1
plantHT	121	8	138883118	139872400	Low_rec	0	-	1	5.38	0	-	139377759	0.09	-2.74	0.12	1
plantHT	122	8	160401751	160447830	High_rec	0	-	1	5.24	0	-	160424821	0.09	-3.05	0.13	1
plantHT	123	8	160951326	160998158	High_rec	1	5.9	4	6.26	0	-	160975429	0.1	-3.5	0.29	1
plantHT	124	8	161512973	161556763	High_rec	0	-	1	5.78	1	5.84	161532997	0.09	3.76	0.31	1
plantHT	125	8	163165106	163197591	High_rec	1	5.24	1	5.05	0	-	163181361	0.09	-3.01	0.17	1
plantHT	126	8	164045380	164074752	High_rec	0	-	1	5.48	0	-	164060097	0.09	-2.93	0.36	1
plantHT	127	8	164916849	164943801	High_rec	0	-	0	-	1	5.13	164930328	0.08	-3.09	0.1	1
plantHT	128	8	166516109	166540119	High_rec	0	-	0	-	1	5	166528112	0.08	-3.56	0.24	1
plantHT	129	8	169648032	169671513	High_rec	0	-	5	7.82	0	-	169660749	0.13	4.37	0.08	1
plantHT	130	9	81917032	83713717	Low_rec	0	-	2	5.18	0	-	82816691	0.08	-2.58	0.43	1
plantHT	131	9	130880006	130960308	High_rec	0	-	0	-	1	5.18	130920301	0.08	2.72	0.5	1
plantHT	132	9	151569497	151581748	High_rec	0	-	4	6.65	3	6.2	151575511	0.11	-3.09	0.33	5
plantHT	133	9	151628466	151639696	High_rec	0	-	0	-	1	5.09	151634075	0.08	-3.15	0.31	1

plantHT

plantHT	134	9	151699366	151710544	High_rec	0	-	0	-	2	5.03	151704950	0.09	3.69	0.11	1
plantHT	135	9	152249195	152260004	High_rec	0	-	1	5.01	0	-	152254602	0.08	-2.45	0.37	1
plantHT	136	10	16016248	16045633	High_rec	0	-	0	-	4	5.42	16030914	0.08	2.72	0.39	1
plantHT	137	10	16186571	16240691	High_rec	0	-	0	-	1	5.32	16213631	0.07	2.69	0.4	1
plantHT	138	10	16459993	16607534	High_rec	0	-	7	6.62	0	-	16499943	0.1	3.01	0.36	1
plantHT	139	10	18554424	20207537	Low_rec	0	-	3	5.22	0	-	19376041	0.08	2.87	0.2	1
plantHT	140	10	80563106	80601043	High_rec	0	-	0	-	1	5.02	80582011	0.08	4.05	0.21	1
plantHT	141	10	85309533	85333793	High_rec	1	5.19	0	-	2	5.05	85323080	0.09	3.91	0.3	1
plantHT	142	10	105652946	108635959	Low_rec	4	5.42	36	5.71	1	5.22	106716906	0.09	-3.57	0.44	2
plantHT	143	10	126433919	128437403	Low_rec	0	-	0	-	3	5.98	127615412	0.09	2.42	0.3	1
plantHT	144	10	128938447	129019203	High_rec	0	-	1	5.12	1	5.1	128989375	0.08	-2.38	0.45	1
plantHT	145	10	129176048	129233466	High_rec	0	-	0	-	2	5.27	129204835	0.08	-2.51	0.19	1
plantHT	146	10	129233933	129376028	High_rec	0	-	6	5.21	0	-	129262411	0.08	-2.5	0.27	1
plantHT	147	10	129561046	129614472	High_rec	0	-	0	-	1	6.62	129587852	0.11	-2.76	0.25	1
plantHT	148	10	129740709	129840885	High_rec	0	-	3	5.64	2	5.39	129813112	0.09	-2.52	0.27	1
plantHT	149	10	129870423	129967710	High_rec	0	-	10	6.21	1	5.65	129942753	0.1	-2.7	0.28	1
plantHT	150	10	130005655	130103695	High_rec	0	-	4	6.07	3	5.98	130030295	0.1	-2.66	0.3	1
plantHT	151	10	130426599	130472404	High_rec	0	-	2	5.21	0	-	130449451	0.08	-2.62	0.1	1
plantHT	152	10	132353858	132387749	High_rec	0	-	1	6.18	0	-	132370800	0.1	2.94	0.49	1
plantHT	153	10	132496683	132529943	High_rec	0	-	1	5.28	0	-	132513268	0.07	2.77	0.25	1
plantHT	154	10	132540583	132576604	High_rec	0	-	0	-	2	5.43	132557064	0.08	2.83	0.25	1
plantHT	155	10	134446009	134471611	High_rec	0	-	0	-	1	7.85	134458869	0.08	3.11	0.17	1
plantHT	156	10	136796998	136812867	High_rec	0	-	1	5.42	0	-	136805030	0.08	2.78	0.16	1
plantHT	157	10	136825723	136841487	High_rec	0	-	0	-	1	5.61	136833707	0.08	2.8	0.16	1
plantHT	158	10	137420067	137433792	High_rec	0	-	0	-	5	5.8	137426815	0.09	2.81	0.23	1
plantHT	159	10	146166955	146178148	High_rec	0	-	0	-	1	5.33	146172455	0.09	-3.13	0.11	1
plantHT	160	10	146681890	146694750	High_rec	0	-	4	5.52	1	5.38	146687922	0.09	3.28	0.48	2

GY

QTLs Summary grain yield trait																
Trait	QTL	Chr	LowerLimit	UpperLimit	Rec	NbSNP50	LogPva Max50	NbSNP600	LogPva Max600	NbSNPGBS	LogPva MaxGBS	PosMax	R2_LDMax	EffectMax	MAF	NbDiffEnv
GY	1	1	2402699	2498209	High_rec	0	-	3	5.55	0	-	2430515	0.07	-0.25	0.43	2
GY	2	1	2769801	2827512	High_rec	0	-	3	5.13	0	-	2797566	0.07	-0.31	0.3	1
GY	3	1	3250949	3306308	High_rec	0	-	1	6.26	0	-	3278633	0.08	-0.27	0.25	1
GY	4	1	3851111	3906188	High_rec	0	-	0	-	1	5.73	3878654	0.07	0.27	0.48	1
GY	5	1	10801972	10850424	High_rec	0	-	1	5.08	0	-	10826196	0.07	0.41	0.36	1
GY	6	1	13661823	13709598	High_rec	0	-	1	5.24	0	-	13685715	0.07	0.24	0.16	1
GY	7	1	23524734	23602979	High_rec	0	-	1	5.51	1	5.9	23563795	0.08	0.24	0.07	1
GY	8	1	30496831	30639114	High_rec	0	-	1	5.15	0	-	30567305	0.07	-0.27	0.26	1
GY	9	1	31129827	31284518	High_rec	0	-	0	-	1	5.37	31206955	0.07	-0.29	0.24	1
GY	10	1	33020646	33225898	High_rec	0	-	1	6.04	0	-	33122606	0.08	-0.29	0.1	1
GY	11	1	34497471	35124529	Low_rec	1	5.39	1	5.31	0	-	34811000	0.07	-0.27	0.46	1
GY	12	1	49480215	50107273	Low_rec	0	-	1	5.02	0	-	49793744	0.07	0.35	0.21	1
GY	13	1	50125831	51092271	Low_rec	0	-	16	6.5	1	6.03	50763476	0.09	0.4	0.25	1
GY	14	1	59154671	59781729	Low_rec	0	-	1	5.16	0	-	59468200	0.06	-0.33	0.34	1
GY	15	1	61310322	61937380	Low_rec	0	-	0	-	1	5.38	61623851	0.07	-0.37	0.16	1
GY	16	1	92185740	92315531	High_rec	1	5.77	8	5.77	4	5.95	92258968	0.08	-0.4	0.36	1
GY	17	1	99395524	99577219	High_rec	0	-	2	5.29	0	-	99485155	0.07	0.32	0.32	1
GY	18	1	119187876	119814934	Low_rec	0	-	1	5.18	0	-	119501405	0.07	-0.45	0.27	1
GY	19	1	160494511	160688630	High_rec	0	-	1	5.74	0	-	160591663	0.08	-0.32	0.07	1
GY	20	1	175793759	177099412	High_rec	1	5.24	4	5.24	0	-	177032609	0.06	-0.28	0.1	1
GY	21	1	177131730	177635526	High_rec	0	-	13	5.8	1	5.03	177571482	0.07	-0.29	0.09	3
GY	22	1	182457560	182611749	High_rec	0	-	1	5.07	0	-	182534629	0.06	-0.35	0.12	1
GY	23	1	197722872	197865235	High_rec	0	-	0	-	1	5.45	197794071	0.07	0.32	0.46	1
GY	24	1	209728593	209851568	High_rec	1	5.96	1	5.96	2	6.18	209790097	0.08	-0.38	0.27	1
GY	25	1	211561281	211675296	High_rec	0	-	2	5.12	0	-	211618490	0.06	-0.38	0.43	1
GY	26	1	217222304	217315640	High_rec	0	-	1	5.27	0	-	217269004	0.07	-0.35	0.17	1
GY	27	1	217592754	217685079	High_rec	0	-	0	-	1	5.25	217638947	0.06	-0.22	0.23	1
GY	28	1	234166716	234270684	High_rec	0	-	1	5.05	1	5.02	234219088	0.07	0.34	0.38	1
GY	29	1	240393911	240546232	High_rec	0	-	1	5.64	0	-	240469888	0.07	0.27	0.47	1
GY	30	1	273030312	273171229	High_rec	0	-	0	-	1	5.28	273100855	0.07	0.31	0.39	1
GY	31	1	277994916	278103033	High_rec	0	-	0	-	1	5.58	278049081	0.08	-0.39	0.16	1

GY

GY	32	1	278454657	278559409	High_rec	0	-	0	-	1	5.07	278507113	0.07	-0.38	0.13	1
GY	33	1	295279301	295344931	High_rec	0	-	0	-	1	5.07	295312114	0.06	0.26	0.18	1
GY	34	1	295403783	295487928	High_rec	0	-	0	-	3	6.17	295455056	0.08	0.29	0.28	3
GY	35	1	295530124	295667295	High_rec	0	-	2	6.12	2	5.46	295634353	0.08	-0.29	0.36	2
GY	36	1	295693880	295824410	High_rec	0	-	5	6.72	1	7	295790807	0.1	-0.31	0.4	2
GY	37	2	7517105	7532653	High_rec	0	-	1	5.3	0	-	7524873	0.07	0.22	0.38	1
GY	38	2	9001256	9017236	High_rec	0	-	0	-	1	5.18	9009253	0.07	-0.38	0.27	1
GY	39	2	16222636	16243320	High_rec	0	-	0	-	1	5.07	16232975	0.07	-0.38	0.38	1
GY	40	2	45935133	46038080	High_rec	0	-	0	-	3	5.1	45986540	0.06	-0.31	0.08	1
GY	41	2	80255693	81196295	Low_rec	0	-	1	5.35	0	-	80725994	0.07	-0.33	0.07	1
GY	42	2	85015940	85956542	Low_rec	0	-	0	-	1	5.11	85486241	0.07	-0.34	0.06	1
GY	43	2	119191729	120132331	Low_rec	0	-	1	5.62	0	-	119662030	0.07	-0.34	0.28	1
GY	44	2	129971437	130912039	Low_rec	0	-	1	5.62	0	-	130441738	0.08	-0.42	0.14	1
GY	45	2	189545188	189567434	High_rec	0	-	0	-	1	5.03	189556296	0.06	-0.38	0.11	1
GY	46	2	191098387	191123353	High_rec	0	-	0	-	1	5.7	191110847	0.08	-0.42	0.11	1
GY	47	2	223384923	223424702	High_rec	0	-	0	-	3	5.33	223410110	0.07	0.33	0.08	1
GY	48	3	1544658	1561384	High_rec	0	-	1	5.39	0	-	1553046	0.07	-0.27	0.09	1
GY	49	3	5570151	5587140	High_rec	0	-	0	-	1	5.23	5578685	0.06	0.23	0.21	1
GY	50	3	6730402	6748004	High_rec	0	-	0	-	1	5.57	6739154	0.08	0.4	0.06	1
GY	51	3	6785521	6803164	High_rec	0	-	0	-	1	5.61	6794287	0.08	0.4	0.06	1
GY	52	3	7595591	7613956	High_rec	0	-	0	-	1	5.36	7604776	0.07	0.42	0.08	1
GY	53	3	8255937	8283262	High_rec	0	-	2	5.2	1	5.46	8265546	0.07	0.31	0.12	3
GY	54	3	8893813	8913904	High_rec	0	-	1	5.27	0	-	8903812	0.07	0.3	0.42	1
GY	55	3	9055736	9076097	High_rec	0	-	0	-	1	5.12	9065883	0.07	-0.35	0.08	1
GY	56	3	13445017	13480210	High_rec	0	-	1	5.81	0	-	13462582	0.08	-0.41	0.26	1
GY	57	3	13519894	13555522	High_rec	0	-	1	5.03	0	-	13537651	0.06	-0.35	0.22	1
GY	58	3	17361568	17435698	High_rec	0	-	2	5.81	2	6.64	17398949	0.09	-0.43	0.17	2
GY	59	3	55430141	57938557	Low_rec	0	-	1	5.13	2	5.37	57083327	0.07	0.27	0.09	1
GY	60	3	67086601	69216613	Low_rec	2	5.08	8	5.08	0	-	67940985	0.06	0.2	0.44	1
GY	61	3	113500273	115287265	Low_rec	0	-	1	5.07	1	5.62	114432881	0.08	-0.37	0.35	2
GY	62	3	119892518	121878783	Low_rec	0	-	3	5.13	0	-	120746902	0.06	0.26	0.22	1
GY	63	3	126377913	128086681	Low_rec	0	-	1	5.22	0	-	127232297	0.07	-0.35	0.15	1
GY	64	3	134010750	137430424	Low_rec	0	-	4	5.79	4	6.18	136336334	0.08	0.29	0.18	2
GY	65	3	140505559	144210207	Low_rec	1	8.13	6	5.97	11	5.57	141621777	0.12	0.42	0.27	5

GY

GY	66	3	147180927	148954917	Low_rec	0	-	2	5.33	0	-	148100533	0.07	-0.21	0.19	2
GY	67	3	155759299	155841816	High_rec	1	5.77	2	5.54	1	5.75	155803805	0.08	-0.37	0.37	2
GY	68	3	155917683	155998088	High_rec	1	5.82	0	-	1	5.49	155960553	0.08	-0.36	0.18	2
GY	69	3	156599854	156673063	High_rec	0	-	2	6.42	1	5.5	156637379	0.09	-0.4	0.25	4
GY	70	3	157723648	157791820	High_rec	1	5.05	2	5.14	0	-	157756845	0.07	0.34	0.42	1
GY	71	3	157908645	157974252	High_rec	0	-	0	-	1	5.39	157941470	0.07	0.32	0.13	1
GY	72	3	158677902	158740675	High_rec	0	-	1	5.1	0	-	158709297	0.06	-0.26	0.47	1
GY	73	3	158740828	158803383	High_rec	0	-	0	-	2	5.58	158772115	0.07	-0.28	0.26	1
GY	74	3	158943646	159005990	High_rec	0	-	5	7.05	0	-	158974646	0.1	0.41	0.41	5
GY	75	3	159360179	159656444	High_rec	1	5.5	56	6.05	1	5.37	159448298	0.08	0.39	0.48	2
GY	76	3	159713532	159830643	High_rec	0	-	4	7.7	1	5.96	159743301	0.11	0.4	0.14	1
GY	77	3	160485754	160543923	High_rec	1	5.65	3	5.65	0	-	160514830	0.08	0.38	0.34	1
GY	78	3	161943144	161995521	High_rec	0	-	0	-	1	5.03	161969350	0.06	0.32	0.27	1
GY	79	3	162802032	162856178	High_rec	0	-	2	5.77	0	-	162831329	0.07	-0.27	0.21	1
GY	80	3	163676681	163723804	High_rec	0	-	1	5.18	0	-	163700269	0.06	-0.26	0.17	1
GY	81	3	167031993	167070863	High_rec	1	5.1	1	5.1	0	-	167051430	0.07	0.33	0.21	1
GY	82	3	168464897	168501504	High_rec	0	-	1	5.56	0	-	168483210	0.07	0.35	0.11	1
GY	83	3	168903958	168940032	High_rec	0	-	0	-	2	6.12	168922004	0.08	-0.36	0.48	1
GY	84	3	172033815	172067232	High_rec	0	-	0	-	1	5.06	172050543	0.07	0.38	0.44	1
GY	85	3	186994852	187057772	High_rec	1	8.49	4	8.12	0	-	187028970	0.12	-0.48	0.28	1
GY	86	3	187363380	187421586	High_rec	0	-	1	5.11	0	-	187392463	0.07	0.45	0.47	1
GY	87	3	188510221	188569744	High_rec	0	-	1	5.26	1	6.17	188539926	0.08	-0.42	0.18	1
GY	88	3	193865937	193920520	High_rec	0	-	0	-	1	5.14	193893247	0.06	0.23	0.38	1
GY	89	3	201662051	201713930	High_rec	0	-	2	5.46	0	-	201688333	0.07	-0.25	0.27	1
GY	90	3	201971469	202022435	High_rec	0	-	0	-	1	5.01	201996963	0.06	-0.32	0.13	1
GY	91	3	207280135	207324467	High_rec	0	-	1	5.03	0	-	207302311	0.06	-0.38	0.24	1
GY	92	3	215987072	216023874	High_rec	0	-	1	5.74	0	-	216005480	0.08	-0.27	0.21	1
GY	93	3	229851258	229884124	High_rec	0	-	0	-	1	5.28	229867690	0.07	-0.39	0.42	1
GY	94	4	7249884	7267600	High_rec	0	-	1	5.41	0	-	7258757	0.07	-0.36	0.19	1
GY	95	4	50492621	52101017	Low_rec	0	-	1	5.93	0	-	51296819	0.08	-0.45	0.15	1
GY	96	4	56166195	57774591	Low_rec	0	-	0	-	1	5.08	56970393	0.06	0.41	0.41	1
GY	97	4	173817657	173850094	High_rec	0	-	2	5.15	0	-	173837172	0.07	0.41	0.25	1
GY	98	4	175824255	175849662	High_rec	0	-	1	5.35	0	-	175836951	0.07	0.38	0.11	1
GY	99	4	229776114	229801774	High_rec	0	-	0	-	3	5.43	229788890	0.07	-0.33	0.31	1

GY

GY	100	4	235537995	235555673	High_rec	0	-	1	5.01	0	-	235546910	0.06	-0.19	0.32	1
GY	101	5	2697078	2713888	High_rec	0	-	0	-	1	5.03	2705402	0.06	-0.31	0.1	1
GY	102	5	5425620	5444179	High_rec	0	-	1	5.03	0	-	5435055	0.07	0.42	0.45	1
GY	103	5	5764181	5783344	High_rec	0	-	2	5.44	0	-	5773880	0.07	0.46	0.49	1
GY	104	5	6662379	6682923	High_rec	0	-	1	5.03	0	-	6672502	0.07	-0.38	0.21	1
GY	105	5	15446925	15481187	High_rec	0	-	1	5.29	0	-	15464057	0.07	-0.37	0.1	1
GY	106	5	168427768	168475392	High_rec	2	5.03	3	5.54	0	-	168450124	0.08	0.42	0.31	1
GY	107	5	168643660	168687788	High_rec	1	5.61	1	5.44	0	-	168665734	0.08	0.44	0.21	1
GY	108	5	188439918	188491138	High_rec	0	-	1	5.56	6	5.73	188465891	0.08	0.31	0.41	2
GY	109	5	210586093	210600435	High_rec	0	-	1	5.03	0	-	210593267	0.06	-0.25	0.19	1
GY	110	6	338452	386662	High_rec	3	5.22	3	5.22	1	6.23	363667	0.09	-0.49	0.46	1
GY	111	6	2573126	2609233	High_rec	0	-	0	-	1	5.32	2591199	0.07	0.46	0.34	1
GY	112	6	2707441	2742740	High_rec	0	-	1	5.3	0	-	2725115	0.07	0.48	0.32	1
GY	113	6	2862726	2897142	High_rec	0	-	1	5.67	0	-	2879992	0.08	0.5	0.32	1
GY	114	6	3220433	3253071	High_rec	0	-	1	5.3	0	-	3237069	0.07	-0.32	0.13	1
GY	115	6	3296315	3328628	High_rec	1	7.07	1	6.91	0	-	3312817	0.1	0.55	0.38	2
GY	116	6	4161248	4192870	High_rec	0	-	1	5.11	2	7.4	4175558	0.1	0.59	0.35	2
GY	117	6	4220527	4250297	High_rec	0	-	1	5.62	0	-	4234790	0.08	-0.45	0.13	1
GY	118	6	4293746	4323402	High_rec	0	-	0	-	1	6.03	4308083	0.07	0.5	0.48	1
GY	119	6	4346361	4375946	High_rec	0	-	1	6.93	0	-	4360811	0.1	0.58	0.36	2
GY	120	6	5131927	5177694	High_rec	3	8.24	1	7.97	0	-	5155708	0.12	-0.58	0.42	2
GY	121	6	5529578	5563284	High_rec	0	-	3	6.4	1	5.02	5544662	0.09	-0.49	0.26	1
GY	122	6	5623945	5659803	High_rec	0	-	2	5.89	6	8.11	5638516	0.12	-0.57	0.23	2
GY	123	6	5716057	5747692	High_rec	0	-	1	5.55	0	-	5729531	0.07	-0.43	0.23	1
GY	124	6	5855407	5887383	High_rec	1	8.14	1	8.4	0	-	5871000	0.12	-0.56	0.42	2
GY	125	6	6002123	6034825	High_rec	1	7.69	1	5.05	0	-	6020863	0.11	-0.53	0.29	2
GY	126	6	6526300	6564102	High_rec	0	-	0	-	1	6.28	6546605	0.08	0.53	0.41	2
GY	127	6	6593785	6636807	High_rec	0	-	7	10.44	1	6.23	6612654	0.16	-0.65	0.32	2
GY	128	6	6793841	6837747	High_rec	0	-	8	8.41	0	-	6807462	0.12	-0.54	0.26	2
GY	129	6	6878877	6930838	High_rec	0	-	4	8.06	5	6.36	6890199	0.12	0.63	0.48	3
GY	130	6	7027497	7088575	High_rec	0	-	8	8.71	6	8.54	7046773	0.13	0.62	0.4	3
GY	131	6	7113662	7200479	High_rec	1	6.8	12	6.8	9	8.24	7159714	0.12	0.59	0.39	3
GY	132	6	7580778	7628109	High_rec	0	-	0	-	1	7.16	7621889	0.1	0.58	0.36	2
GY	133	6	8089320	8191938	High_rec	0	-	2	5.6	2	6.24	8107762	0.09	0.53	0.36	2

GY

GY	134	6	8255299	10338302	Low_rec	1	5.61	10	7.48	7	7.2	9201138	0.11	-0.53	0.39	3
GY	135	6	12258527	29438316	Low_rec	28	16.62	421	17.45	119	18.7	18528943	0.28	-0.78	0.31	6
GY	136	6	29679760	32076573	Low_rec	0	-	16	6.36	5	6.54	31649995	0.09	-0.45	0.08	3
GY	137	6	33794754	35355137	Low_rec	1	5.07	4	5.61	5	5.64	34928581	0.08	-0.42	0.16	3
GY	138	6	56973134	57826407	Low_rec	0	-	0	-	2	5.28	57399690	0.07	-0.41	0.16	1
GY	139	6	74036547	74889659	Low_rec	0	-	0	-	1	5.86	74463103	0.08	-0.46	0.35	1
GY	140	6	80900227	81753339	Low_rec	0	-	1	5.04	0	-	81326783	0.07	0.43	0.42	1
GY	141	6	84207133	84247739	High_rec	0	-	2	5.03	0	-	84227358	0.07	0.42	0.31	1
GY	142	6	84251812	84291819	High_rec	0	-	1	5.03	0	-	84271739	0.07	0.42	0.31	1
GY	143	6	84365211	84403915	High_rec	0	-	1	5.02	0	-	84384458	0.06	0.23	0.14	1
GY	144	6	84501215	84538901	High_rec	0	-	0	-	6	5.77	84520170	0.07	0.28	0.22	2
GY	145	6	94751983	94770399	High_rec	0	-	0	-	1	5.06	94761011	0.07	0.33	0.49	1
GY	146	6	97373021	97394265	High_rec	0	-	1	5.2	0	-	97383614	0.07	-0.35	0.4	1
GY	147	6	101463249	101501936	High_rec	0	-	1	15.04	0	-	101482646	0.22	-0.65	0.17	5
GY	148	6	106054166	106076380	High_rec	0	-	0	-	1	5.34	106065312	0.07	0.41	0.1	1
GY	149	6	142361290	143244625	Low_rec	0	-	3	5.29	0	-	142814770	0.07	-0.42	0.21	1
GY	150	6	149384192	149422977	High_rec	0	-	1	5.18	0	-	149403691	0.07	-0.25	0.43	1
GY	151	6	155444831	155459067	High_rec	0	-	1	5.99	0	-	155451950	0.08	0.38	0.29	1
GY	152	6	165940796	165953795	High_rec	0	-	1	5.31	1	5.15	165948837	0.07	-0.36	0.37	1
GY	153	7	15194163	16293127	Low_rec	0	-	1	5.07	0	-	15743645	0.07	0.33	0.08	1
GY	154	7	16398918	17497882	Low_rec	0	-	1	6.11	0	-	16948400	0.08	-0.4	0.1	1
GY	155	7	40878781	42008799	Low_rec	0	-	0	-	10	6.99	41459217	0.09	0.26	0.14	2
GY	156	7	49084346	50183310	Low_rec	0	-	1	5.06	0	-	49633828	0.06	0.24	0.12	1
GY	157	7	65846729	66945693	Low_rec	0	-	0	-	1	5.36	66396211	0.07	0.24	0.06	1
GY	158	7	68774890	70451076	Low_rec	0	-	1	5.03	1	5.22	69901594	0.06	0.23	0.13	1
GY	159	7	72972521	75725143	Low_rec	0	-	1	5.86	3	5.53	75172928	0.07	0.24	0.14	2
GY	160	7	76759026	77858230	Low_rec	2	5.19	1	5.35	0	-	77308508	0.07	0.29	0.15	1
GY	161	7	91972395	93071359	Low_rec	0	-	1	5.02	0	-	92521877	0.06	0.24	0.1	1
GY	162	7	124211722	124225680	High_rec	0	-	1	6.96	0	-	124218688	0.1	0.38	0.27	2
GY	163	7	126775251	126787618	High_rec	0	-	1	5.53	0	-	126781432	0.07	-0.32	0.47	1
GY	164	7	126904150	126916485	High_rec	0	-	0	-	1	5.12	126910325	0.06	-0.27	0.12	1
GY	165	7	127141936	127154217	High_rec	0	-	1	5.18	0	-	127148088	0.07	-0.32	0.31	1
GY	166	7	128414484	128429337	High_rec	1	5.33	2	5.63	0	-	128423294	0.07	-0.26	0.4	2
GY	167	7	142454502	144297490	Low_rec	0	-	1	5.03	4	5.36	143024517	0.07	0.23	0.27	1

GY

GY	168	7	156461263	156495261	High_rec	0	-	1	5.25	0	-	156478285	0.06	0.21	0.2	1
GY	169	7	157456005	157481982	High_rec	0	-	0	-	1	5.25	157468938	0.07	0.25	0.05	1
GY	170	7	162947146	162957010	High_rec	0	-	0	-	1	5.13	162952070	0.06	0.24	0.39	1
GY	171	8	8086623	8114051	High_rec	0	-	0	-	1	5.17	8100428	0.06	-0.24	0.19	1
GY	172	8	10071507	10099203	High_rec	0	-	0	-	1	6.18	10085339	0.08	-0.28	0.14	1
GY	173	8	12767198	12798330	High_rec	0	-	1	11.8	0	-	12782777	0.17	-0.61	0.22	4
GY	174	8	12884819	12918012	High_rec	0	-	3	5.13	0	-	12902378	0.06	0.25	0.35	1
GY	175	8	18883292	18913206	High_rec	0	-	0	-	1	5.36	18898238	0.07	0.25	0.37	1
GY	176	8	19819510	19850796	High_rec	0	-	0	-	2	6.51	19835102	0.09	-0.4	0.06	1
GY	177	8	20955086	20988776	High_rec	0	-	0	-	1	5.53	20971916	0.07	0.33	0.33	2
GY	178	8	21132144	21166359	High_rec	0	-	1	5.24	0	-	21149258	0.07	0.37	0.3	1
GY	179	8	25089644	25160450	High_rec	2	5.39	8	5.61	0	-	25121123	0.08	0.36	0.48	2
GY	180	8	63113072	64102354	Low_rec	0	-	0	-	1	5.44	63607713	0.07	-0.32	0.18	1
GY	181	8	65290417	66279699	Low_rec	0	-	1	5.02	0	-	65785058	0.06	0.33	0.32	1
GY	182	8	71139615	72149143	Low_rec	0	-	2	5.16	0	-	71654502	0.06	-0.21	0.05	1
GY	183	8	119919935	119955844	High_rec	1	5.44	1	5.44	0	-	119937927	0.07	0.33	0.27	1
GY	184	8	122135797	122170300	High_rec	0	-	1	5.87	0	-	122153056	0.08	-0.36	0.26	1
GY	185	8	122187760	122238972	High_rec	0	-	4	5.87	0	-	122205011	0.08	-0.36	0.26	1
GY	186	8	123589832	123624559	High_rec	0	-	2	5.16	0	-	123607159	0.07	-0.4	0.12	1
GY	187	8	123753971	123789746	High_rec	0	-	3	5.19	0	-	123772416	0.07	-0.32	0.17	1
GY	188	8	123893288	123928641	High_rec	0	-	1	5.74	1	6.35	123910645	0.08	-0.36	0.14	1
GY	189	8	124919958	124955012	High_rec	0	-	0	-	3	5.85	124937480	0.08	0.4	0.49	1
GY	190	8	132992761	133218372	High_rec	0	-	6	5.7	0	-	133086014	0.07	-0.35	0.07	1
GY	191	8	134105172	134206384	High_rec	0	-	1	5.65	0	-	134155603	0.07	-0.37	0.3	1
GY	192	8	134789526	134958862	High_rec	1	5.09	4	5.09	0	-	134845699	0.06	-0.31	0.12	1
GY	193	8	135418240	135677825	High_rec	0	-	5	6.84	0	-	135480233	0.09	0.45	0.19	2
GY	194	8	135703068	135833364	High_rec	0	-	0	-	2	5.04	135767885	0.06	0.36	0.19	1
GY	195	8	137769256	140206204	Low_rec	0	-	5	5.41	4	5.51	139344593	0.07	0.35	0.47	5
GY	196	8	158547930	158606180	High_rec	0	-	0	-	1	5.53	158577127	0.07	0.36	0.29	1
GY	197	8	159472627	159526710	High_rec	0	-	10	6.01	0	-	159498761	0.08	-0.28	0.19	1
GY	198	8	161894255	161932406	High_rec	0	-	2	5.27	0	-	161913375	0.07	0.37	0.4	1
GY	199	8	163603104	163633981	High_rec	0	-	0	-	2	5.32	163618559	0.07	0.31	0.46	1
GY	200	8	164738196	164765592	High_rec	0	-	1	5.33	0	-	164751885	0.07	-0.35	0.34	1
GY	201	9	2921786	2941298	High_rec	0	-	0	-	1	5.27	2931541	0.07	-0.32	0.38	1

GY

GY	202	9	16238943	16258316	High_rec	0	-	0	-	1	5.27	16248633	0.07	-0.33	0.14	1
GY	203	9	16671757	16692173	High_rec	0	-	2	5.69	0	-	16682172	0.08	-0.36	0.45	1
GY	204	9	16710192	16730786	High_rec	0	-	3	6.24	0	-	16720220	0.09	-0.39	0.43	1
GY	205	9	37835983	42569935	Low_rec	0	-	5	5.72	5	6.12	40746771	0.08	0.4	0.3	1
GY	206	9	86390930	89689635	Low_rec	1	5.02	1	5.14	5	5.2	87287956	0.07	0.37	0.23	1
GY	207	9	95815538	99392794	Low_rec	0	-	1	5.31	4	5.58	98492013	0.08	0.38	0.38	1
GY	208	9	99571945	101781403	Low_rec	0	-	0	-	2	5.48	100468971	0.07	-0.35	0.45	2
GY	209	9	104392313	104477472	High_rec	1	5.03	2	5.11	0	-	104434941	0.07	-0.35	0.39	1
GY	210	9	128868662	130662714	Low_rec	1	5.6	1	5.61	0	-	129765688	0.08	0.4	0.19	1
GY	211	9	139926885	139957638	High_rec	0	-	0	-	1	5.12	139942270	0.07	0.36	0.17	1
GY	212	9	139999731	140039821	High_rec	0	-	1	5	1	5.22	140015074	0.07	0.34	0.12	1
GY	213	9	140335136	140365476	High_rec	0	-	0	-	1	5.25	140350308	0.07	0.36	0.09	1
GY	214	9	149031630	149046185	High_rec	0	-	1	5.14	0	-	149038912	0.06	-0.33	0.3	1
GY	215	10	33904568	35547802	Low_rec	0	-	1	5.42	0	-	34726185	0.08	-0.44	0.29	1
GY	216	10	52248577	54304711	Low_rec	0	-	5	5.41	0	-	53479608	0.07	-0.42	0.23	1
GY	217	10	62209598	63852832	Low_rec	0	-	0	-	1	5.25	63031215	0.07	0.28	0.2	1
GY	218	10	77088709	77123603	High_rec	0	-	2	5.5	0	-	77104767	0.07	-0.33	0.18	1
GY	219	10	77240510	77275071	High_rec	0	-	1	5.19	0	-	77257956	0.07	-0.37	0.45	1
GY	220	10	84081728	84105135	High_rec	0	-	2	5.24	0	-	84093349	0.07	0.32	0.18	1
GY	221	10	84149184	84172339	High_rec	0	-	1	5.22	0	-	84160732	0.06	0.33	0.16	1
GY	222	10	85301075	85322549	High_rec	0	-	0	-	1	5.68	85311831	0.07	0.39	0.29	1
GY	223	10	88514366	88538160	High_rec	0	-	0	-	1	5.07	88526173	0.06	0.29	0.2	1
GY	224	10	109379358	111022592	Low_rec	0	-	0	-	1	5.25	110200975	0.07	0.33	0.12	1
GY	225	10	130264415	130311365	High_rec	0	-	0	-	1	6.29	130287911	0.08	0.26	0.13	1
GY	226	10	130595464	130641967	High_rec	0	-	2	7.21	0	-	130619915	0.1	0.28	0.15	1
GY	227	10	130676908	130742355	High_rec	0	-	2	6.08	0	-	130698830	0.08	0.26	0.08	1
GY	228	10	130805332	130848072	High_rec	0	-	0	-	1	6.08	130826761	0.08	0.26	0.08	1
GY	229	10	130885191	130936382	High_rec	0	-	0	-	4	7.38	130907890	0.1	0.28	0.05	1
GY	230	10	131021378	131068694	High_rec	0	-	2	5.68	0	-	131048111	0.07	0.25	0.17	1
GY	231	10	132154387	132213015	High_rec	0	-	7	6.1	4	6.97	132177648	0.09	0.27	0.08	3
GY	232	10	132228136	132273816	High_rec	0	-	1	5.23	3	7.53	132256238	0.1	0.28	0.13	2
GY	233	10	132304734	132339887	High_rec	0	-	0	-	7	7.42	132321894	0.1	0.28	0.14	2
GY	234	10	132371273	132441246	High_rec	0	-	3	6.16	2	6.77	132424337	0.09	0.27	0.09	1
GY	235	10	132491566	132569699	High_rec	0	-	5	5.75	5	5.51	132508163	0.07	0.24	0.11	2

GY

GY	236	10	134643577	134671978	High_rec	0	-	1	5.02	1	7.43	134655979	0.1	0.3	0.49	1
GY	237	10	134705663	134730189	High_rec	1	5.04	0	-	0	-	134717915	0.06	0.25	0.41	1
GY	238	10	143161682	143172292	High_rec	0	-	1	6.02	0	-	143166905	0.08	-0.44	0.1	1