

Genetic assignment to stock of stranded common bottlenose dolphins in southeastern Louisiana after the *Deepwater Horizon* oil spill

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Endangered Species Research 33: 221–234 (2016)

Text S1. Testing and optimization of microsatellite loci in *Tursiops truncatus*

Novel microsatellite loci were identified in the *T. truncatus* genome using Illumina 454 sequencing of the genome following Lance et al. (2013) at the Savannah River Ecology Laboratory (SREL). Five tetranucleotide loci were screened by the SREL for amplification and polymorphism and determined to be suitable candidates for genotyping. Primers were designed for an additional 41 loci identified by the Illumina 454 sequencing (Ttr50-Ttr61 and Ttr70-Ttr100) at the NMFS SEFSC Marine Mammal Molecular Genetics laboratory. These loci were first screened via gel electrophoresis as follows: each locus was amplified alone with 20mM Tris-HCl (pH 8.4), 50mM KCl, 1.5mM MgCl₂, 0.4μM of each primer, 0.15mM dNTPs, 0.6U of *Taq* polymerase (Invitrogen), and 25ng of DNA using the following PCR profile, 94°C for 30 s followed by 33 cycles of 94°C for 30 s, 54°C for 30 s, 72°C for 30 s and a 72°C final extension for 10 min. PCR products were viewed by electrophoresis on a 4.7% MetaPhor Agarose (Lonza) gel and analyzed for amplification, variability and base pair size. Seventeen loci (Ttr50, Ttr73–Ttr75, Ttr77, Ttr79-Ttr82, Ttr88, Ttr92-Ttr97 and Ttr99) were determined to have poor or no amplification, non-specific amplification, low or no variability, or unfavorable base pair size and therefore not included in further optimizations. The forward primer of each locus (n=29) that was determined to be of good quality by MetaPhor gel analysis or the SREL screening was fluorescently dye labeled. These microsatellite loci were then amplified for at least seven individuals in multiplexes of 6-9 loci using the Type-it® Microsatellite PCR Kit (Qiagen). PCR amplification was performed in 10 uL reactions of 1x Type-it Multiplex PCR Master Mix, 0.1μM of each primer and 10 ng of DNA. PCR conditions consisted of an initial heat activation step at 95°C for 5 min followed by 25-28 cycles of 95°C for 30 s, 54-60°C for 90 s, 72°C for 30 s and a 60°C final extension for 30 min. Products were run on an ABI 3130 Genetic Analyzer with Genescan Liz-500 size standard and viewed using GeneMapper v5 (Applied Biosystems). After viewing the chromatograms, 10 loci (Ttr53, Ttr60, Ttr70, Ttr72, Ttr76, Ttr85-Ttr87, Ttr89 and Ttr91) were removed from further analysis due to low allele number, bad peak shape, inconsistent allele repeat sizes, poor amplification or non-specific amplification. Thus, 19 SREL loci passed initial screening tests. Supplementary Table 3 lists all loci that were tested.

Twenty microsatellite loci previously developed in *T. truncatus* and other cetacean species, were also tested. PCR products from at least 4 individuals were amplified alone or in multiplexes of 2-4 loci with 20mM Tris-HCl (pH 8.4), 50mM KCl, 1.5-3.0 mM MgCl₂, 0.075-0.3μM primers, 0.15mM dNTPs, 0.6U of *Taq* polymerase (Invitrogen), and 25ng of DNA using the following PCR profile, 94°C for 30 s followed by 26-35 cycles of 94°C for 30 s, 45-55°C for 30 s, 72°C for 30 s and a 72°C final extension for 10 min. Products were run on an ABI 310 or ABI 3130 Genetic Analyzer with Genescan Tamra-500 or Genescan Liz-500 size standard, respectively, and viewed using Genotyper 2.5 or GeneMapper v5 (Applied Biosystems). After analyzing the resulting genotypes, 10 loci (D28 Shinohara et al. (1997); Dde72 Coughlan et al. (2006); DlrFCB4 and DlrFCB8 Buchanan et al. (1996); GM415/416 and GM417/418 Amos et al. (1993); KWM2a Hoelzel et al. (1998); Ppho110 (Rosel et al. 1999); SW10 and SW13 Richard et al. 1996)) were removed from further analysis due to low or no variability, bad peak shape, inconsistent allele repeat sizes, or non-specific amplification, leaving 10 loci for further testing.

The remaining 29 loci were amplified in multiplexes using the Type-it® Microsatellite PCR Kit (Qiagen) as described above for at least 3 populations of bottlenose dolphins with 29 or more samples in each population. We tested each locus for departure from Hardy-Weinberg equilibrium (HWE) using the Fisher exact test (Guo & Thompson 1992) and linkage disequilibrium was assessed in GENEPOP v4.2 (Raymond & Rousset 1995, Rousset 2008) using 10000 dememorizations, 1000 batches and 10000 iterations per batch. Each microsatellite locus was evaluated for genotyping errors due to null alleles, allelic dropout and/or incorrect scoring of stutter peaks using Microchecker v2.2.3 (Van Oosterhout et al. 2004). One locus (DLrFCB5) was excluded from further analysis due to bad peak shape. DLrFCB17 and five of the novel SREL loci (Ttr11(tetra), Ttr20, Ttr51, Ttr57, Ttr98) were determined to have significant departure from HWE and/or the presence of null alleles and therefore removed from analyses. Thus, out of the 46 novel SREL loci and 20 pre-existing loci screened, 22 loci (14 novel and 8 pre-existing) passed all screening tests and were used to genotype all samples. Supplementary Table 2 provides PCR conditions for the newly developed/optimized loci.

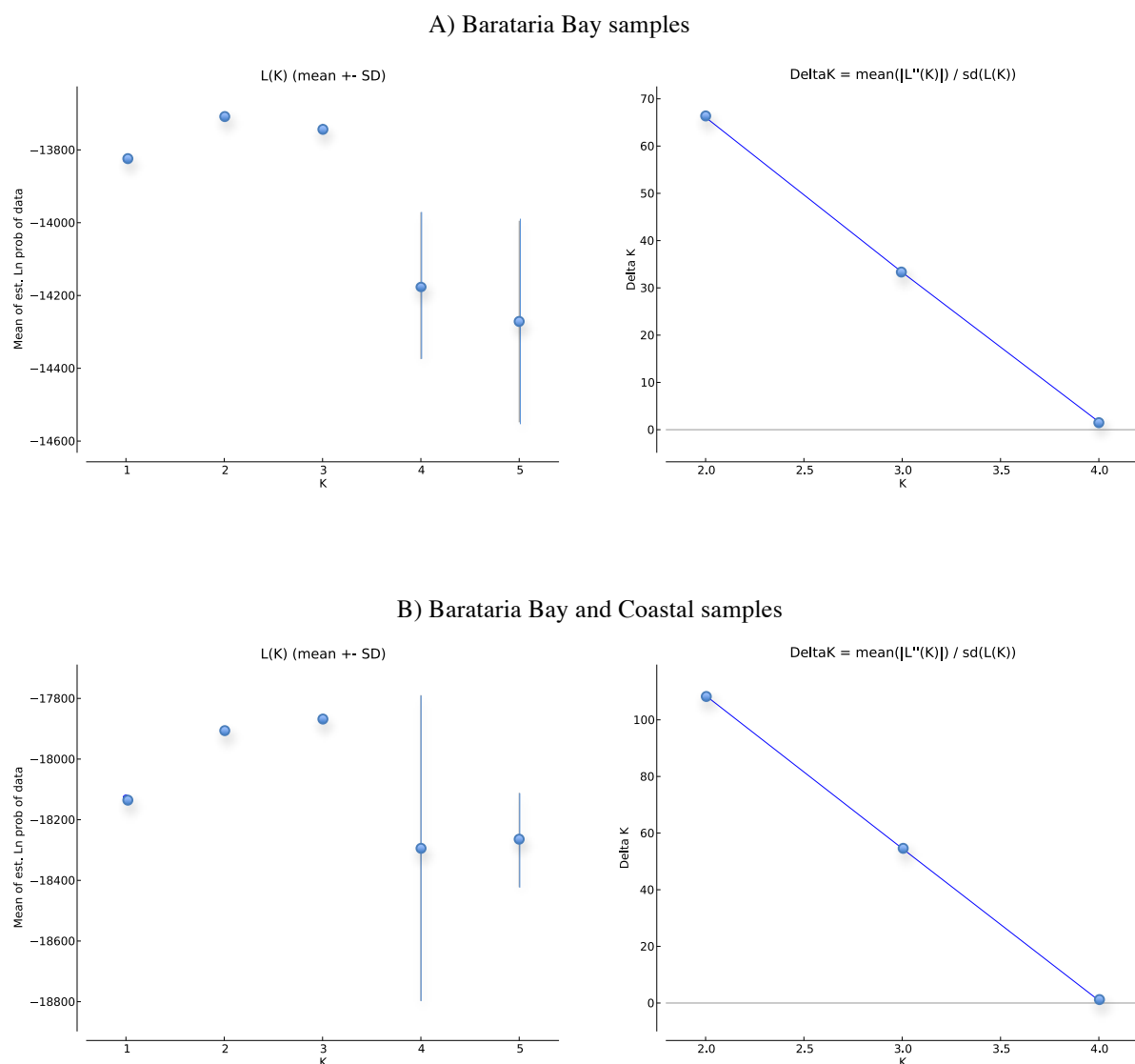


Fig. S1. $\ln \Pr(X|K)$ (mean and standard deviation) values, left, and ΔK plot, right, for STRUCTURE runs using baseline samples (A) only from Barataria Bay and (B) from Barataria Bay and Coastal waters.

Table S1. PCR conditions for amplification of first 19 microsatellite loci

Loci	Primer final concentration (μ M)	PCR Profile	MgCl ₂ final concentration (mM)	DNA concentration (ng)	Co-load or Dilution**
Ttr04 / Ttr11	0.20 / 0.20	94°C-30s; 33 cycles of 94°C-20s, 62°C-20s, 72°C-40s; 72°C-10m	1.5	25	Dilute PCR product 1:30 with Ttr19 and PPHO130 / TtrFF6 and load 6uL on analyzer
Ttr19	0.20	94°C-30s; 30 cycles of 94°C-20s, 60°C-20s, 72°C-40s; 72°C-10m	1.5	25	Dilute PCR product 1:30 with Ttr04 / Ttr11 and PPHO130 / TtrFF6 and load 6uL on analyzer
EV14 / Ttr34 / Ttr48	0.25 / 0.15 / 0.15	94°C-30s; 33 cycles of 94°C-30s, 58°C-30s, 72°C-30s; 72°C-10m	1.5	50	EV94
EV94	0.30	94°C-30s; 33 cycles of 94°C-30s, 58°C-30s, 72°C-30s; 72°C-10m	1.5	25	Ttr34 / Ttr48 / EV14
Ttr58 / Ttr63 / TexVet5 / EV37*	0.10 / 0.40 / 0.30 / 0.40	94°C-30s; 33 cycles of 94°C-30s, 60°C-40s, 72°C-40s; 72°C-15m	1.5	50	n/a
MK6 / MK8 / MK9	0.15 / 0.15 / 0.30	94°C-30s; 33 cycles of 94°C-30s, 58°C-30s, 72°C-30s; 72°C-10m	1.5	25	Dilute PCR product 1:10 with KWM12a / MK5 / TexVet7 and load 2uL on analyzer
KWM12a / TexVet 7 / MK5	0.40 / 0.20 / 0.20	94°C-30s; 33 cycles of 94°C-30s, 54°C-30s, 72°C-30s; 72°C-15m; 15°C-30m	3.0	50	Dilute PCR product 1:10 with MK6 / MK8 / MK9 and load 2uL on analyzer
PPHO130 / FF6	0.30 / 0.20	94°C-30s; 33 cycles of 94°C-30s, 54°C-30s, 72°C-30s; 72°C-10m; 15°C-1h	3.0	25	Dilute PCR product 1:30 with Ttr04 / Ttr11 and Ttr19 and load 6uL on analyzer

*BSA was added to PCR reactions for a final concentration of 0.3mg/mL.

**Two μ L of each PCR product was used for co-loading unless noted.

Table S2. Characteristics of the 22 new loci developed and/or optimized for *Tursiops truncatus* for this study.

Locus Name	Forward primer (5'-3')	Reverse primer (5'-3')	Repeat type	Multiplex set	Primer final concentration (μ M)	T _a (°C), # of cycles	Species of origin	Reference
Newly developed loci for <i>Tursiops truncatus</i>								
Ttr12	AAATTCCTTCTTAGTCATGTTCCACC	GTTTCACATCACATTCAGAATAGTCTTTGC	Tetra	2	0.10 uM	60, 26	<i>T. truncatus</i>	this study
Ttr36(tetra)	GGACATAACTAGCTTTCTTGCTTGC	GTTTGTCTGCATAGTGCAGGCG	Tetra	1	0.075 uM	54, 26	<i>T. truncatus</i>	this study
Ttr41	TGCTTCCTAATGCCACATCC	GTTTCAGAGCCATTGCTCATAAACC	Tetra	2	0.05 uM	60, 26	<i>T. truncatus</i>	this study
Ttr52	TGGACTCAGAGAGATAGGTGG	GTTTGGCTGCCTTGTGTCTGTAAGC	Di	2	0.125 uM	60, 26	<i>T. truncatus</i>	this study
Ttr54	GAAGGGCAAACAAGATATCGG	GTTTCTCCGTCCTGTTCAATGC	Di	1	0.125 uM	54, 26	<i>T. truncatus</i>	this study
Ttr55	CAAGACTCTGAAGGATTTCTCAGG	GTTTCCAAAGAGCATTGCAGAGG	Di	1	0.125 uM	54, 26	<i>T. truncatus</i>	this study
Ttr56	CTGCATTCACCTCCTCACC	GTTTATGATCAATCACAGGCTTG	Di	3	0.15 uM	60, 26	<i>T. truncatus</i>	this study
Ttr61	GCCATCGTGAATAAAGACGC	GTTTGGAAAGTCTTACTATGTATTGAGGGC	Di	1	0.10 uM	54, 26	<i>T. truncatus</i>	this study
Ttr71	CCCTTATTAATCAGAGAGAGAGGG	GTTTCTTACCTCTTCTTTCCCTGTGG	Tetra	4	0.015 uM	54, 28	<i>T. truncatus</i>	this study
Ttr78	AAAGCTGAGGAGACTTGAGATGG	GTTTGGCTAAGGATGCCATTGAGG	Tetra	4	0.02 uM	54, 28	<i>T. truncatus</i>	this study
Ttr84	TTATCTATTCACCTCAACCACAG	GTTTAAATGTGTCTTAGGAAGACTGAACC	Di	4	0.10 uM	54, 28	<i>T. truncatus</i>	this study
Ttr83	TGCATATTTGAGATTTCTAGCTCC	GTTTGCAGAAGTATCGGTCAAGC	Di	3	0.10 uM	60, 26	<i>T. truncatus</i>	this study
Ttr90	AGGGTTCTCCAGAAACATAGGG	GTTTCACAATCATGAGAGCCAGTTCC	Di	1	0.10 uM	54, 26	<i>T. truncatus</i>	this study
Ttr100	GTCTTGGATTACACGGGCG	GTTTGGCAGGCAGAAGATAAAGC	Di	1	0.05 uM	54, 26	<i>T. truncatus</i>	this study
Previously published loci optimized for <i>Tursiops truncatus</i>								
DlrFCB1	TGCATCTCCATGGTATGTCTTATCC	GTTTAGCCTCTGCTATGCCTGGAACGC	Di	2	0.10 uM	60, 26	<i>D. leucas</i>	Buchanan <i>et al.</i> 1996
D08	ATCCATCATATTGTCAAGTT*	GTTTTCCTGGGTGATGAGTCTTC	Di	3	0.20 uM	60, 26	<i>T. truncatus</i>	Shinohara <i>et al.</i> 1997
D22	GTTTGGAAATGCTCTGAGAAGGTC	CCAGAGCACCTATGTGGAC	Di	3	0.035 uM	60, 26	<i>T. truncatus</i>	Shinohara <i>et al.</i> 1997
Dde70	ACACCAGCACCTACATTCACA	GTTTTCAGCAGCATTCTAACCAAAC	Di	3	0.05 uM	60, 26	<i>D. delphis</i>	Coughlan <i>et al.</i> 2006
KWM9b	TGTCACCAGGCAGGACCC	GTTTGGGAGGGGCATGTTTCTG	Di	3	0.075 uM	60, 26	<i>O. orca</i>	Hoelzel <i>et al.</i> 2002
DlrFCB3	CAAGTGCCTATCAGTAGATGAATG	GTTTCTTGTAiCTATAACTCTGGTTATGg	Di	4	0.25 uM	54, 28	<i>D. leucas</i>	Buchanan <i>et al.</i> 1996
DlrFCB12	CTCAGTTAATATACATGTAATGCATGC	GTTTCAAAGAATAGCTAAATAAACAGTAAC	Di	4	0.20 uM	54, 28	<i>D. leucas</i>	Buchanan <i>et al.</i> 1996
SW19	GTAGTTTTCTTAAACAGTAATG	GTTTAGTTCTGGGCTTTTCACCTA	Di	4	0.075 uM	54, 28	<i>P. macrocephalus</i>	Richard <i>et al.</i> 1996

PCR reactions were completed in 10 μ L volumes and contained 1x Type-it Multiplex PCR Master Mix and 10ng of DNA.

PCR profiles began with a denaturation step of 95°C for 5 min followed by 26-28 cycles of 95°C for 30 sec, 54 or 60°C for 90 sec, and 72°C for 30 sec with a final extension step at 60°C for 30 min.

Primers have been modified from original publications with the addition of a PIG-tailing sequence to 5' end

*Shinohara D08 forward primer sequence is GATCCATCATATTGTCAAGTT; Ours is modified and does not have the 5' G

Table S3. Characterization of 41 microsatellite loci and tests of departure from Hardy-Weinberg equilibrium (HWE). Values were calculated for the complete Barataria Bay and Coastal samples and for baseline sets identified from STRUCTURE using a cutoff value of $q \geq 0.6$ for Barataria Bay (BBe, Barataria Bay estuarine; BBi, Barataria Bay island-associated) and a cutoff value of $q \geq 0.8$ for the Coastal samples. No HWE p-values were significant after Bonferroni correction. n: number of samples, N_A : number of alleles, H_o : observed heterozygosity, H_e : expected heterozygosity.

Locus	Barataria Bay (n=127)				BBe ($q \geq 0.6$) (n=49)				BBi ($q \geq 0.6$) (n=67)				Coastal (n=29)				Coastal ($q \geq 0.8$) (n=24)			
	N_A	H_o	H_e	HWE p-value	N_A	H_o	H_e	HWE p-value	N_A	H_o	H_e	HWE p-value	N_A	H_o	H_e	HWE p-value	N_A	H_o	H_e	HWE p-value
Ttr04	11	0.795	0.810	0.940	8	0.755	0.778	0.808	10	0.836	0.834	0.787	9	0.793	0.806	0.750	9	0.833	0.792	0.451
Ttr19	3	0.465	0.512	0.128	3	0.551	0.493	0.545	3	0.418	0.521	0.007	5	0.621	0.564	0.435	5	0.583	0.558	0.467
Ttr11	8	0.732	0.768	0.253	7	0.735	0.769	0.949	8	0.701	0.766	0.056	6	0.655	0.716	0.587	6	0.708	0.723	0.807
Ttr48	2	0.165	0.191	0.145	2	0.265	0.232	0.578	2	0.104	0.152	0.051	2	0.241	0.216	1.000	2	0.250	0.223	1.000
Ttr34	5	0.283	0.274	0.806	4	0.306	0.272	1.000	5	0.284	0.291	0.271	5	0.276	0.256	1.000	5	0.292	0.270	1.000
Ttr63	18	0.874	0.895	0.211	12	0.898	0.886	0.783	15	0.851	0.882	0.227	12	0.897	0.845	0.631	11	0.917	0.841	0.615
Ttr58	3	0.654	0.621	0.689	3	0.653	0.660	1.000	3	0.642	0.584	0.798	3	0.621	0.615	0.601	3	0.583	0.625	0.542
EV37	18	0.921	0.908	0.179	10	0.837	0.879	0.154	18	0.970	0.894	0.562	20	0.897	0.924	0.263	18	0.917	0.934	0.062
TxVt5	5	0.567	0.585	0.491	4	0.735	0.646	0.039	5	0.463	0.489	0.252	3	0.310	0.406	0.173	3	0.292	0.370	0.411
EV14	12	0.850	0.855	0.822	9	0.776	0.828	0.125	12	0.910	0.865	0.858	8	0.828	0.841	0.773	7	0.833	0.831	0.611
EV94	3	0.543	0.556	0.643	3	0.571	0.579	1.000	3	0.507	0.501	0.596	4	0.621	0.579	0.351	4	0.667	0.533	0.630
MK6	7	0.724	0.774	0.725	7	0.735	0.813	0.874	7	0.716	0.725	0.925	9	0.897	0.831	0.008	8	0.917	0.805	0.008
MK8	5	0.520	0.555	0.247	5	0.449	0.493	0.137	5	0.567	0.579	0.554	6	0.724	0.718	0.145	6	0.708	0.707	0.386
MK9	5	0.748	0.656	0.149	4	0.735	0.653	0.064	5	0.746	0.667	0.513	4	0.586	0.642	0.261	4	0.542	0.641	0.151
KWM12a	7	0.614	0.615	0.623	6	0.490	0.468	0.308	6	0.687	0.682	0.733	4	0.690	0.626	0.974	4	0.708	0.658	0.962
MK5	7	0.638	0.651	0.776	5	0.510	0.552	0.379	7	0.761	0.721	0.895	6	0.793	0.688	0.256	6	0.792	0.709	0.545
TxVt7	4	0.535	0.537	0.754	4	0.449	0.434	0.959	4	0.612	0.586	0.899	4	0.586	0.649	0.457	4	0.625	0.660	0.707
FF6	9	0.535	0.571	0.655	6	0.490	0.500	0.816	8	0.567	0.623	0.286	5	0.724	0.714	0.486	5	0.708	0.716	0.352
Ppho130	5	0.606	0.550	0.104	4	0.653	0.568	0.670	5	0.582	0.555	0.404	6	0.655	0.699	0.388	6	0.667	0.728	0.517
Ttr36tet	6	0.748	0.706	0.594	5	0.816	0.708	0.365	6	0.687	0.664	0.600	7	0.724	0.765	0.329	7	0.750	0.786	0.543
Ttr54	11	0.874	0.863	0.831	10	0.939	0.839	0.202	11	0.851	0.883	0.161	11	0.931	0.855	0.018	11	0.917	0.848	0.195
Ttr55	5	0.677	0.657	0.733	5	0.673	0.685	0.193	5	0.657	0.655	0.978	4	0.621	0.591	1.000	4	0.667	0.582	0.942
Ttr61	11	0.803	0.832	0.789	7	0.755	0.792	0.846	11	0.836	0.837	0.883	11	0.897	0.866	0.859	11	0.875	0.863	0.626
Ttr90	6	0.638	0.639	0.108	5	0.612	0.649	0.389	6	0.657	0.592	0.120	5	0.621	0.583	0.971	5	0.750	0.617	0.709
Ttr100	8	0.740	0.770	0.398	7	0.735	0.754	0.894	8	0.761	0.780	0.145	6	0.828	0.754	0.575	6	0.792	0.721	0.645
Ttr12	7	0.583	0.608	0.740	5	0.592	0.624	0.431	7	0.582	0.593	0.613	5	0.552	0.578	0.199	5	0.625	0.601	0.151
Ttr41	4	0.638	0.594	0.609	3	0.551	0.580	0.922	4	0.672	0.607	0.588	5	0.690	0.719	0.816	5	0.667	0.731	0.640
Ttr52	7	0.661	0.684	0.620	5	0.612	0.697	0.535	7	0.701	0.618	0.409	7	0.655	0.710	0.350	7	0.708	0.743	0.479
DL1	9	0.772	0.815	0.455	8	0.714	0.782	0.162	9	0.806	0.819	0.975	10	0.862	0.825	0.328	10	0.833	0.831	0.555
Ttr56	6	0.402	0.448	0.072	4	0.306	0.294	0.768	6	0.493	0.525	0.333	8	0.724	0.719	0.300	8	0.750	0.742	0.419
Ttr83	7	0.661	0.646	0.990	6	0.776	0.718	0.639	6	0.582	0.601	0.812	5	0.690	0.700	0.766	5	0.708	0.689	0.752
D08	5	0.409	0.431	0.767	5	0.327	0.324	0.151	5	0.463	0.465	0.896	5	0.621	0.628	0.163	5	0.583	0.598	0.192
D22	7	0.740	0.728	0.927	7	0.673	0.715	0.618	6	0.761	0.728	0.993	6	0.828	0.796	0.975	6	0.833	0.779	0.946
Dde70	4	0.465	0.516	0.219	3	0.388	0.522	0.118	4	0.478	0.468	0.604	3	0.552	0.529	0.834	3	0.583	0.558	0.815
KWM9b	5	0.543	0.603	0.387	4	0.592	0.600	0.620	4	0.493	0.509	0.959	4	0.643	0.610	0.098	3	0.609	0.598	0.217
Ttr71	5	0.732	0.688	0.542	4	0.633	0.636	0.225	5	0.791	0.716	0.541	5	0.828	0.752	0.292	5	0.875	0.741	0.176
Ttr78	3	0.339	0.312	0.214	2	0.245	0.217	1.000	3	0.388	0.344	0.913	3	0.207	0.194	1.000	3	0.208	0.194	1.000
Ttr84	9	0.732	0.755	0.509	7	0.694	0.739	0.483	9	0.776	0.756	0.705	7	0.724	0.747	0.834	6	0.667	0.745	0.490
DL3	5	0.748	0.720	0.770	5	0.673	0.683	0.426	5	0.806	0.747	0.787	6	0.724	0.765	0.389	6	0.708	0.786	0.168
DL12	7	0.591	0.607	0.018	6	0.592	0.588	0.373	7	0.597	0.614	0.261	7	0.724	0.757	0.494	7	0.708	0.784	0.562
SW19	5	0.551	0.516	0.504	5	0.490	0.495	0.803	5	0.627	0.544	0.262	3	0.655	0.550	0.229	3	0.625	0.551	0.365
Mean	6.81	0.630	0.635		5.46	0.609	0.613		6.59	0.644	0.634		6.20	0.676	0.667		6.02	0.683	0.669	
s.d.	3.50	0.164	0.161		2.23	0.171	0.174		3.26	0.175	0.163		3.24	0.173	0.166		2.98	0.175	0.166	

Table S4. Linkage disequilibrium (LD) p-values for all locus pairs for the full Barataria Bay (BB) dataset (n = 127), and for BBe (n = 49) and BBi (n = 67) baseline populations created using a q-value cutoff of 0.6. Gray cells have p-values less than 0.05, yellow cells have p-values less than 0.01. Bonferroni correction alpha value is 0.05/820=0.000061. No loci showed evidence of LD after Bonferroni correction.

Locus #1	Locus #2	BB p-value	BBe p-value	BBi p-value	Locus #1	Locus #2	BB p-value	BBe p-value	BBi p-value
Ttr04	Ttr19	0.8246	0.3320	0.9810	Ttr04	Ttr56	0.1886	0.0074	0.3423
Ttr04	Ttr11	0.3844	0.3988	0.7183	Ttr19	Ttr56	0.5266	0.7259	0.8745
Ttr19	Ttr11	0.6816	0.8712	0.5352	Ttr11	Ttr56	0.0790	0.1632	0.1163
Ttr04	Ttr48	0.8441	0.9996	0.1131	Ttr48	Ttr56	0.0520	0.5116	0.2707
Ttr19	Ttr48	0.0439	0.1068	0.3563	Ttr34	Ttr56	0.7555	0.8740	0.7704
Ttr11	Ttr48	0.0737	0.0314	0.7630	Ttr63	Ttr56	0.0786	0.0202	0.1150
Ttr04	Ttr34	0.8788	0.7404	0.9187	Ttr58	Ttr56	0.9976	0.6964	0.9964
Ttr19	Ttr34	0.0863	0.6826	0.1277	EV37	Ttr56	0.1630	0.6896	0.0627
Ttr11	Ttr34	0.5207	0.4863	0.9110	TxVt5	Ttr56	0.1201	0.1928	0.4552
Ttr48	Ttr34	0.0142	0.3027	0.0749	EV14	Ttr56	0.4832	0.3589	0.6110
Ttr04	Ttr63	0.6783	0.7961	0.7024	EV94	Ttr56	0.1011	0.3031	0.0767
Ttr19	Ttr63	0.0175	0.1260	0.3242	MK6	Ttr56	0.3752	0.8547	0.0610
Ttr11	Ttr63	0.5623	0.8058	0.1119	MK8	Ttr56	0.6376	0.1354	0.4543
Ttr48	Ttr63	0.9420	0.8165	0.8545	MK9	Ttr56	0.4239	0.8228	0.1475
Ttr34	Ttr63	0.9398	0.4473	0.9869	KWM12a	Ttr56	0.2504	0.3393	0.1564
Ttr04	Ttr58	0.5506	0.6780	0.7277	MK5	Ttr56	0.0352	0.5615	0.0032
Ttr19	Ttr58	0.3658	0.3505	0.8101	TxVt7	Ttr56	0.8250	0.6903	0.9424
Ttr11	Ttr58	0.7796	0.9255	0.8697	FF6	Ttr56	0.0397	0.3461	0.0145
Ttr48	Ttr58	0.1539	0.3516	0.0303	Ppho130	Ttr56	0.2998	0.8346	0.3928
Ttr34	Ttr58	0.2890	0.5392	0.3538	Ttr36tet	Ttr56	0.1503	0.7819	0.5919
Ttr63	Ttr58	0.3665	0.9435	0.1160	Ttr54	Ttr56	0.7056	0.9859	0.0684
Ttr04	EV37	0.6319	0.6778	0.6255	Ttr55	Ttr56	0.8011	0.0612	0.8201
Ttr19	EV37	0.2253	0.7710	0.2914	Ttr61	Ttr56	0.0872	0.2479	0.0826
Ttr11	EV37	0.1732	0.1609	0.8015	Ttr90	Ttr56	0.1325	0.6820	0.0058
Ttr48	EV37	0.2909	0.5755	0.4393	Ttr100	Ttr56	0.8181	0.7842	0.9695
Ttr34	EV37	0.1671	0.0182	0.6625	Ttr12	Ttr56	0.6010	0.3920	0.5694
Ttr63	EV37	0.7019	1.0000	0.6692	Ttr41	Ttr56	0.0021	0.0658	0.1088
Ttr58	EV37	0.3926	0.0450	0.9433	Ttr52	Ttr56	0.6304	0.7630	0.6659
Ttr04	TxVt5	0.6879	0.2910	0.9016	DL1	Ttr56	0.6415	0.2831	0.9715
Ttr19	TxVt5	0.7319	0.8067	0.9449	Ttr04	Ttr83	0.9493	0.8339	0.9800
Ttr11	TxVt5	0.8101	0.2635	0.1242	Ttr19	Ttr83	0.6857	0.5342	0.3547
Ttr48	TxVt5	0.0144	0.3648	0.0932	Ttr11	Ttr83	0.2428	0.2487	0.6469
Ttr34	TxVt5	0.8771	0.1641	0.3192	Ttr48	Ttr83	0.9369	0.8227	0.3871
Ttr63	TxVt5	0.1745	0.7902	0.1004	Ttr34	Ttr83	0.2405	0.7515	0.3053
Ttr58	TxVt5	0.5647	0.9697	0.1694	Ttr63	Ttr83	0.2476	0.4212	0.4262
EV37	TxVt5	0.3762	0.5260	0.7948	Ttr58	Ttr83	0.2447	0.8054	0.1911
Ttr04	EV14	0.8975	1.0000	0.9638	EV37	Ttr83	0.2362	0.2290	0.2361
Ttr19	EV14	0.4716	0.8992	0.3678	TxVt5	Ttr83	0.0901	0.1208	0.2332
Ttr11	EV14	0.1075	0.1063	0.0749	EV14	Ttr83	0.5157	0.3385	0.5257
Ttr48	EV14	0.3471	0.5212	0.3796	EV94	Ttr83	0.6661	0.6104	0.2154
Ttr34	EV14	0.0350	0.4992	0.0287	MK6	Ttr83	0.2969	0.8513	0.5012
Ttr63	EV14	0.1587	1.0000	0.5019	MK8	Ttr83	0.2361	0.4337	0.1822
Ttr58	EV14	0.8549	0.8829	0.6189	MK9	Ttr83	0.8835	0.8706	0.8365
EV37	EV14	0.8283	0.8551	0.7669	KWM12a	Ttr83	0.1779	0.3325	0.0534
TxVt5	EV14	0.6851	0.3250	0.5336	MK5	Ttr83	0.7291	0.2251	0.8831
Ttr04	EV94	0.8265	0.9209	0.6477	TxVt7	Ttr83	0.8682	0.1101	0.6465
Ttr19	EV94	0.3049	0.5823	0.3358	FF6	Ttr83	0.1655	0.0688	0.5882
Ttr11	EV94	0.6497	0.1542	0.8196	Ppho130	Ttr83	0.9316	0.8203	0.9050
Ttr48	EV94	0.5751	0.6797	0.5836	Ttr36tet	Ttr83	0.5596	0.3505	0.7917
Ttr34	EV94	0.5211	0.2321	0.7908	Ttr54	Ttr83	0.7070	0.8693	0.4699
Ttr63	EV94	0.0787	0.9610	0.2630	Ttr55	Ttr83	0.3306	0.1120	0.7685
Ttr58	EV94	0.2726	0.2673	0.4897	Ttr61	Ttr83	0.8882	0.4746	0.8543
EV37	EV94	0.8768	0.5868	0.8068	Ttr90	Ttr83	0.7367	0.5120	0.4035
TxVt5	EV94	0.3370	0.0517	0.7472	Ttr100	Ttr83	0.5749	0.3640	0.4840
EV14	EV94	0.8428	0.8570	0.9354	Ttr12	Ttr83	0.3632	0.3263	0.5084
Ttr04	MK6	0.2709	0.7047	0.5674	Ttr41	Ttr83	0.5481	0.3097	0.4870

Locus #1	Locus #2	BB	BBe	BBi	Locus #1	Locus #2	BB	BBe	BBi
		p-value	p-value	p-value			p-value	p-value	p-value
Ttr19	MK6	0.2935	0.2297	0.1181	Ttr52	Ttr83	0.6097	0.9918	0.0913
Ttr11	MK6	0.4008	0.2589	0.3364	DL1	Ttr83	0.9970	0.9010	0.9881
Ttr48	MK6	0.3993	0.9755	0.1970	Ttr56	Ttr83	0.6205	0.8190	0.8706
Ttr34	MK6	0.1360	0.0252	0.1502	Ttr04	D08	0.5244	0.3738	0.6260
Ttr63	MK6	0.4695	0.6689	0.7516	Ttr19	D08	0.1252	0.1979	0.4190
Ttr58	MK6	0.4624	0.7014	0.1774	Ttr11	D08	0.7998	0.4890	0.8792
EV37	MK6	0.8212	0.0443	0.9948	Ttr48	D08	0.0035	0.0402	0.2781
TxVt5	MK6	0.0788	0.6446	0.3734	Ttr34	D08	0.2537	0.3346	0.3426
EV14	MK6	0.7896	0.5365	0.3115	Ttr63	D08	0.0679	0.0450	0.0725
EV94	MK6	0.0433	0.5754	0.5825	Ttr58	D08	0.8706	0.6570	0.2090
Ttr04	MK8	0.3179	0.6820	0.3500	EV37	D08	0.4311	0.4993	0.1852
Ttr19	MK8	0.4760	0.9677	0.1050	TxVt5	D08	0.4997	0.8354	0.4905
Ttr11	MK8	0.1740	0.6606	0.1297	EV14	D08	0.1092	0.3017	0.4720
Ttr48	MK8	0.5571	0.1184	0.2431	EV94	D08	0.8019	0.1758	0.6937
Ttr34	MK8	0.7720	0.4059	0.9173	MK6	D08	0.2467	0.6157	0.3682
Ttr63	MK8	0.7147	0.4441	0.7778	MK8	D08	0.7887	0.5064	0.5586
Ttr58	MK8	0.0807	0.7429	0.4937	MK9	D08	0.7202	0.4317	0.4223
EV37	MK8	0.8871	0.0382	0.9732	KWM12a	D08	0.3966	0.2991	0.7281
TxVt5	MK8	0.6778	0.0766	0.2156	MK5	D08	0.8052	0.8663	0.6612
EV14	MK8	0.1524	0.5144	0.2215	TxVt7	D08	0.7543	0.4265	0.8706
EV94	MK8	0.3977	0.6199	0.5206	FF6	D08	0.5968	0.7026	0.3392
MK6	MK8	0.3110	0.3699	0.1580	Ppho130	D08	0.1199	0.2810	0.3529
Ttr04	MK9	0.5020	0.4958	0.1083	Ttr36tet	D08	0.7541	0.7982	0.9237
Ttr19	MK9	0.4606	0.6140	0.2034	Ttr54	D08	0.9073	0.7506	0.9537
Ttr11	MK9	0.1929	0.0659	0.6942	Ttr55	D08	0.9966	0.7278	0.7474
Ttr48	MK9	0.0971	0.1608	0.2687	Ttr61	D08	0.1956	0.8269	0.0026
Ttr34	MK9	0.6767	0.1836	0.3093	Ttr90	D08	0.8509	0.3207	0.3946
Ttr63	MK9	0.9849	0.9983	0.4214	Ttr100	D08	0.2941	0.0083	0.6882
Ttr58	MK9	0.6044	0.8778	0.5198	Ttr12	D08	0.3441	0.2705	0.4016
EV37	MK9	0.7285	0.8580	0.3674	Ttr41	D08	0.7432	0.1653	0.8823
TxVt5	MK9	0.1862	0.2044	0.9535	Ttr52	D08	0.4102	0.3000	0.0291
EV14	MK9	0.5643	0.1807	0.4950	DL1	D08	0.3810	0.0309	0.9552
EV94	MK9	0.1078	0.3190	0.5281	Ttr56	D08	0.3031	0.0779	0.2991
MK6	MK9	0.4199	0.8971	0.5495	Ttr83	D08	0.8184	0.9019	0.8826
MK8	MK9	0.2393	0.0884	0.3018	Ttr04	D22	0.7651	0.8457	0.8229
Ttr04	KWM12a	0.6488	0.3221	0.7054	Ttr19	D22	0.0769	0.0955	0.1243
Ttr19	KWM12a	0.4937	0.3201	0.6276	Ttr11	D22	0.2662	0.7693	0.0486
Ttr11	KWM12a	0.7089	0.6157	0.2654	Ttr48	D22	0.7092	0.1089	0.8319
Ttr48	KWM12a	0.7005	0.4570	0.3508	Ttr34	D22	0.2434	0.0978	0.6738
Ttr34	KWM12a	0.0498	0.1544	0.0938	Ttr63	D22	0.0962	0.4494	0.2881
Ttr63	KWM12a	0.3139	0.8587	0.4322	Ttr58	D22	0.3011	0.5418	0.0114
Ttr58	KWM12a	0.3173	0.5030	0.2174	EV37	D22	0.0159	0.0088	0.1495
EV37	KWM12a	0.0917	0.0225	0.2133	TxVt5	D22	0.4790	0.4828	0.0928
TxVt5	KWM12a	0.0626	0.4140	0.1656	EV14	D22	0.7399	0.7587	0.5738
EV14	KWM12a	0.6859	0.6527	0.5971	EV94	D22	0.6693	0.1501	0.9880
EV94	KWM12a	0.1628	0.2880	0.2651	MK6	D22	0.3022	0.6692	0.3916
MK6	KWM12a	0.2274	0.0675	0.1664	MK8	D22	0.4655	0.2713	0.1180
MK8	KWM12a	0.1411	0.8518	0.0830	MK9	D22	0.8918	0.4924	0.9551
MK9	KWM12a	0.2532	0.7896	0.2382	KWM12a	D22	0.1864	0.7697	0.2965
Ttr04	MK5	0.0563	0.4571	0.2419	MK5	D22	0.4338	0.6792	0.7109
Ttr19	MK5	0.4923	0.0315	0.7563	TxVt7	D22	0.5423	0.8158	0.4879
Ttr11	MK5	0.1111	0.3223	0.4621	FF6	D22	0.1513	0.9710	0.3246
Ttr48	MK5	0.2131	0.2383	0.3267	Ppho130	D22	0.6100	0.6205	0.4934
Ttr34	MK5	0.7498	0.6232	0.7872	Ttr36tet	D22	0.5266	0.4230	0.1509
Ttr63	MK5	0.6941	0.2246	0.9656	Ttr54	D22	0.4047	0.1117	0.7925
Ttr58	MK5	0.4856	0.2223	0.5677	Ttr55	D22	0.2988	0.8431	0.5881
EV37	MK5	0.4194	0.6246	0.1543	Ttr61	D22	0.8846	0.9700	0.2905
TxVt5	MK5	0.6561	0.3976	0.2325	Ttr90	D22	0.1161	0.0651	0.2299
EV14	MK5	0.0135	0.3246	0.4476	Ttr100	D22	0.8194	0.1951	0.6651
EV94	MK5	0.1372	0.3539	0.2163	Ttr12	D22	0.0028	0.7177	0.0842
MK6	MK5	0.5814	0.2418	0.4338	Ttr41	D22	0.5938	0.8536	0.4011

Locus #1	Locus #2	BB p-value	BBe p-value	BBi p-value	Locus #1	Locus #2	BB p-value	BBe p-value	BBi p-value
MK8	MK5	0.9339	0.4816	0.9675	Ttr52	D22	0.9663	0.9567	0.6155
MK9	MK5	0.8457	0.8574	0.0677	DL1	D22	0.8847	0.4049	0.9727
KWM12a	MK5	0.4075	0.0865	0.7584	Ttr56	D22	0.0272	0.8032	0.0437
Ttr04	TxVt7	0.1993	0.0487	0.8462	Ttr83	D22	0.5418	0.4996	0.3568
Ttr19	TxVt7	0.1411	0.4932	0.3881	D08	D22	0.3101	0.6672	0.0727
Ttr11	TxVt7	0.6851	0.5077	0.5933	Ttr04	Dde70	0.5383	0.4979	0.5172
Ttr48	TxVt7	0.2003	0.8710	0.5488	Ttr19	Dde70	0.0361	0.2873	0.4488
Ttr34	TxVt7	0.3930	0.4536	0.9265	Ttr11	Dde70	0.4895	0.3929	0.8617
Ttr63	TxVt7	0.8568	0.9333	0.9468	Ttr48	Dde70	0.9123	0.2782	0.9712
Ttr58	TxVt7	0.8721	0.9403	0.5029	Ttr34	Dde70	0.4451	0.4491	0.5369
EV37	TxVt7	0.4054	0.0940	0.9914	Ttr63	Dde70	0.2042	0.5400	0.4685
TxVt5	TxVt7	0.4660	0.9818	0.6562	Ttr58	Dde70	0.8400	0.8814	0.3433
EV14	TxVt7	0.7810	0.3664	0.6560	EV37	Dde70	0.4293	0.2813	0.7873
EV94	TxVt7	0.1375	0.7839	0.3982	TxVt5	Dde70	0.9513	0.6176	0.7375
MK6	TxVt7	0.2950	0.2180	0.8242	EV14	Dde70	0.1469	0.7085	0.0451
MK8	TxVt7	0.9244	0.9353	0.6709	EV94	Dde70	0.4942	0.1309	0.2744
MK9	TxVt7	0.3352	0.0623	0.8525	MK6	Dde70	0.6350	0.8208	0.5611
KWM12a	TxVt7	0.2525	0.4845	0.3181	MK8	Dde70	0.6359	0.9537	0.6937
MK5	TxVt7	0.3136	0.6867	0.6652	MK9	Dde70	0.3873	0.7882	0.2411
Ttr04	FF6	0.1306	0.2815	0.5203	KWM12a	Dde70	0.4800	0.8275	0.7514
Ttr19	FF6	0.5595	0.1683	0.4847	MK5	Dde70	0.5824	0.3044	0.2855
Ttr11	FF6	0.1951	0.2362	0.4940	TxVt7	Dde70	0.1154	0.6423	0.2929
Ttr48	FF6	0.9798	0.9103	0.7982	FF6	Dde70	0.6339	0.8564	0.7831
Ttr34	FF6	0.6036	0.6034	0.3149	Ppho130	Dde70	0.6009	0.8827	0.8506
Ttr63	FF6	0.7998	0.8268	0.7988	Ttr36tet	Dde70	0.1162	0.0948	0.4458
Ttr58	FF6	0.6650	0.3037	0.6585	Ttr54	Dde70	0.4493	0.9945	0.1187
EV37	FF6	0.7430	0.6263	0.7140	Ttr55	Dde70	0.8421	0.9644	0.8847
TxVt5	FF6	0.7728	0.9926	0.6668	Ttr61	Dde70	0.2391	0.3459	0.4385
EV14	FF6	0.7372	0.7851	0.6357	Ttr90	Dde70	0.0579	0.2849	0.3662
EV94	FF6	0.7290	0.8749	0.2093	Ttr100	Dde70	0.5389	0.0616	0.9892
MK6	FF6	0.2694	0.1472	0.2828	Ttr12	Dde70	0.7482	0.4732	0.7025
MK8	FF6	0.5904	0.0637	0.9724	Ttr41	Dde70	0.4243	0.7430	0.5507
MK9	FF6	0.0416	0.2931	0.0002	Ttr52	Dde70	0.4412	0.3791	0.2543
KWM12a	FF6	0.2027	0.0042	0.8925	DL1	Dde70	0.2067	0.2553	0.3695
MK5	FF6	0.0332	0.0714	0.3229	Ttr56	Dde70	0.3265	0.6576	0.8210
TxVt7	FF6	0.9571	0.5075	0.9917	Ttr83	Dde70	0.7735	0.2149	0.8720
Ttr04	Ppho130	0.2457	0.3295	0.2455	D08	Dde70	0.0005	0.2407	0.0025
Ttr19	Ppho130	0.9536	0.5774	0.5518	D22	Dde70	0.2145	0.1036	0.8482
Ttr11	Ppho130	0.6547	0.5881	0.5892	Ttr04	KWM9b	0.4448	0.0846	0.6067
Ttr48	Ppho130	0.3818	0.7164	0.2132	Ttr19	KWM9b	0.4932	0.0259	0.7593
Ttr34	Ppho130	0.3117	0.2727	0.0212	Ttr11	KWM9b	0.9180	0.8708	0.6616
Ttr63	Ppho130	0.7410	0.8057	0.5044	Ttr48	KWM9b	0.1129	0.4516	0.0622
Ttr58	Ppho130	0.5860	0.3822	0.9467	Ttr34	KWM9b	0.7621	0.7275	0.1803
EV37	Ppho130	0.1040	0.7831	0.1361	Ttr63	KWM9b	0.5026	0.2780	0.1711
TxVt5	Ppho130	0.9925	0.8732	0.9989	Ttr58	KWM9b	0.4432	0.4278	0.7538
EV14	Ppho130	0.7161	0.7667	0.7358	EV37	KWM9b	0.7721	0.9196	0.5932
EV94	Ppho130	0.0117	0.0192	0.2310	TxVt5	KWM9b	0.0350	0.5939	0.2025
MK6	Ppho130	0.2296	0.0129	0.4360	EV14	KWM9b	0.6513	0.7728	0.6027
MK8	Ppho130	0.8558	0.9381	0.7706	EV94	KWM9b	0.5495	0.0764	0.2824
MK9	Ppho130	0.6289	0.6415	0.6463	MK6	KWM9b	0.3913	0.5166	0.5873
KWM12a	Ppho130	0.8576	0.8941	0.8474	MK8	KWM9b	0.3903	0.5649	0.7934
MK5	Ppho130	0.4107	0.0812	0.9090	MK9	KWM9b	0.3386	0.2792	0.4194
TxVt7	Ppho130	0.1583	0.1258	0.0842	KWM12a	KWM9b	0.7719	0.8619	0.5945
FF6	Ppho130	0.9228	0.9400	0.2429	MK5	KWM9b	0.0626	0.5992	0.0041
Ttr04	Ttr36tet	0.9259	0.6398	0.8543	TxVt7	KWM9b	0.0427	0.0807	0.3880
Ttr19	Ttr36tet	0.8502	0.0458	0.9872	FF6	KWM9b	0.3998	0.4619	0.5598
Ttr11	Ttr36tet	0.7906	0.7524	0.9549	Ppho130	KWM9b	0.0984	0.9614	0.1436
Ttr48	Ttr36tet	0.6762	0.1269	0.4764	Ttr36tet	KWM9b	0.2980	0.8558	0.1936
Ttr34	Ttr36tet	0.9212	0.7033	0.6659	Ttr54	KWM9b	0.3525	0.9909	0.1282
Ttr63	Ttr36tet	0.2593	0.4381	0.3586	Ttr55	KWM9b	0.0828	0.0512	0.1445
Ttr58	Ttr36tet	0.9943	0.6839	0.5856	Ttr61	KWM9b	0.9076	0.9998	0.7527

Locus #1	Locus #2	BB p-value	BBe p-value	BBi p-value	Locus #1	Locus #2	BB p-value	BBe p-value	BBi p-value
EV37	Ttr36tet	0.1597	0.5260	0.0797	Ttr90	KWM9b	0.0181	0.0574	0.6464
TxVt5	Ttr36tet	0.1060	0.7011	0.3589	Ttr100	KWM9b	0.4599	0.9052	0.4989
EV14	Ttr36tet	0.8855	0.7776	0.5427	Ttr12	KWM9b	0.3740	0.7094	0.3643
EV94	Ttr36tet	0.2852	0.2503	0.7725	Ttr41	KWM9b	0.7875	0.9860	0.5276
MK6	Ttr36tet	0.1939	0.2421	0.5093	Ttr52	KWM9b	0.1497	0.2680	0.6784
MK8	Ttr36tet	0.6440	0.6911	0.5969	DL1	KWM9b	0.4267	0.4823	0.5611
MK9	Ttr36tet	0.6323	0.8438	0.4273	Ttr56	KWM9b	0.0940	0.8562	0.1395
KWM12a	Ttr36tet	0.2692	0.8030	0.1283	Ttr83	KWM9b	0.4162	0.6551	0.6440
MK5	Ttr36tet	0.0291	0.1326	0.1816	D08	KWM9b	0.1767	0.1959	0.0742
TxVt7	Ttr36tet	0.3402	0.6586	0.9231	D22	KWM9b	0.6942	0.8858	0.1779
FF6	Ttr36tet	0.3760	0.2702	0.6073	Dde70	KWM9b	0.5937	0.2584	0.9574
Ppho130	Ttr36tet	0.6089	0.6683	0.5327	Ttr04	Ttr71	0.5963	0.9660	0.6021
Ttr04	Ttr54	0.6880	0.9626	0.4991	Ttr19	Ttr71	0.8394	0.8788	0.5405
Ttr19	Ttr54	0.2634	0.6571	0.7461	Ttr11	Ttr71	0.5951	0.2551	0.5092
Ttr11	Ttr54	0.7156	0.6945	0.9168	Ttr48	Ttr71	0.2566	0.1525	0.6080
Ttr48	Ttr54	0.0579	0.1227	0.0370	Ttr34	Ttr71	0.4298	0.2006	0.4207
Ttr34	Ttr54	0.5754	0.7660	0.2276	Ttr63	Ttr71	0.2405	0.0040	0.4486
Ttr63	Ttr54	0.0679	0.1400	0.1417	Ttr58	Ttr71	0.9914	0.9546	0.8169
Ttr58	Ttr54	0.4696	0.1805	0.4536	EV37	Ttr71	0.0995	0.9664	0.0252
EV37	Ttr54	0.6504	0.6115	1.0000	TxVt5	Ttr71	0.3227	0.7924	0.1498
TxVt5	Ttr54	0.5725	0.0037	0.7026	EV14	Ttr71	0.5725	0.8140	0.5273
EV14	Ttr54	0.0917	0.2498	0.2651	EV94	Ttr71	0.2094	0.4106	0.4805
EV94	Ttr54	0.6923	0.6351	0.5616	MK6	Ttr71	0.1618	0.2921	0.7340
MK6	Ttr54	0.9196	1.0000	0.4121	MK8	Ttr71	0.8596	0.9428	0.7879
MK8	Ttr54	0.4143	0.4943	0.4905	MK9	Ttr71	0.4629	0.3527	0.4260
MK9	Ttr54	0.1931	0.9095	0.5261	KWM12a	Ttr71	0.1029	0.3227	0.0405
KWM12a	Ttr54	0.0439	0.2817	0.1505	MK5	Ttr71	0.3742	0.2766	0.8087
MK5	Ttr54	0.0171	0.3652	0.2728	TxVt7	Ttr71	0.6419	0.2383	0.9614
TxVt7	Ttr54	0.8479	0.8419	0.4468	FF6	Ttr71	0.0012	0.1833	0.0682
FF6	Ttr54	0.2550	0.8133	0.0474	Ppho130	Ttr71	0.1667	0.8328	0.0609
Ppho130	Ttr54	0.9716	0.5895	0.6102	Ttr36tet	Ttr71	0.1724	0.5071	0.0741
Ttr36tet	Ttr54	0.2142	0.5275	0.5717	Ttr54	Ttr71	0.1116	0.3720	0.8425
Ttr04	Ttr55	0.1659	0.1762	0.2055	Ttr55	Ttr71	0.8775	0.7153	0.8787
Ttr19	Ttr55	0.4439	0.8435	0.2296	Ttr61	Ttr71	0.0127	0.6423	0.0310
Ttr11	Ttr55	0.1100	0.4877	0.5881	Ttr90	Ttr71	0.1554	0.1354	0.2305
Ttr48	Ttr55	0.6388	0.1363	0.6492	Ttr100	Ttr71	0.2936	0.1540	0.6935
Ttr34	Ttr55	0.8547	0.7000	0.5734	Ttr12	Ttr71	0.5171	0.1826	0.1861
Ttr63	Ttr55	0.3739	0.6880	0.5297	Ttr41	Ttr71	0.9008	0.3567	0.7882
Ttr58	Ttr55	0.9012	0.6899	0.8774	Ttr52	Ttr71	0.8468	0.3959	0.6398
EV37	Ttr55	0.2811	0.0969	0.8736	DL1	Ttr71	0.5869	0.5358	0.5230
TxVt5	Ttr55	0.9894	0.9955	0.8345	Ttr56	Ttr71	0.0191	0.0034	0.0508
EV14	Ttr55	0.4373	0.7655	0.5685	Ttr83	Ttr71	0.9156	0.7522	0.4824
EV94	Ttr55	0.9876	0.7703	0.9553	D08	Ttr71	0.4940	0.1394	0.2673
MK6	Ttr55	0.0637	0.2575	0.0096	D22	Ttr71	0.2199	0.1408	0.5391
MK8	Ttr55	0.6112	0.5401	0.4556	Dde70	Ttr71	0.1036	0.7051	0.2320
MK9	Ttr55	0.1762	0.0549	0.6906	KWM9b	Ttr71	0.6667	0.7477	0.0696
KWM12a	Ttr55	0.4567	0.1255	0.8510	Ttr04	Ttr78	0.4122	0.0065	0.1942
MK5	Ttr55	0.9546	0.7875	0.6623	Ttr19	Ttr78	0.5478	0.7816	0.5675
TxVt7	Ttr55	0.3825	0.9119	0.4497	Ttr11	Ttr78	0.4319	0.2632	0.2063
FF6	Ttr55	0.1770	0.0167	0.0714	Ttr48	Ttr78	0.4556	1.0000	0.6241
Ppho130	Ttr55	0.2960	0.4970	0.3752	Ttr34	Ttr78	0.4426	0.9031	0.1750
Ttr36tet	Ttr55	0.1299	0.1767	0.3425	Ttr63	Ttr78	0.0625	0.4344	0.5620
Ttr54	Ttr55	0.4011	0.5498	0.6774	Ttr58	Ttr78	0.9678	0.3490	0.8009
Ttr04	Ttr61	0.4146	0.8653	0.3691	EV37	Ttr78	0.4027	0.1846	0.4409
Ttr19	Ttr61	0.7497	0.0769	0.3356	TxVt5	Ttr78	0.0038	0.0567	0.0308
Ttr11	Ttr61	0.1136	0.1317	0.2557	EV14	Ttr78	0.9938	0.7796	0.8122
Ttr48	Ttr61	0.4611	0.6003	0.4215	EV94	Ttr78	0.6498	0.9798	0.1693
Ttr34	Ttr61	0.8509	0.9997	0.2097	MK6	Ttr78	0.5698	0.2369	0.0935
Ttr63	Ttr61	0.1197	0.7878	0.0574	MK8	Ttr78	0.6462	0.7330	0.3372
Ttr58	Ttr61	0.1189	0.7449	0.0234	MK9	Ttr78	0.1258	0.2330	0.1027
EV37	Ttr61	0.3708	0.9016	0.1146	KWM12a	Ttr78	0.1454	0.2477	0.4709

Locus #1	Locus #2	BB p-value	BBe p-value	BBi p-value	Locus #1	Locus #2	BB p-value	BBe p-value	BBi p-value
TxVt5	Ttr61	0.9879	0.8881	0.9298	MK5	Ttr78	0.9971	0.5836	0.5132
EV14	Ttr61	0.9001	0.1734	0.9619	TxVt7	Ttr78	0.4141	0.3577	0.7921
EV94	Ttr61	0.2220	0.3403	0.1212	FF6	Ttr78	0.0949	0.2985	0.2411
MK6	Ttr61	0.3825	0.8748	0.0341	Ppho130	Ttr78	0.3693	0.0265	0.3479
MK8	Ttr61	0.1355	0.0907	0.6400	Ttr36tet	Ttr78	0.5432	0.5367	0.5053
MK9	Ttr61	0.0525	0.2699	0.2893	Ttr54	Ttr78	0.6679	0.2051	0.8767
KWM12a	Ttr61	0.7476	0.7393	0.3559	Ttr55	Ttr78	0.5381	0.6658	0.4498
MK5	Ttr61	0.3383	0.6041	0.1818	Ttr61	Ttr78	0.7407	0.7756	0.4237
TxVt7	Ttr61	0.0974	0.0160	0.7902	Ttr90	Ttr78	0.0344	0.4320	0.0127
FF6	Ttr61	0.8926	0.6062	0.7641	Ttr100	Ttr78	0.1281	0.1188	0.9784
Ppho130	Ttr61	0.5078	0.4183	0.7527	Ttr12	Ttr78	0.1557	0.1779	0.0971
Ttr36tet	Ttr61	0.9859	0.9537	0.4868	Ttr41	Ttr78	0.2483	0.7114	0.6409
Ttr54	Ttr61	0.8248	0.9506	0.7420	Ttr52	Ttr78	0.3072	0.5637	0.0466
Ttr55	Ttr61	0.9267	0.4941	0.9823	DL1	Ttr78	0.8239	0.4338	0.5371
Ttr04	Ttr90	0.7247	0.6440	0.8865	Ttr56	Ttr78	0.0367	0.0717	0.5557
Ttr19	Ttr90	0.5856	0.4990	0.0612	Ttr83	Ttr78	0.3497	0.8875	0.0691
Ttr11	Ttr90	0.8529	0.6037	0.6989	D08	Ttr78	0.5957	0.5010	0.5093
Ttr48	Ttr90	0.3243	0.5111	0.0053	D22	Ttr78	0.3751	0.6326	0.1263
Ttr34	Ttr90	0.1898	0.0035	0.7797	Dde70	Ttr78	0.2032	0.5849	0.2337
Ttr63	Ttr90	0.5956	0.6511	0.1234	KWM9b	Ttr78	0.1356	0.7704	0.4811
Ttr58	Ttr90	0.0850	0.6076	0.0686	Ttr71	Ttr78	0.1408	0.7955	0.3076
EV37	Ttr90	0.0063	0.2348	0.0337	Ttr04	Ttr84	0.4648	0.0488	0.0628
TxVt5	Ttr90	0.2819	0.4220	0.2390	Ttr19	Ttr84	0.8960	0.1789	0.8150
EV14	Ttr90	0.9648	0.7923	0.6707	Ttr11	Ttr84	0.5731	0.9261	0.1104
EV94	Ttr90	0.3463	0.5387	0.6240	Ttr48	Ttr84	0.9183	0.7921	0.7605
MK6	Ttr90	0.0609	0.0642	0.1842	Ttr34	Ttr84	0.8523	0.3733	0.9948
MK8	Ttr90	0.6692	0.9003	0.7635	Ttr63	Ttr84	0.4385	0.0692	0.8423
MK9	Ttr90	0.1106	0.5321	0.1276	Ttr58	Ttr84	0.4265	0.8583	0.3183
KWM12a	Ttr90	0.1076	0.0413	0.7671	EV37	Ttr84	0.0613	0.2532	0.5469
MK5	Ttr90	0.1109	0.0332	0.4727	TxVt5	Ttr84	0.6415	0.8303	0.4335
TxVt7	Ttr90	0.5507	0.0921	0.7245	EV14	Ttr84	0.1298	0.1120	0.6687
FF6	Ttr90	0.6058	0.3761	0.2336	EV94	Ttr84	0.5309	0.9681	0.5668
Ppho130	Ttr90	0.0672	0.0647	0.3843	MK6	Ttr84	0.6539	0.5136	0.5160
Ttr36tet	Ttr90	0.9708	0.6376	0.8803	MK8	Ttr84	0.1265	0.2875	0.2685
Ttr54	Ttr90	0.5689	0.4056	0.8986	MK9	Ttr84	0.1500	0.3091	0.4377
Ttr55	Ttr90	0.7951	0.9884	0.7634	KWM12a	Ttr84	0.1908	0.0337	0.8073
Ttr61	Ttr90	0.4224	0.9912	0.0078	MK5	Ttr84	0.0451	0.0847	0.0998
Ttr04	Ttr100	0.5080	0.9742	0.5181	TxVt7	Ttr84	0.7819	0.3567	0.8587
Ttr19	Ttr100	0.0075	0.7135	0.0501	FF6	Ttr84	0.3445	0.8573	0.6244
Ttr11	Ttr100	0.3877	0.0604	0.1312	Ppho130	Ttr84	0.8304	0.4799	0.6021
Ttr48	Ttr100	0.0320	0.4365	0.0147	Ttr36tet	Ttr84	0.7451	0.6060	0.4190
Ttr34	Ttr100	0.6258	0.7030	0.7452	Ttr54	Ttr84	0.7518	0.7291	0.7685
Ttr63	Ttr100	0.9075	0.6093	0.5889	Ttr55	Ttr84	0.6253	0.0748	0.3438
Ttr58	Ttr100	0.2737	0.3889	0.3535	Ttr61	Ttr84	0.2873	0.5010	0.5523
EV37	Ttr100	0.8142	0.3499	0.9119	Ttr90	Ttr84	0.5556	0.9497	0.5868
TxVt5	Ttr100	0.1765	0.5350	0.1069	Ttr100	Ttr84	0.5277	0.5468	0.4950
EV14	Ttr100	0.1843	0.1209	0.4205	Ttr12	Ttr84	0.1089	0.0093	0.5919
EV94	Ttr100	0.7092	0.0237	0.7862	Ttr41	Ttr84	0.1022	0.2043	0.6386
MK6	Ttr100	0.4353	0.6911	0.2126	Ttr52	Ttr84	0.1186	0.9616	0.2881
MK8	Ttr100	0.4624	0.9107	0.8017	DL1	Ttr84	0.7176	0.6214	0.3953
MK9	Ttr100	0.4917	0.3967	0.8955	Ttr56	Ttr84	0.1794	0.0580	0.1304
KWM12a	Ttr100	0.8353	0.5216	0.9271	Ttr83	Ttr84	0.0031	0.0164	0.1009
MK5	Ttr100	0.5351	0.3562	0.9060	D08	Ttr84	0.6342	0.6741	0.3680
TxVt7	Ttr100	0.2890	0.0101	0.5766	D22	Ttr84	0.8604	0.6409	0.9947
FF6	Ttr100	0.8837	0.5937	0.9524	Dde70	Ttr84	0.5295	0.3870	0.2966
Ppho130	Ttr100	0.0699	0.2301	0.4412	KWM9b	Ttr84	0.4022	0.6247	0.2825
Ttr36tet	Ttr100	0.3763	0.1761	0.4207	Ttr71	Ttr84	0.8653	0.8301	0.4037
Ttr54	Ttr100	0.2135	0.3888	0.4856	Ttr78	Ttr84	0.4945	0.0767	0.1927
Ttr55	Ttr100	0.5094	0.4019	0.7295	Ttr04	DL3	0.6521	0.2799	0.8533
Ttr61	Ttr100	0.6961	0.8932	0.7859	Ttr19	DL3	0.0617	0.1907	0.4187
Ttr90	Ttr100	0.7544	0.4557	0.8056	Ttr11	DL3	0.1652	0.3409	0.5403

Locus #1	Locus #2	BB p-value	BBe p-value	BBi p-value	Locus #1	Locus #2	BB p-value	BBe p-value	BBi p-value
Ttr04	Ttr12	0.5241	0.7077	0.2556	Ttr48	DL3	0.3907	0.9996	0.0035
Ttr19	Ttr12	0.9549	0.6024	0.4126	Ttr34	DL3	0.4511	0.3588	0.5240
Ttr11	Ttr12	0.3629	0.5298	0.4689	Ttr63	DL3	0.6191	0.2583	0.8458
Ttr48	Ttr12	0.0394	0.0291	0.6175	Ttr58	DL3	0.6914	0.9254	0.6141
Ttr34	Ttr12	0.3187	0.6846	0.1986	EV37	DL3	0.6671	0.4530	0.9734
Ttr63	Ttr12	0.2589	0.3740	0.3224	TxVt5	DL3	0.0557	0.2594	0.3670
Ttr58	Ttr12	0.5366	0.9369	0.5535	EV14	DL3	0.8999	0.6817	0.6194
EV37	Ttr12	0.9859	0.6850	0.8637	EV94	DL3	0.5007	0.5430	0.9827
TxVt5	Ttr12	0.7688	0.1405	0.7062	MK6	DL3	0.2326	0.1576	0.1918
EV14	Ttr12	0.1949	0.5541	0.4623	MK8	DL3	0.1264	0.2526	0.1781
EV94	Ttr12	0.9622	0.4530	0.6829	MK9	DL3	0.1213	0.2620	0.4007
MK6	Ttr12	0.9446	0.9608	0.1860	KWM12a	DL3	0.9487	0.3688	0.9558
MK8	Ttr12	0.5941	0.1238	0.5945	MK5	DL3	0.4380	0.5224	0.3770
MK9	Ttr12	0.6901	0.2227	0.7248	TxVt7	DL3	0.4149	0.0954	0.3338
KWM12a	Ttr12	0.9412	0.2530	0.8407	FF6	DL3	0.8373	0.6335	0.6035
MK5	Ttr12	0.7512	0.8978	0.6718	Ppho130	DL3	0.4724	0.3597	0.4915
TxVt7	Ttr12	0.9917	0.9087	0.8752	Ttr36tet	DL3	0.5335	0.5734	0.7961
FF6	Ttr12	0.7272	0.4923	0.6654	Ttr54	DL3	0.4010	0.2779	0.9702
Ppho130	Ttr12	0.7922	0.7902	0.8219	Ttr55	DL3	0.2088	0.4674	0.7024
Ttr36tet	Ttr12	0.7296	0.2607	0.2043	Ttr61	DL3	0.0060	0.0004	0.6783
Ttr54	Ttr12	0.7118	0.6713	0.2385	Ttr90	DL3	0.0027	0.0633	0.0903
Ttr55	Ttr12	0.2023	0.6380	0.3514	Ttr100	DL3	0.4382	0.1384	0.5368
Ttr61	Ttr12	0.8656	0.8198	0.8999	Ttr12	DL3	0.0556	0.1214	0.0373
Ttr90	Ttr12	0.9615	0.8544	0.5549	Ttr41	DL3	0.3385	0.8061	0.1539
Ttr100	Ttr12	0.7033	0.6326	0.7567	Ttr52	DL3	0.3916	0.3282	0.1020
Ttr04	Ttr41	0.8280	0.9159	0.5885	DL1	DL3	0.0055	0.0282	0.7211
Ttr19	Ttr41	0.8515	0.7881	0.7788	Ttr56	DL3	0.8897	0.9817	0.1473
Ttr11	Ttr41	0.7517	0.7666	0.9282	Ttr83	DL3	0.8304	0.1421	0.5579
Ttr48	Ttr41	0.0637	0.5869	0.0732	D08	DL3	0.4432	0.1339	0.4600
Ttr34	Ttr41	0.0440	0.7741	0.0346	D22	DL3	0.3969	0.3753	0.8790
Ttr63	Ttr41	0.1071	0.3426	0.6568	Dde70	DL3	0.0925	0.0083	0.1166
Ttr58	Ttr41	0.7712	0.9253	0.4413	KWM9b	DL3	0.2355	0.1091	0.4691
EV37	Ttr41	0.2581	0.2039	0.6717	Ttr71	DL3	0.5246	0.2188	0.7909
TxVt5	Ttr41	0.2972	0.2977	0.6395	Ttr78	DL3	0.4380	0.1364	0.9883
EV14	Ttr41	0.9702	0.5000	0.9751	Ttr84	DL3	0.3415	0.8259	0.9319
EV94	Ttr41	0.6433	0.4122	0.1516	Ttr04	DL12	0.6680	0.3541	0.1334
MK6	Ttr41	0.2595	0.8147	0.2310	Ttr19	DL12	0.3588	0.9739	0.3507
MK8	Ttr41	0.7960	0.8151	0.1972	Ttr11	DL12	0.1043	0.0533	0.1396
MK9	Ttr41	0.7403	0.8427	0.3481	Ttr48	DL12	0.1133	0.1988	0.1642
KWM12a	Ttr41	0.9251	0.1390	0.7894	Ttr34	DL12	0.5929	0.9725	0.5286
MK5	Ttr41	0.1869	0.3362	0.6376	Ttr63	DL12	0.5015	0.8312	0.0469
TxVt7	Ttr41	0.8659	0.3823	0.8944	Ttr58	DL12	0.4622	0.0519	0.6818
FF6	Ttr41	0.4980	0.3465	0.7627	EV37	DL12	0.4290	0.5772	0.6806
Ppho130	Ttr41	0.0308	0.0849	0.3031	TxVt5	DL12	0.1573	0.0196	0.5461
Ttr36tet	Ttr41	0.4014	0.7839	0.1494	EV14	DL12	0.1892	0.4419	0.1797
Ttr54	Ttr41	0.9171	0.6163	0.9733	EV94	DL12	0.3631	0.3690	0.0067
Ttr55	Ttr41	0.4488	0.5144	0.2585	MK6	DL12	0.4153	0.2854	0.3206
Ttr61	Ttr41	0.1784	0.7329	0.0793	MK8	DL12	0.9018	0.1982	0.7861
Ttr90	Ttr41	0.7905	0.8731	0.7278	MK9	DL12	0.0545	0.0035	0.5099
Ttr100	Ttr41	0.8249	0.8571	0.9441	KWM12a	DL12	0.6106	0.5512	0.9102
Ttr12	Ttr41	0.4888	0.2976	0.2437	MK5	DL12	0.3359	0.5249	0.5443
Ttr04	Ttr52	0.7810	0.5091	0.9741	TxVt7	DL12	0.0092	0.0735	0.1566
Ttr19	Ttr52	0.5167	0.8959	0.6186	FF6	DL12	0.0885	0.3105	0.2048
Ttr11	Ttr52	0.0114	0.1517	0.0502	Ppho130	DL12	0.4535	0.4505	0.1089
Ttr48	Ttr52	0.6061	0.6635	0.7410	Ttr36tet	DL12	0.0552	0.4456	0.6535
Ttr34	Ttr52	0.8705	0.3352	0.9850	Ttr54	DL12	0.7526	0.6893	0.5331
Ttr63	Ttr52	0.9810	0.8353	0.8918	Ttr55	DL12	0.1064	0.0141	0.3618
Ttr58	Ttr52	0.4174	0.0845	0.9833	Ttr61	DL12	0.4965	0.1449	0.5458
EV37	Ttr52	0.4975	0.1989	0.3941	Ttr90	DL12	0.2527	0.5554	0.4601
TxVt5	Ttr52	0.8463	0.5078	0.5640	Ttr100	DL12	0.4359	0.8374	0.5535
EV14	Ttr52	0.4045	0.8069	0.1344	Ttr12	DL12	0.7919	0.7859	0.7139

Locus #1	Locus #2	BB p-value	BBe p-value	BBi p-value	Locus #1	Locus #2	BB p-value	BBe p-value	BBi p-value
EV94	Ttr52	0.3893	0.3716	0.7411	Ttr41	DL12	0.4371	0.3912	0.7707
MK6	Ttr52	0.1735	0.4021	0.2731	Ttr52	DL12	0.8539	0.6157	0.7838
MK8	Ttr52	0.7714	0.4517	0.7902	DL1	DL12	0.7848	0.9444	0.4175
MK9	Ttr52	0.6550	0.0075	0.9960	Ttr56	DL12	0.5792	0.3493	0.5975
KWM12a	Ttr52	0.1385	0.0094	0.4945	Ttr83	DL12	0.8457	0.1490	0.9105
MK5	Ttr52	0.0775	0.1466	0.3338	D08	DL12	0.2220	0.8206	0.1547
TxVt7	Ttr52	0.0486	0.0444	0.2279	D22	DL12	0.3100	0.7452	0.4406
FF6	Ttr52	0.3902	0.4039	0.3512	Dde70	DL12	0.0713	0.2897	0.0296
Ppho130	Ttr52	0.6893	0.3654	0.3898	KWM9b	DL12	0.1250	0.0535	0.0280
Ttr36tet	Ttr52	0.7684	0.5360	0.3030	Ttr71	DL12	0.2018	0.2970	0.3600
Ttr54	Ttr52	0.4576	0.7085	0.4320	Ttr78	DL12	0.5033	0.0055	0.5689
Ttr55	Ttr52	0.6757	0.7151	0.4343	Ttr84	DL12	0.4238	0.2265	0.7802
Ttr61	Ttr52	0.2562	0.2004	0.5221	DL3	DL12	0.5565	0.6501	0.2204
Ttr90	Ttr52	0.1963	0.0959	0.3156	Ttr04	SW19	0.4046	0.8431	0.4048
Ttr100	Ttr52	0.8132	0.8709	0.4403	Ttr19	SW19	0.3872	0.7391	0.3014
Ttr12	Ttr52	0.6847	0.8607	0.9292	Ttr11	SW19	0.7729	0.7962	0.3242
Ttr41	Ttr52	0.8270	0.1411	0.9860	Ttr48	SW19	0.7836	0.5064	0.6876
Ttr04	DL1	0.3868	0.8655	0.8213	Ttr34	SW19	0.6807	0.3040	0.2982
Ttr19	DL1	0.5123	0.4475	0.7797	Ttr63	SW19	0.8305	0.8643	0.5165
Ttr11	DL1	0.4241	0.2659	0.2171	Ttr58	SW19	0.4786	0.7102	0.1961
Ttr48	DL1	0.4377	0.7982	0.4174	EV37	SW19	0.5350	0.6758	0.4141
Ttr34	DL1	0.3745	0.6494	0.2515	TxVt5	SW19	0.2252	0.6584	0.5471
Ttr63	DL1	0.6320	0.2654	0.9276	EV14	SW19	0.1480	0.0527	0.4831
Ttr58	DL1	0.8954	0.6573	0.9450	EV94	SW19	0.5338	0.8207	0.4650
EV37	DL1	0.2137	0.5177	1.0000	MK6	SW19	0.2671	0.0205	0.1892
TxVt5	DL1	0.5700	0.1339	0.5612	MK8	SW19	0.6938	0.4080	0.6345
EV14	DL1	0.1027	0.2705	0.9585	MK9	SW19	0.1265	0.2294	0.1918
EV94	DL1	0.0665	0.0188	0.3972	KWM12a	SW19	0.5385	0.7430	0.1896
MK6	DL1	0.0548	0.0635	0.0138	MK5	SW19	0.2705	0.3506	0.4163
MK8	DL1	0.4475	0.2555	0.7564	TxVt7	SW19	0.2689	0.0608	0.4158
MK9	DL1	0.3148	0.7674	0.0129	FF6	SW19	0.8444	0.3556	0.5544
KWM12a	DL1	0.1798	0.4262	0.3194	Ppho130	SW19	0.9999	0.9724	0.9127
MK5	DL1	0.4192	0.5106	0.0546	Ttr36tet	SW19	0.2786	0.1180	0.5863
TxVt7	DL1	0.2548	0.2450	0.9081	Ttr54	SW19	0.3898	0.6350	0.2051
FF6	DL1	0.4592	0.4231	0.6465	Ttr55	SW19	0.5029	0.7127	0.5447
Ppho130	DL1	0.0840	0.3301	0.1609	Ttr61	SW19	0.5430	0.6717	0.7478
Ttr36tet	DL1	0.3761	0.9409	0.8640	Ttr90	SW19	0.8717	0.2331	0.7951
Ttr54	DL1	0.2215	0.3061	0.4786	Ttr100	SW19	0.1928	0.8595	0.0260
Ttr55	DL1	0.7309	0.9085	0.3026	Ttr12	SW19	0.3293	0.1417	0.1724
Ttr61	DL1	0.5958	0.9544	0.9916	Ttr41	SW19	0.8324	0.2880	0.5418
Ttr90	DL1	0.2725	0.0386	0.8153	Ttr52	SW19	0.2576	0.9364	0.1744
Ttr100	DL1	0.2362	0.4326	0.4294	DL1	SW19	0.9890	0.9817	0.8308
Ttr12	DL1	0.2435	0.0311	0.0586	Ttr56	SW19	0.1932	0.8598	0.0018
Ttr41	DL1	0.0757	0.7884	0.0076	Ttr83	SW19	0.0808	0.2527	0.0147
Ttr52	DL1	0.8123	0.4564	0.8059	D08	SW19	0.8455	0.7423	0.5970
					D22	SW19	0.6986	0.1522	0.3147
					Dde70	SW19	0.2521	0.5838	0.2275
					KWM9b	SW19	0.7826	0.9496	0.5491
					Ttr71	SW19	0.1510	0.4933	0.0832
					Ttr78	SW19	0.5957	0.6946	0.3555
					Ttr84	SW19	0.1190	0.6650	0.3458
					DL3	SW19	0.1246	0.4358	0.1447
					DL12	SW19	0.3289	0.1960	0.7622

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