File S1: Supporting Data

I. ***QTL Analysis***

Result of MIM analysis for Model 1 of Trait 1
71450316 -filetype MImapqtl.out

QTL Cartographer v. 1.15c, May 2001
This output file (mimrltM.txt) was created by MIMapQTL...

It is 22:58:16 on Tuesday, 05 March 2013

##

The Initial Model is

-trait 1 Analyzed trait [trait]
-maxqtl 18 Maximum number of allowed QTL in the model
-maxepis 36 Maximum number of epistatic terms allowed
-xic 1 Code for the IC criterion
-walk 1.0 Walking speed for position refinement and QTL search, in cM
-LRthresh 0.0 Likelihood ratio threshold for adding/deleting a QTL
-workcode sMPrtseC Code indicating what to do
-modelfile qtlcarti.mqt

-Aqtl 5 Number of QTL with additive effects
-Dqtl 0 Number of QTL with dominance effects
-AAqtl 0 Number of QTL with additive by additive effects
-ADqtl 0 Number of QTL with additive by dominance effects
-DAqtl 0 Number of QTL with dominance by additive effects
-DDqtl 0 Number of QTL with dominance by dominance effects

-Total 5 Number of parameters in this model
-Maximum 19 Number of parameters allowed in this model (2sqrt(n))

Here is a summary of the QTL
Note: c1 <c2> - Recombinant frequency between QTL and adjacence marker of left <right>

		Position (Main effect)					Epistatic effect Position				
QTL		Effect Value	C	M	c1	c2	(QTL)	(C)	(M)	(c1)	(c2)
-s											
1	A	49.1234	1	10	0.05662800	0.00329000					
2	A	-46.0581	3	8	0.00100000	0.04531300					
3	A	56.5110	4	22	0.04767200	0.00754200					
4	A	-77.2541	5	18	0.01960600	0.01224700					
5	A	88.2851	5	19	0.00100000	0.02561900					
-e											

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##############################################################################
        After PARAMETER refinement,
-trait          1      Analyzed trait [trait]
-maxqtl        18    Maximum number of allowed QTL in the model
-maxepis        36    Maximum number of epistatic terms allowed
-xic            1    Code for the IC criterion
-walk          1.0    Walking speed for position refinement and QTL search, in cM
-LRthresh      0.0    Likelihood ratio threshold for adding/deleting a QTL
-workcode    sMPrtseC      Code indicating what to do
-modelfile   qtlcarti.mqt

-Aqtl       5    Number of QTL with additive effects
-Dqtl       0    Number of QTL with dominance effects
-AAqtl    0    Number of QTL with additive by additive effects
-ADqtl    0    Number of QTL with additive by dominance effects
-DAqtl    0    Number of QTL with dominance by additive effects
-DDqtl    0    Number of QTL with dominance by dominance effects
_________________
-Total      5    Number of parameters in this model
-Maximum   19    Number of parameters allowed in this model (2sqrt(n))

  Here is a summary of the QTL
Note: c1 <c2> - Recombinant frequency between QTL and adjacence marker of left
<right>
---------------------------------------------------------------------------------
             Position (Main effect)                             Epistatic effect Position
             -----------------------------                    -----------------------------------
 QTL Effect Value       C    M     c1        c2                (QTL) (C)   (M)    (c1)      (c2)
-s
  1       A     21.6663     1   10  0.05662800 0.00329000
  2       A   -18.1787     3     8    0.00100000 0.04531300
  3       A     21.6842     4   22   0.04767200 0.00754200
  4       A   -58.2673      5  18  0.01960600 0.01224700
  5       A    63.6223      5  19   0.00100000 0.02561900
-e
##############################################################################
        We use this model for the Variance-Covariance matrix.

-trait          1      Analyzed trait [trait]
-maxqtl      18    Maximum number of allowed QTL in the model
-maxepis    36    Maximum number of epistatic terms allowed
-xic            1    Code for the IC criterion
-walk          1.0    Walking speed for position refinement and QTL search, in cM
-LRthresh   0.0    Likelihood ratio threshold for adding/deleting a QTL
-workcode    sMPrtseC      Code indicating what to do
-modelfile   qtlcarti.mqt
```

-Aqtl 5 Number of QTL with additive effects
-Dqtl 0 Number of QTL with dominance effects
-AAqtl 0 Number of QTL with additive by additive effects
-ADqtl 0 Number of QTL with additive by dominance effects
-DAqtl 0 Number of QTL with dominance by additive effects
-DDqtl 0 Number of QTL with dominance by dominance effects

_____
-Total 5 Number of parameters in this model
-Maximum 19 Number of parameters allowed in this model (2sqrt(n))

Here is a summary of the QTL
Note: c1 <c2> - Recombinant frequency between QTL and adjacence marker of left <right>

		Position (Main effect)					Epistatic effect Position				
QTL	Effect	Value	C	M	c1	c2	(QTL)	(C)	(M)	(c1)	(c2)
-s											
1	A	21.6663	1	10	0.05662800	0.00329000					
2	A	-18.1787	3	8	0.00100000	0.04531300					
3	A	21.6842	4	22	0.04767200	0.00754200					
4	A	-58.2673	5	18	0.01960600	0.01224700					
5	A	63.6223	5	19	0.00100000	0.02561900					
-e											

##
This is the Variance-Covariance Matrix.

Phenotypic Variance: 4901
Genetic Variance: 3664
Residual Variance: 1236

QTL(s)	Type	1	2	3	4	5
1	A	469.3	-98.48	28.36	8.37	237.1
2	A		330.1	-7.186	228.1	-388.3
3	A			469.1	147.6	-114.6
4	A				3378	-4930
5	A					3906
Sum		557	197.2	496.2	1105	1309
Total		3664				

Here are the R2 values

Genetic: 0.7477

Residual: 0.2523

QTL(s)	Type	1	2	3	4	5
1	A	0.0958	-0.0201	0.0058	0.0017	0.0484
2	A		0.0674	-0.0015	0.0466	-0.0792
3	A			0.0957	0.0301	-0.0234
4	A				0.6893	-1.0059
5	A					0.7971
Sum		0.1137	0.0402	0.1013	0.2255	0.2670
Total		0.7477				

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Estimates of QTL positions, effects and interactions

QTL(pair)	Type	Chrom.	Marker	Position	LOD	Effect	Effect (%)
1	A	1	10	48.9199	2.76	21.6663	11.4
2	A	3	8	28.5101	2.25	-18.1787	4.0
3	A	4	22	100.9100	3.05	21.6842	10.1
4	A	5	18	67.1601	1.96	-58.2673	22.6
5	A	5	19	68.5001	3.41	63.6223	26.7

These are the breeding values of the individuals.

Individual	Equation 14	Equation 15
1	-108.1162	-45.9587
2	56.0318	15.9832
3	74.7818	14.8005
4	65.3369	66.2320
5	42.5712	12.2108
6	35.3581	39.6197
7	117.5375	0.0564
8	20.8846	67.0736
9	11.4620	16.1371
10	30.2853	17.6694
11	38.5752	40.2654
12	54.7789	85.9728
13	183.0493	109.9992
14	75.1014	0.7822
15	39.3201	-3.7158

16	67.7519	67.7758
17	58.9501	80.2842
18	169.3721	23.1663
19	-31.4108	-69.1495
20	67.6778	107.5116
21	-21.3201	28.4675
22	57.2362	45.9443
23	47.1255	-23.9477
24	62.2847	99.6097
25	3.2780	39.5434
26	48.8415	43.6531
27	-28.9091	-72.0085
28	-14.0556	24.1166
29	6.6778	6.5722
30	36.4544	17.7909
31	55.7960	57.7139
32	-14.9711	-31.6804
33	63.3501	35.1051
34	30.1880	55.3054
35	24.5452	69.4538
36	0.0227	2.5632
37	7.2866	11.1554
38	-74.0114	-16.4867
39	88.5096	52.8547
40	29.6563	41.5370
41	95.8859	83.7961
42	1.8184	14.0665
43	43.5952	30.4732
44	80.0895	81.8627
45	-96.0828	-11.6944
46	93.1192	94.1341
47	46.2224	59.5988
48	6.3933	12.9213
49	90.9432	47.1804
50	16.0498	21.0818
51	16.0642	23.4472
52	17.2377	33.5381
53	30.5482	62.7538
54	13.9164	18.8401
55	-14.3917	-14.0593
56	32.4041	-14.4069
57	30.9462	25.8180
58	-81.4133	-26.4686
59	62.4313	33.6639
60	28.1634	-34.8551
61	54.5752	5.8643

62	-17.0297	-20.7719
63	1.9633	5.2396
64	27.5334	33.0489
65	58.7193	61.0769
66	-115.0340	-32.4583
67	79.0594	94.0740
68	60.2534	23.1922
69	42.0166	37.6528
70	41.8056	-10.3027
71	46.9872	6.7104
72	63.1472	110.7074
73	8.6213	11.3527
74	36.8359	46.0165
75	51.1000	49.2893
76	74.4380	66.7694
77	26.5311	32.9470
78	9.4383	54.1679
79	35.6732	94.9896
80	50.5226	4.9794
81	22.3130	34.8999
82	48.4159	34.3798
83	13.1523	-23.6851
84	-0.6919	6.3906
85	-70.2524	-6.0560
86	-17.5487	0.1258
87	-145.7010	-53.0890
88	88.7238	39.7092
89	60.3896	56.1905
90	51.6220	37.9031
91	96.4155	90.3001
92	-3.5232	-1.5387
93	-65.9182	10.3026
94	34.2078	28.1844
95	167.0550	83.2006
96	40.8446	49.5807
97	-123.1481	-48.1993
98	65.7914	73.1303

These are the QTL genotype and probability values of the individuals.

Individual	GID	QTL Genotype	Probability

0001	01	11111	0.2414
0001	02	11112	0.0022
0001	03	11121	0.1519
0001	04	11122	0.0014
0001	05	11211	0.0656
0001	06	11221	0.0412
0001	07	12111	0.2346
0001	08	12112	0.0021
0001	09	12121	0.1476
0001	10	12122	0.0013
0001	11	12211	0.0637
0001	12	12221	0.0401
0001	13	21111	0.0021
0001	14	21121	0.0013
0001	15	22111	0.0020
0001	16	22121	0.0013
0002	01	11111	0.0014
0002	02	21111	0.5060
0002	03	21112	0.0202
0002	04	21121	0.3184
0002	05	21122	0.0127
0002	06	21211	0.0833
0002	07	21212	0.0033
0002	08	21221	0.0524
0002	09	21222	0.0021
0003	01	11111	0.1056
0003	02	11112	0.0042
0003	03	11121	0.0665
0003	04	11122	0.0027
0003	05	11211	0.1056
0003	06	11212	0.0042
0003	07	11221	0.0665
0003	08	11222	0.0027
0003	09	12111	0.0024
0003	10	12121	0.0015
0003	11	12211	0.0024
0003	12	12221	0.0015
0003	13	21111	0.1831
0003	14	21112	0.0073
0003	15	21121	0.1152
0003	16	21122	0.0046
0003	17	21211	0.1831
0003	18	21212	0.0073
0003	19	21221	0.1152
0003	20	21222	0.0046

0003	21	22111	0.0042
0003	22	22121	0.0027
0003	23	22211	0.0042
0003	24	22221	0.0027
0004	01	11122	0.0023
0004	02	21112	0.0031
0004	03	21122	0.8347
0004	04	21222	0.1374
0004	05	22122	0.0192
0004	06	22222	0.0032
0005	01	11111	0.0016
0005	02	21111	0.5567
0005	03	21112	0.0223
0005	04	21121	0.3503
0005	05	21122	0.0140
0005	06	21211	0.0330
0005	07	21212	0.0013
0005	08	21221	0.0208
0006	01	12211	0.0024
0006	02	22111	0.0046
0006	03	22211	0.8465
0006	04	22221	0.1465
0007	01	12111	0.1134
0007	02	12112	0.1180
0007	03	12121	0.1175
0007	04	12122	0.1223
0007	05	12211	0.1134
0007	06	12212	0.1180
0007	07	12221	0.1175
0007	08	12222	0.1223
0007	09	22111	0.0069
0007	10	22112	0.0072
0007	11	22121	0.0072
0007	12	22122	0.0075
0007	13	22211	0.0069
0007	14	22212	0.0072
0007	15	22221	0.0072
0007	16	22222	0.0075
0008	01	12112	0.0222
0008	02	12122	0.0352
0008	03	22112	0.3621
0008	04	22122	0.5754
0008	05	22212	0.0020
0008	06	22222	0.0031
0009	01	11112	0.0042
0009	02	11122	0.3113

0009	03	11212	0.0024
0009	04	11222	0.1756
0009	05	12112	0.0043
0009	06	12122	0.3195
0009	07	12212	0.0024
0009	08	12222	0.1802
0010	01	11121	0.0093
0010	02	11122	0.2319
0010	03	11221	0.0093
0010	04	11222	0.2319
0010	05	12121	0.0093
0010	06	12122	0.2319
0010	07	12221	0.0093
0010	08	12222	0.2319
0010	09	21122	0.0088
0010	10	21222	0.0088
0010	11	22122	0.0088
0010	12	22222	0.0088
0011	01	11122	0.0024
0011	02	11212	0.0017
0011	03	11221	0.0179
0011	04	11222	0.4472
0011	05	12122	0.0025
0011	06	12212	0.0017
0011	07	12221	0.0181
0011	08	12222	0.4514
0011	09	21221	0.0011
0011	10	21222	0.0274
0011	11	22221	0.0011
0011	12	22222	0.0276
0012	01	21111	0.0032
0012	02	21112	0.0809
0012	03	21121	0.0051
0012	04	21122	0.1285
0012	05	21211	0.0011
0012	06	21212	0.0273
0012	07	21221	0.0017
0012	08	21222	0.0434
0012	09	22111	0.0079
0012	10	22112	0.1968
0012	11	22121	0.0125
0012	12	22122	0.3128
0012	13	22211	0.0027
0012	14	22212	0.0664
0012	15	22221	0.0042
0012	16	22222	0.1055

0013	01	12212	0.0222
0013	02	12222	0.0352
0013	03	22112	0.0020
0013	04	22122	0.0031
0013	05	22212	0.3621
0013	06	22222	0.5754
0014	01	12111	0.0999
0014	02	12112	0.1181
0014	03	12121	0.1160
0014	04	12122	0.1372
0014	05	12211	0.0999
0014	06	12212	0.1181
0014	07	12221	0.1160
0014	08	12222	0.1372
0014	09	22111	0.0061
0014	10	22112	0.0072
0014	11	22121	0.0071
0014	12	22122	0.0084
0014	13	22211	0.0061
0014	14	22212	0.0072
0014	15	22221	0.0071
0014	16	22222	0.0084
0015	01	11211	0.0086
0015	02	11221	0.0054
0015	03	12111	0.0015
0015	04	12211	0.2833
0015	05	12212	0.0113
0015	06	12221	0.1782
0015	07	12222	0.0071
0015	08	21211	0.0087
0015	09	21221	0.0055
0015	10	22111	0.0016
0015	11	22211	0.2884
0015	12	22212	0.0115
0015	13	22221	0.1815
0015	14	22222	0.0073
0016	01	12222	0.0028
0016	02	22122	0.0054
0016	03	22212	0.0037
0016	04	22222	0.9882
0017	01	21211	0.0947
0017	02	21212	0.1210
0017	03	21221	0.1248
0017	04	21222	0.1595
0017	05	22211	0.0947
0017	06	22212	0.1210

0017	07	22221	0.1248
0017	08	22222	0.1595
0018	01	11112	0.0032
0018	02	11122	0.2352
0018	03	11222	0.0226
0018	04	12112	0.0035
0018	05	12122	0.2576
0018	06	12222	0.0247
0018	07	21112	0.0026
0018	08	21122	0.1950
0018	09	21222	0.0187
0018	10	22112	0.0029
0018	11	22122	0.2135
0018	12	22222	0.0205
0019	01	12111	0.5798
0019	02	12112	0.0232
0019	03	12121	0.3649
0019	04	12122	0.0146
0019	05	12211	0.0032
0019	06	12221	0.0020
0019	07	22111	0.0076
0019	08	22121	0.0048
0020	01	12212	0.0010
0020	02	12222	0.0016
0020	03	22112	0.0020
0020	04	22122	0.0032
0020	05	22211	0.0147
0020	06	22212	0.3684
0020	07	22221	0.0234
0020	08	22222	0.5855
0021	01	11222	0.0012
0021	02	12111	0.0019
0021	03	12112	0.0028
0021	04	12121	0.0061
0021	05	12122	0.0090
0021	06	12211	0.0033
0021	07	12212	0.0048
0021	08	12221	0.0103
0021	09	12222	0.0152
0021	10	21111	0.0026
0021	11	21112	0.0038
0021	12	21121	0.0081
0021	13	21122	0.0119
0021	14	21211	0.0043
0021	15	21212	0.0064
0021	16	21221	0.0137

0021	17	21222	0.0202
0021	18	22111	0.0316
0021	19	22112	0.0465
0021	20	22121	0.0997
0021	21	22122	0.1469
0021	22	22211	0.0534
0021	23	22212	0.0787
0021	24	22221	0.1688
0021	25	22222	0.2487
0022	01	11111	0.0052
0022	02	11112	0.0522
0022	03	11121	0.0339
0022	04	11122	0.3394
0022	05	11211	0.0062
0022	06	11212	0.0625
0022	07	11221	0.0406
0022	08	11222	0.4064
0022	09	12112	0.0012
0022	10	12122	0.0078
0022	11	12212	0.0014
0022	12	12222	0.0094
0022	13	21112	0.0019
0022	14	21121	0.0012
0022	15	21122	0.0122
0022	16	21212	0.0022
0022	17	21221	0.0015
0022	18	21222	0.0146
0023	01	11111	0.4110
0023	02	11121	0.2586
0023	03	11211	0.0022
0023	04	11221	0.0014
0023	05	21111	0.1999
0023	06	21121	0.1258
0023	07	21211	0.0011
0024	01	11112	0.0545
0024	02	11122	0.0866
0024	03	11212	0.3311
0024	04	11222	0.5262
0024	05	21222	0.0015
0025	01	11111	0.0074
0025	02	11112	0.1847
0025	03	11121	0.0117
0025	04	11122	0.2935
0025	05	11212	0.0010
0025	06	11222	0.0016
0025	07	12111	0.0074

0025	08	12112	0.1847
0025	09	12121	0.0117
0025	10	12122	0.2935
0025	11	12212	0.0010
0025	12	12222	0.0016
0026	01	11111	0.1406
0026	02	11211	0.8539
0026	03	11221	0.0032
0026	04	21211	0.0024
0027	01	12111	0.5754
0027	02	12121	0.3621
0027	03	12211	0.0031
0027	04	12221	0.0020
0027	05	22111	0.0352
0027	06	22121	0.0222
0028	01	11111	0.0251
0028	02	11112	0.0193
0028	03	11121	0.0501
0028	04	11122	0.0387
0028	05	11211	0.1522
0028	06	11212	0.1175
0028	07	11221	0.3045
0028	08	11222	0.2350
0028	09	21111	0.0015
0028	10	21112	0.0012
0028	11	21121	0.0031
0028	12	21122	0.0024
0028	13	21211	0.0093
0028	14	21212	0.0072
0028	15	21221	0.0186
0028	16	21222	0.0144
0029	01	11111	0.9882
0029	02	11121	0.0037
0029	03	11211	0.0054
0029	04	21111	0.0028
0030	01	11111	0.0397
0030	02	11121	0.0250
0030	03	11211	0.2411
0030	04	11221	0.1517
0030	05	12111	0.0034
0030	06	12121	0.0022
0030	07	12211	0.0208
0030	08	12221	0.0131
0030	09	21111	0.0402
0030	10	21121	0.0253
0030	11	21211	0.2441

0030	12	21221	0.1536
0030	13	22111	0.0035
0030	14	22121	0.0022
0030	15	22211	0.0210
0030	16	22221	0.0132
0031	01	12222	0.0014
0031	02	22111	0.0262
0031	03	22112	0.0380
0031	04	22121	0.0365
0031	05	22122	0.0529
0031	06	22211	0.1443
0031	07	22212	0.2089
0031	08	22221	0.2009
0031	09	22222	0.2909
0032	01	11111	0.0224
0032	02	11121	0.0141
0032	03	11211	0.0041
0032	04	11221	0.0026
0032	05	12111	0.1610
0032	06	12112	0.0064
0032	07	12121	0.1013
0032	08	12122	0.0041
0032	09	12211	0.0293
0032	10	12212	0.0012
0032	11	12221	0.0184
0032	12	21111	0.0388
0032	13	21112	0.0016
0032	14	21121	0.0244
0032	15	21211	0.0071
0032	16	21221	0.0044
0032	17	22111	0.2791
0032	18	22112	0.0112
0032	19	22121	0.1756
0032	20	22122	0.0070
0032	21	22211	0.0508
0032	22	22212	0.0020
0032	23	22221	0.0319
0032	24	22222	0.0013
0033	01	12221	0.0010
0033	02	21211	0.0042
0033	03	21212	0.0033
0033	04	21221	0.0084
0033	05	21222	0.0065
0033	06	22121	0.0020
0033	07	22122	0.0015
0033	08	22211	0.1830

0033	09	22212	0.1412
0033	10	22221	0.3661
0033	11	22222	0.2826
0034	01	12211	0.0023
0034	02	22111	0.1352
0034	03	22112	0.0054
0034	04	22211	0.8212
0034	05	22212	0.0328
0034	06	22221	0.0031
0035	01	12112	0.0011
0035	02	12122	0.0017
0035	03	22112	0.3831
0035	04	22122	0.6088
0035	05	22212	0.0021
0035	06	22222	0.0033
0036	01	12112	0.0058
0036	02	12121	0.0063
0036	03	12122	0.4861
0036	04	12212	0.0058
0036	05	12221	0.0063
0036	06	12222	0.4870
0036	07	22122	0.0014
0036	08	22222	0.0014
0037	01	11111	0.6103
0037	02	11112	0.0244
0037	03	11121	0.0798
0037	04	11122	0.0032
0037	05	11211	0.1005
0037	06	11212	0.0040
0037	07	11221	0.0131
0037	08	21111	0.1214
0037	09	21112	0.0049
0037	10	21121	0.0159
0037	11	21211	0.0200
0037	12	21221	0.0026
0038	01	11111	0.3597
0038	02	11112	0.0144
0038	03	11121	0.2263
0038	04	11122	0.0091
0038	05	11211	0.2299
0038	06	11212	0.0092
0038	07	11221	0.1447
0038	08	11222	0.0058
0038	09	21111	0.0010
0039	01	11211	0.0016
0039	02	11221	0.0010

0039	03	21111	0.0032
0039	04	21121	0.0020
0039	05	21211	0.5855
0039	06	21212	0.0234
0039	07	21221	0.3684
0039	08	21222	0.0147
0040	01	11111	0.0059
0040	02	11112	0.0028
0040	03	11121	0.0023
0040	04	11122	0.0011
0040	05	11211	0.2244
0040	06	11212	0.1065
0040	07	11221	0.0874
0040	08	11222	0.0415
0040	09	12111	0.0059
0040	10	12112	0.0028
0040	11	12121	0.0023
0040	12	12122	0.0011
0040	13	12211	0.2244
0040	14	12212	0.1065
0040	15	12221	0.0874
0040	16	12222	0.0415
0040	17	21211	0.0137
0040	18	21212	0.0065
0040	19	21221	0.0054
0040	20	21222	0.0025
0040	21	22211	0.0137
0040	22	22212	0.0065
0040	23	22221	0.0054
0040	24	22222	0.0025
0041	01	11122	0.0024
0041	02	11212	0.0016
0041	03	11222	0.4391
0041	04	12222	0.0101
0041	05	21122	0.0029
0041	06	21212	0.0020
0041	07	21222	0.5297
0041	08	22222	0.0122
0042	01	11111	0.1598
0042	02	11112	0.0340
0042	03	11121	0.0348
0042	04	11122	0.0074
0042	05	11211	0.1598
0042	06	11212	0.0340
0042	07	11221	0.0348
0042	08	11222	0.0074

0042	09	12111	0.1598
0042	10	12112	0.0340
0042	11	12121	0.0348
0042	12	12122	0.0074
0042	13	12211	0.1598
0042	14	12212	0.0340
0042	15	12221	0.0348
0042	16	12222	0.0074
0042	17	21111	0.0098
0042	18	21112	0.0021
0042	19	21121	0.0021
0042	20	21211	0.0098
0042	21	21212	0.0021
0042	22	21221	0.0021
0042	23	22111	0.0098
0042	24	22112	0.0021
0042	25	22121	0.0021
0042	26	22211	0.0098
0042	27	22212	0.0021
0042	28	22221	0.0021
0043	01	11122	0.0019
0043	02	11222	0.0118
0043	03	12121	0.0034
0043	04	12122	0.0841
0043	05	12212	0.0019
0043	06	12221	0.0204
0043	07	12222	0.5106
0043	08	21122	0.0011
0043	09	21222	0.0068
0043	10	22121	0.0019
0043	11	22122	0.0485
0043	12	22212	0.0011
0043	13	22221	0.0118
0043	14	22222	0.2946
0044	01	11122	0.0014
0044	02	11222	0.0014
0044	03	21112	0.0018
0044	04	21122	0.4856
0044	05	21212	0.0018
0044	06	21222	0.4856
0044	07	22122	0.0112
0044	08	22222	0.0112
0045	01	11111	0.2822
0045	02	11112	0.0059
0045	03	11121	0.1776
0045	04	11122	0.0037

0045	05	11211	0.2838
0045	06	11212	0.0059
0045	07	11221	0.1786
0045	08	11222	0.0037
0045	09	12111	0.0010
0045	10	12211	0.0010
0045	11	21111	0.0173
0045	12	21121	0.0109
0045	13	21211	0.0174
0045	14	21221	0.0109
0046	01	11111	0.0017
0046	02	11211	0.0334
0046	03	11212	0.0013
0046	04	21111	0.0454
0046	05	21112	0.0018
0046	06	21211	0.8779
0046	07	21212	0.0351
0046	08	21221	0.0033
0047	01	11111	0.0016
0047	02	11211	0.2886
0047	03	11212	0.0115
0047	04	11221	0.0067
0047	05	12211	0.1831
0047	06	12212	0.0073
0047	07	12221	0.0042
0047	08	21111	0.0016
0047	09	21211	0.2851
0047	10	21212	0.0114
0047	11	21221	0.0066
0047	12	22211	0.1809
0047	13	22212	0.0072
0047	14	22221	0.0042
0048	01	11111	0.8792
0048	02	11112	0.0352
0048	03	11121	0.0033
0048	04	11211	0.0048
0048	05	12111	0.0203
0048	06	21111	0.0539
0048	07	21112	0.0022
0048	08	22111	0.0012
0049	01	11211	0.0017
0049	02	11221	0.0011
0049	03	21111	0.0032
0049	04	21121	0.0020
0049	05	21211	0.5951
0049	06	21221	0.3745

0049	07	22211	0.0137
0049	08	22221	0.0086
0050	01	11211	0.0203
0050	02	12111	0.0048
0050	03	12211	0.8792
0050	04	12212	0.0352
0050	05	12221	0.0033
0050	06	21211	0.0012
0050	07	22211	0.0539
0050	08	22212	0.0022
0051	01	12121	0.0019
0051	02	12122	0.0475
0051	03	12222	0.0078
0051	04	22112	0.0029
0051	05	22121	0.0310
0051	06	22122	0.7760
0051	07	22221	0.0051
0051	08	22222	0.1277
0052	01	11111	0.1488
0052	02	11211	0.0301
0052	03	12111	0.0733
0052	04	12211	0.0148
0052	05	21111	0.4076
0052	06	21121	0.0015
0052	07	21211	0.0825
0052	08	22111	0.2008
0052	09	22211	0.0406
0053	01	11111	0.1565
0053	02	11112	0.0063
0053	03	11211	0.2784
0053	04	11212	0.0111
0053	05	11221	0.0010
0053	06	21111	0.1887
0053	07	21112	0.0075
0053	08	21211	0.3358
0053	09	21212	0.0134
0053	10	21221	0.0012
0054	01	12111	0.0026
0054	02	21111	0.0215
0054	03	22111	0.9302
0054	04	22112	0.0372
0054	05	22121	0.0035
0054	06	22211	0.0051
0055	01	11122	0.0175
0055	02	11222	0.0029
0055	03	12112	0.0028

0055	04	12121	0.0304
0055	05	12122	0.7593
0055	06	12221	0.0050
0055	07	12222	0.1250
0055	08	21122	0.0011
0055	09	22121	0.0019
0055	10	22122	0.0465
0055	11	22222	0.0077
0056	01	11111	0.0417
0056	02	11112	0.0017
0056	03	11121	0.0262
0056	04	11122	0.0010
0056	05	11211	0.2534
0056	06	11212	0.0101
0056	07	11221	0.1594
0056	08	11222	0.0064
0056	09	12111	0.0417
0056	10	12112	0.0017
0056	11	12121	0.0262
0056	12	12122	0.0010
0056	13	12211	0.2534
0056	14	12212	0.0101
0056	15	12221	0.1594
0056	16	12222	0.0064
0057	01	12122	0.0023
0057	02	22112	0.0031
0057	03	22121	0.0328
0057	04	22122	0.8212
0057	05	22221	0.0054
0057	06	22222	0.1352
0058	01	11111	0.0216
0058	02	11121	0.0136
0058	03	11211	0.1503
0058	04	11221	0.0945
0058	05	12111	0.0552
0058	06	12121	0.0348
0058	07	12211	0.3849
0058	08	12221	0.2422
0058	09	22211	0.0018
0058	10	22221	0.0012
0059	01	12111	0.0277
0059	02	12211	0.0282
0059	03	21111	0.0137
0059	04	21211	0.0139
0059	05	22111	0.4529
0059	06	22121	0.0017

0059	07	22211	0.4601
0059	08	22221	0.0017
0060	01	11111	0.1534
0060	02	11121	0.0966
0060	03	11211	0.1534
0060	04	11221	0.0966
0060	05	12111	0.1534
0060	06	12121	0.0966
0060	07	12211	0.1534
0060	08	12221	0.0966
0061	01	12211	0.0015
0061	02	22111	0.0866
0061	03	22121	0.0545
0061	04	22211	0.5262
0061	05	22221	0.3311
0062	01	12112	0.0033
0062	02	12121	0.0359
0062	03	12122	0.8986
0062	04	12222	0.0049
0062	05	22121	0.0022
0062	06	22122	0.0550
0063	01	11112	0.0020
0063	02	11121	0.0016
0063	03	11122	0.0082
0063	04	11212	0.0015
0063	05	11221	0.0012
0063	06	11222	0.0062
0063	07	12111	0.0165
0063	08	12112	0.0864
0063	09	12121	0.0678
0063	10	12122	0.3554
0063	11	12211	0.0125
0063	12	12212	0.0653
0063	13	12221	0.0512
0063	14	12222	0.2686
0063	15	22111	0.0010
0063	16	22112	0.0053
0063	17	22121	0.0042
0063	18	22122	0.0218
0063	19	22212	0.0040
0063	20	22221	0.0031
0063	21	22222	0.0165
0064	01	11112	0.0023
0064	02	11122	0.6143
0064	03	11222	0.0033
0064	04	12122	0.0142

0064	05	21112	0.0013
0064	06	21122	0.3545
0064	07	21222	0.0019
0064	08	22122	0.0082
0065	01	12211	0.0027
0065	02	22111	0.0052
0065	03	22211	0.9506
0065	04	22212	0.0380
0065	05	22221	0.0035
0066	01	12111	0.0833
0066	02	12112	0.0033
0066	03	12121	0.0524
0066	04	12122	0.0021
0066	05	12211	0.5060
0066	06	12212	0.0202
0066	07	12221	0.3184
0066	08	12222	0.0127
0066	09	22211	0.0014
0067	01	11211	0.0534
0067	02	11212	0.0021
0067	03	12211	0.0016
0067	04	21111	0.0048
0067	05	21211	0.8724
0067	06	21212	0.0349
0067	07	21221	0.0032
0067	08	22211	0.0264
0067	09	22212	0.0011
0068	01	11111	0.0361
0068	02	11121	0.0227
0068	03	11211	0.2194
0068	04	11221	0.1381
0068	05	12211	0.0051
0068	06	12221	0.0032
0068	07	21111	0.0489
0068	08	21121	0.0307
0068	09	21211	0.2968
0068	10	21221	0.1867
0068	11	22111	0.0011
0068	12	22211	0.0068
0068	13	22221	0.0043
0069	01	12112	0.0043
0069	02	12121	0.0048
0069	03	12122	0.0214
0069	04	12212	0.0036
0069	05	12221	0.0040
0069	06	12222	0.0179

0069	07	22111	0.0159
0069	08	22112	0.0702
0069	09	22121	0.0791
0069	10	22122	0.3493
0069	11	22211	0.0133
0069	12	22212	0.0586
0069	13	22221	0.0660
0069	14	22222	0.2917
0070	01	11111	0.0114
0070	02	12111	0.4964
0070	03	12112	0.0206
0070	04	12121	0.0283
0070	05	12122	0.0012
0070	06	12211	0.0257
0070	07	12212	0.0011
0070	08	12221	0.0015
0070	09	21111	0.0081
0070	10	22111	0.3519
0070	11	22112	0.0146
0070	12	22121	0.0200
0070	13	22211	0.0182
0070	14	22221	0.0010
0071	01	11111	0.1070
0071	02	11112	0.0043
0071	03	11121	0.0674
0071	04	11122	0.0027
0071	05	11211	0.0176
0071	06	11221	0.0111
0071	07	21111	0.4003
0071	08	21112	0.0160
0071	09	21121	0.2519
0071	10	21122	0.0101
0071	11	21211	0.0659
0071	12	21212	0.0026
0071	13	21221	0.0415
0071	14	21222	0.0017
0072	01	11112	0.0195
0072	02	11122	0.0310
0072	03	11212	0.1183
0072	04	11222	0.1881
0072	05	12112	0.0079
0072	06	12122	0.0126
0072	07	12212	0.0480
0072	08	12222	0.0763
0072	09	21112	0.0194
0072	10	21122	0.0308

0072	11	21212	0.1176
0072	12	21222	0.1869
0072	13	22112	0.0079
0072	14	22122	0.0125
0072	15	22212	0.0477
0072	16	22222	0.0758
0073	01	11111	0.9492
0073	02	11112	0.0380
0073	03	11121	0.0035
0073	04	11211	0.0052
0073	05	12111	0.0015
0073	06	21111	0.0027
0074	01	11111	0.0094
0074	02	11112	0.0111
0074	03	11121	0.0114
0074	04	11122	0.0135
0074	05	11211	0.0279
0074	06	11212	0.0330
0074	07	11221	0.0338
0074	08	11222	0.0400
0074	09	12111	0.0143
0074	10	12112	0.0169
0074	11	12121	0.0173
0074	12	12122	0.0205
0074	13	12211	0.0423
0074	14	12212	0.0501
0074	15	12221	0.0512
0074	16	12222	0.0607
0074	17	21111	0.0113
0074	18	21112	0.0134
0074	19	21121	0.0137
0074	20	21122	0.0163
0074	21	21211	0.0336
0074	22	21212	0.0398
0074	23	21221	0.0407
0074	24	21222	0.0482
0074	25	22111	0.0172
0074	26	22112	0.0204
0074	27	22121	0.0208
0074	28	22122	0.0247
0074	29	22211	0.0510
0074	30	22212	0.0604
0074	31	22221	0.0618
0074	32	22222	0.0732
0075	01	11111	0.0052
0075	02	11211	0.9529

0075	03	11221	0.0035
0075	04	12211	0.0220
0075	05	21211	0.0164
0076	01	11122	0.0023
0076	02	21112	0.0031
0076	03	21122	0.8226
0076	04	21222	0.1496
0076	05	22122	0.0190
0076	06	22222	0.0035
0077	01	12122	0.0024
0077	02	22111	0.0044
0077	03	22112	0.1104
0077	04	22121	0.0338
0077	05	22122	0.8445
0077	06	22222	0.0046
0078	01	11111	0.0294
0078	02	11112	0.0966
0078	03	11121	0.0535
0078	04	11122	0.1755
0078	05	11211	0.0490
0078	06	11212	0.1610
0078	07	11221	0.0891
0078	08	11222	0.2926
0078	09	12111	0.0017
0078	10	12112	0.0054
0078	11	12121	0.0030
0078	12	12122	0.0099
0078	13	12211	0.0028
0078	14	12212	0.0091
0078	15	12221	0.0050
0078	16	12222	0.0165
0079	01	11112	0.0116
0079	02	11122	0.0184
0079	03	11212	0.0019
0079	04	11222	0.0030
0079	05	12112	0.0075
0079	06	12122	0.0120
0079	07	12212	0.0012
0079	08	12222	0.0020
0079	09	21112	0.1893
0079	10	21122	0.3008
0079	11	21212	0.0312
0079	12	21222	0.0495
0079	13	22112	0.1232
0079	14	22122	0.1958
0079	15	22212	0.0203

0079	16	22222	0.0322
0080	01	11111	0.0033
0080	02	11121	0.0021
0080	03	11211	0.6076
0080	04	11221	0.3823
0080	05	21211	0.0029
0080	06	21221	0.0018
0081	01	11111	0.0030
0081	02	12111	0.0035
0081	03	21111	0.4409
0081	04	21112	0.0176
0081	05	21121	0.0016
0081	06	21211	0.0024
0081	07	22111	0.5061
0081	08	22112	0.0202
0081	09	22121	0.0019
0081	10	22211	0.0028
0082	01	11111	0.0015
0082	02	11211	0.0093
0082	03	12111	0.0664
0082	04	12112	0.0027
0082	05	12211	0.4035
0082	06	12212	0.0161
0082	07	12221	0.0015
0082	08	21111	0.0015
0082	09	21211	0.0093
0082	10	22111	0.0662
0082	11	22112	0.0026
0082	12	22211	0.4018
0082	13	22212	0.0161
0082	14	22221	0.0015
0083	01	11211	0.0125
0083	02	11221	0.0079
0083	03	12111	0.0030
0083	04	12121	0.0019
0083	05	12211	0.5426
0083	06	12212	0.0217
0083	07	12221	0.3414
0083	08	12222	0.0137
0083	09	22211	0.0332
0083	10	22212	0.0013
0083	11	22221	0.0209
0084	01	11111	0.5389
0084	02	11112	0.0018
0084	03	11121	0.0097
0084	04	11211	0.1836

0084	05	11221	0.0033
0084	06	12111	0.1913
0084	07	12121	0.0034
0084	08	12211	0.0652
0084	09	12221	0.0012
0084	10	21111	0.0015
0085	01	11111	0.2579
0085	02	11112	0.0103
0085	03	11121	0.1623
0085	04	11122	0.0065
0085	05	11211	0.0425
0085	06	11212	0.0017
0085	07	11221	0.0267
0085	08	11222	0.0011
0085	09	21111	0.2489
0085	10	21112	0.0100
0085	11	21121	0.1566
0085	12	21122	0.0063
0085	13	21211	0.0410
0085	14	21212	0.0016
0085	15	21221	0.0258
0085	16	21222	0.0010
0086	01	11111	0.4281
0086	02	11112	0.0171
0086	03	11121	0.0016
0086	04	11211	0.0705
0086	05	11212	0.0028
0086	06	12111	0.3903
0086	07	12112	0.0156
0086	08	12121	0.0015
0086	09	12211	0.0643
0086	10	12212	0.0026
0086	11	21111	0.0029
0086	12	22111	0.0027
0087	01	11111	0.0084
0087	02	11121	0.0053
0087	03	12111	0.3645
0087	04	12112	0.0146
0087	05	12121	0.2294
0087	06	12122	0.0092
0087	07	12211	0.0020
0087	08	12221	0.0012
0087	09	21111	0.0049
0087	10	21121	0.0031
0087	11	22111	0.2103
0087	12	22112	0.0084

0087	13	22121	0.1323
0087	14	22122	0.0053
0087	15	22211	0.0011
0088	01	11111	0.0050
0088	02	11121	0.0032
0088	03	11211	0.0304
0088	04	11221	0.0191
0088	05	21111	0.0818
0088	06	21121	0.0514
0088	07	21211	0.4966
0088	08	21221	0.3125
0089	01	11122	0.0052
0089	02	11212	0.0035
0089	03	11221	0.0380
0089	04	11222	0.9506
0089	05	21222	0.0027
0090	01	11111	0.0561
0090	02	11112	0.0022
0090	03	11211	0.3411
0090	04	11212	0.0136
0090	05	11221	0.0013
0090	06	12111	0.0556
0090	07	12112	0.0022
0090	08	12211	0.3379
0090	09	12212	0.0135
0090	10	12221	0.0013
0090	11	21111	0.0120
0090	12	21211	0.0730
0090	13	21212	0.0029
0090	14	22111	0.0119
0090	15	22211	0.0724
0090	16	22212	0.0029
0091	01	11122	0.0077
0091	02	11221	0.0019
0091	03	11222	0.0465
0091	04	12222	0.0011
0091	05	21121	0.0050
0091	06	21122	0.1250
0091	07	21212	0.0028
0091	08	21221	0.0304
0091	09	21222	0.7593
0091	10	22122	0.0029
0091	11	22222	0.0175
0092	01	11111	0.0150
0092	02	11121	0.0095
0092	03	11211	0.0298

0092	04	11221	0.0187
0092	05	12111	0.0336
0092	06	12121	0.0211
0092	07	12211	0.0665
0092	08	12221	0.0418
0092	09	21111	0.0486
0092	10	21121	0.0306
0092	11	21211	0.0964
0092	12	21221	0.0607
0092	13	22111	0.1086
0092	14	22121	0.0683
0092	15	22211	0.2152
0092	16	22221	0.1354
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0093	02	12111	0.0177
0093	03	12112	0.0662
0093	04	12121	0.0628
0093	05	12122	0.2349
0093	06	12211	0.0032
0093	07	12212	0.0120
0093	08	12221	0.0114
0093	09	12222	0.0427
0093	10	21122	0.0029
0093	11	22111	0.0213
0093	12	22112	0.0798
0093	13	22121	0.0757
0093	14	22122	0.2833
0093	15	22211	0.0039
0093	16	22212	0.0145
0093	17	22221	0.0138
0093	18	22222	0.0515
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0094	02	11121	0.0018
0094	03	11211	0.0026
0094	04	12111	0.0049
0094	05	21111	0.5002
0094	06	21121	0.0019
0094	07	21211	0.0027
0094	08	22111	0.0051
0095	01	11122	0.0011
0095	02	11212	0.0043
0095	03	11222	0.0068
0095	04	12112	0.0232
0095	05	12121	0.0015
0095	06	12122	0.0368
0095	07	12211	0.0056

0095	08	12212	0.1408
0095	09	12221	0.0090
0095	10	12222	0.2237
0095	11	21122	0.0013
0095	12	21212	0.0051
0095	13	21222	0.0082
0095	14	22111	0.0011
0095	15	22112	0.0280
0095	16	22121	0.0018
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0095	18	22211	0.0068
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0095	20	22221	0.0108
0095	21	22222	0.2699
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0096	03	11121	0.0341
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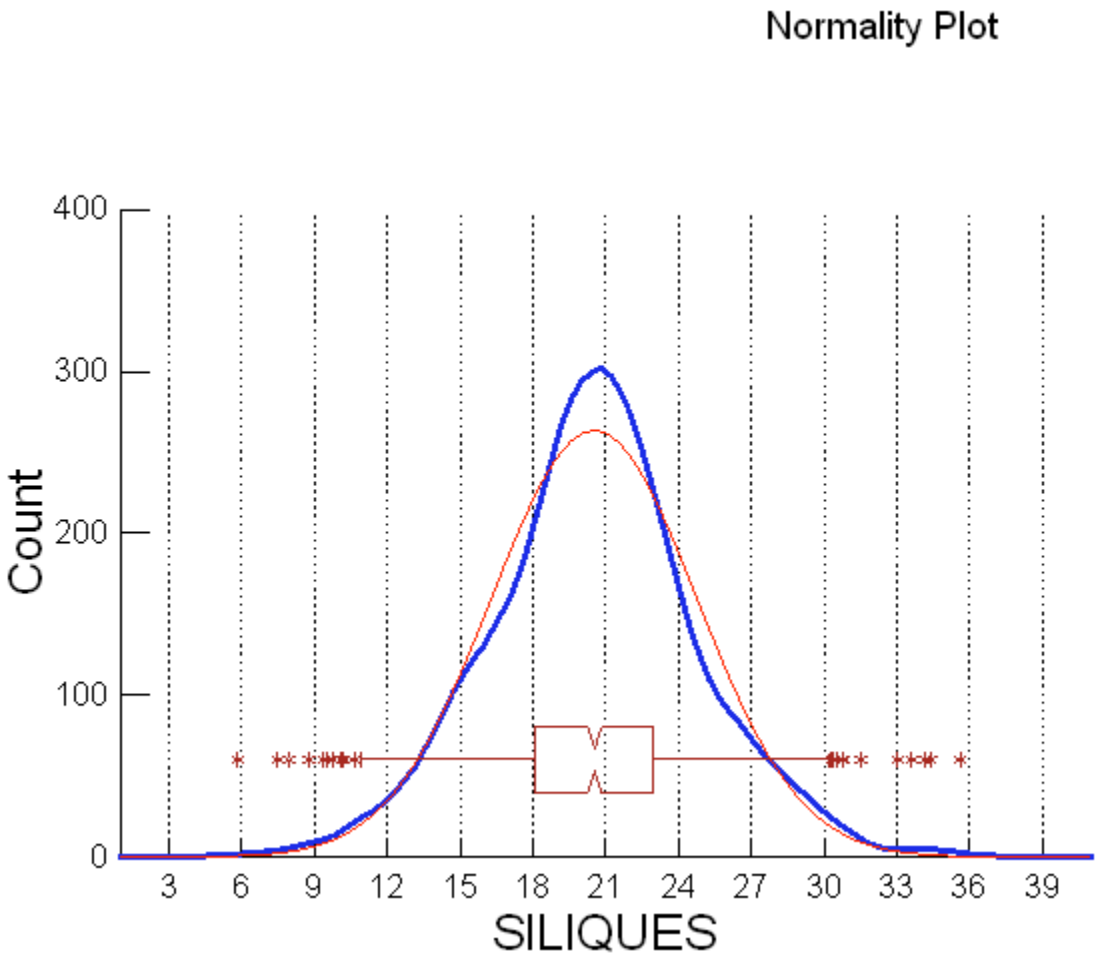
0098	04	22122	0.0045
0098	05	22212	0.0709
0098	06	22222	0.8336

II. ***Phenotypic Fitness Data for QTL Mapping and for assessing compensatory responses***

Year 1 Data

ANOVA

SOURCE	SS	DF	MS	F	P
TRT$	1368	1	1368	0.166	0.684
LINE	8150.17	92	88589	10.755	0.000
TRT$*LINE	1250.508	92	13.592	1.650	0.000
ERROR	5387.187	654	8.237		



* Data approximate normality with sqrt transformation with homogeneity of variances (Levene's Test 0.701, p=0.403)

Clipping Treatment	Line	Siliques
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uc	1	233
uc	1	.
uc	1	.
uc	2	295
uc	2	34
uc	2	398
uc	2	321
uc	2	442
uc	3	358
uc	3	321
uc	3	479
uc	3	354
uc	3	355
uc	4	386
uc	4	196
uc	4	241
uc	4	157
uc	4	283
uc	5	224
uc	5	402
uc	5	267
uc	5	432
uc	5	223
uc	6	382
uc	6	415
uc	6	308
uc	6	.
uc	6	.
uc	7	496
uc	7	540
uc	7	546
uc	7	824
uc	7	309
uc	8	567
uc	8	515
uc	8	501
uc	8	334
uc	8	305
uc	9	443
uc	9	845
uc	9	681
uc	9	573
uc	9	.
uc	10	223
uc	10	333
uc	10	439

uc	10	176
uc	10	.
uc	11	423
uc	11	509
uc	11	380
uc	11	370
uc	11	471
uc	12	632
uc	12	718
uc	12	518
uc	12	502
uc	12	594
uc	13	450
uc	13	77
uc	13	545
uc	13	477
uc	13	400
uc	14	361
uc	14	228
uc	14	428
uc	14	479
uc	14	.
uc	15	354
uc	15	413
uc	15	377
uc	15	291
uc	15	375
uc	16	167
uc	16	344
uc	16	360
uc	16	.
uc	16	.
uc	17	372
uc	17	188
uc	17	430
uc	17	329
uc	17	.
uc	18	503
uc	18	499
uc	18	.
uc	18	.
uc	19	660
uc	19	641
uc	19	904
uc	19	266
uc	19	540
uc	20	443
uc	20	489
uc	20	367
uc	20	273

uc	20	319
uc	21	380
uc	21	362
uc	21	.
uc	21	.
uc	21	.
uc	22	56
uc	22	370
uc	22	333
uc	22	767
uc	22	.
uc	23	257
uc	23	370
uc	23	331
uc	23	242
uc	23	239
uc	24	613
uc	24	501
uc	24	571
uc	24	600
uc	24	794
uc	25	196
uc	25	187
uc	25	95
uc	25	213
uc	25	198
uc	27	392
uc	27	273
uc	27	376
uc	27	463
uc	27	413
uc	28	695
uc	28	408
uc	28	640
uc	28	438
uc	28	456
uc	30	.
uc	30	.
uc	30	.
uc	30	.
uc	30	.
uc	31	255
uc	31	483
uc	31	420
uc	31	.
uc	31	.
uc	31	.
uc	31	.
uc	32	401
uc	32	741

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uc	32	472
uc	32	679
uc	33	412
uc	33	304
uc	33	333
uc	33	341
uc	33	315
uc	34	321
uc	34	385
uc	34	654
uc	35	252
uc	35	259
uc	35	226
uc	35	.
uc	35	.
uc	36	624
uc	36	489
uc	36	519
uc	36	.
uc	36	.
uc	36	.
uc	37	402
uc	37	560
uc	37	258
uc	37	280
uc	37	500
uc	39	.
uc	39	.
uc	39	.
uc	39	.
uc	40	496
uc	40	435
uc	40	543
uc	40	424
uc	40	.
uc	41	546
uc	41	498
uc	41	233
uc	41	.
uc	41	.
uc	42	190
uc	42	465
uc	42	390
uc	42	.
uc	42	.
uc	43	267
uc	43	295
uc	43	383
uc	43	240

uc	43	.
uc	44	360
uc	44	420
uc	44	361
uc	44	425
uc	44	296
uc	45	235
uc	45	190
uc	45	209
uc	45	137
uc	46	451
uc	46	123
uc	46	481
uc	46	.
uc	47	609
uc	47	726
uc	47	712
uc	47	844
uc	47	716
uc	48	134
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uc	48	135
uc	48	.
uc	48	.
uc	49	259
uc	49	145
uc	49	231
uc	50	420
uc	50	399
uc	50	467
uc	50	356
uc	50	.
uc	51	306
uc	51	329
uc	51	444
uc	51	203
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uc	52	880
uc	52	620
uc	52	656
uc	53	361
uc	53	402
uc	53	469
uc	53	435
uc	53	329
uc	55	441
uc	55	383
uc	55	458

uc	55	512
uc	55	614
uc	56	352
uc	56	270
uc	56	232
uc	56	277
uc	56	263
uc	57	218
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uc	57	382
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uc	64	447
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uc	64	380
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uc	65	390
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uc	66	215
uc	66	146
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uc	74	324
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Year 2 Data

ANOVA

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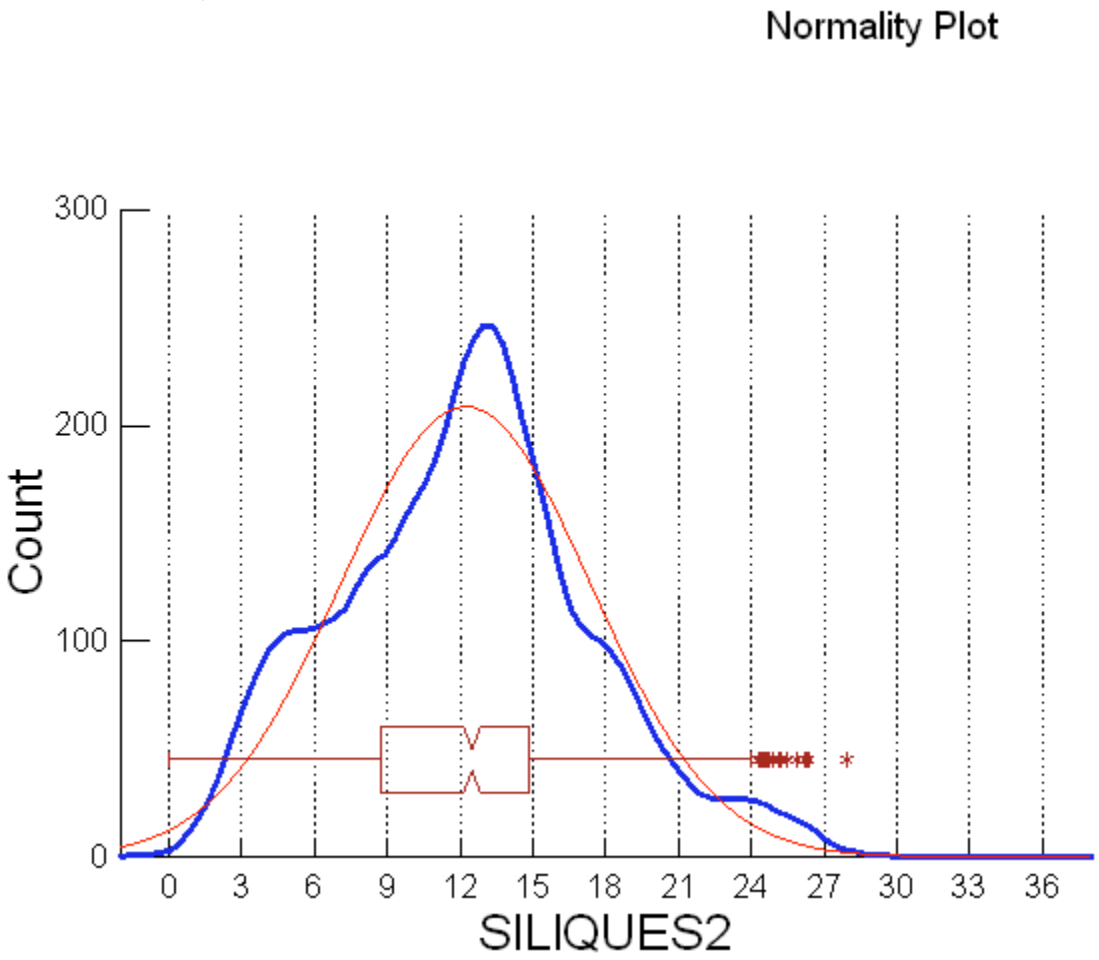

* Data approximate normality with a sqrt transformation with homogeneity of variances (Levene's Test 0.147, p=0.702)

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III. *Transcriptomic Data*

http://www.ncbi.nlm.nih.gov/geo/query/acc.cgi?acc=GSE44781

List of differentially expressed genes

Number	Microarray Element	Gene
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3	251028_at	AT5G02230
4	258448_at	AT3G22290
5	252308_at	AT3G49310
6	264501_at	AT1G09390
7	264977_at	AT1G27090
8	247353_at	AT5G63620
9	245817_at	AT1G26160
10	265953_at	AT2G37480
11	246320_at	AT1G16560
12	247553_at	AT5G60910
13	247694_at	AT5G59750
14	254270_at	AT4G23100
15	255417_at	AT4G03190
16	248551_at	AT5G50200
17	253964_at	AT4G26480
18	250895_at	AT5G03850
19	249694_at	AT5G35790
20	260395_at	AT1G69780
21	257148_at	AT3G27240
22	265227_s_at	ATMG01280
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23	245790_at	AT1G32200
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25	262059_at	AT1G80030
26	266465_at	AT2G47750
27	255148_at	AT4G08470
28	265228_at	ATMG01190
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37	251666_at	AT3G57050
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39	251082_at	AT5G11580
40	254306_at	AT4G22330
41	247131_at	AT5G66190
42	263014_at	AT1G23400
43	264095_at	AT1G79230
44	256502_at	AT1G36730
45	260536_at	AT2G43400
46	266904_at	AT2G34590
47	267609_at	AT2G26780
48	248094_at	AT5G55220
49	248103_at	AT5G55160
50	260286_at	AT1G80600
51	253035_at	AT2G38400
52	263973_at	AT2G42740
53	265817_at	AT2G18050
54	267035_at	AT4G38240
55	253886_at	AT4G27710
56	260896_at	AT1G29310
57	249900_at	AT5G22640
58	256193_at	AT1G30200
59	249538_at	AT5G38840
60	259258_at	AT3G07670
61	261408_s_at	AT1G07660
		AT1G07820
62	244939_at	ATCG00065
63	251449_at	AT3G59920
64	253779_at	AT4G28490
65	261944_at	AT1G64650
66	257903_at	AT3G28460
67	264353_at	AT1G03260
68	251409_at	AT3G60245
69	263755_at	AT2G21340
70	245269_at	AT4G14500
71	245627_at	AT1G56600
72	253164_at	AT4G35725
73	250318_at	AT5G12200
74	250434_at	AT5G10390
75	252562_s_at	AT3G46320
		AT3G45930[AT3G46320
76	262963_at	AT1G54220
77	256729_at	AT3G25680
78	260571_at	AT2G43790
79	261557_at	AT1G63640

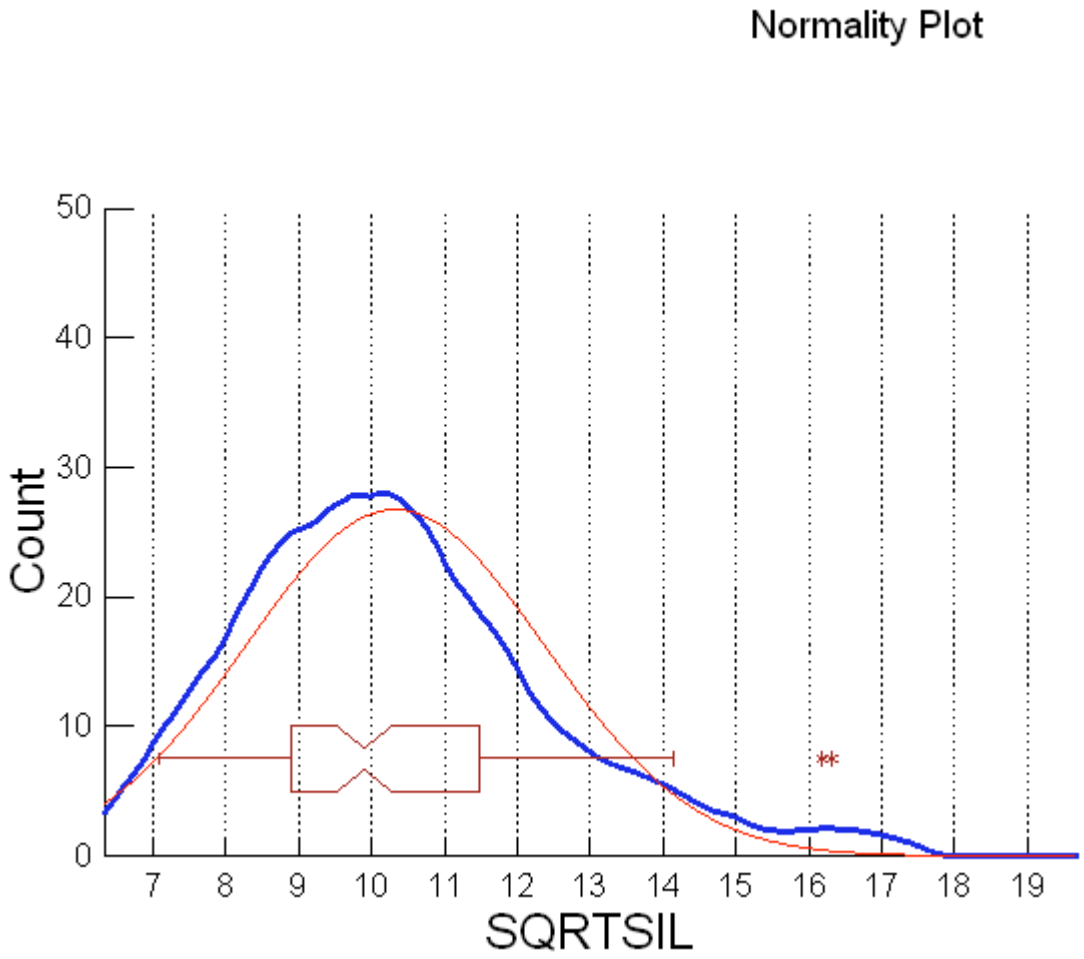
80	266638_at	AT2G35490
81	258922_at	AT3G10610
82	245263_at	AT4G17740
83	264262_at	AT1G09200
84	253704_at	AT4G29490
85	247260_at	AT5G64500
86	257431_at	AT2G36360
87	262985_s_at	AT1G70600
		AT1G23290[AT1G70600
88	247140_at	AT5G66250
89	258766_at	AT3G10700
90	245176_at	AT2G47440
91	247925_at	AT5G57560
92	258755_at	AT3G11945
93	261424_at	AT1G18700
94	262174_at	AT1G74910
95	264454_at	AT1G10320
96	266438_at	AT2G43180
97	260510_at	AT1G51580
98	248676_at	AT5G48850
99	255537_at	AT4G01690
100	267517_at	AT2G30520
101	257215_at	AT3G15070
102	248669_at	AT5G48730
103	245284_at	AT4G14210
104	247306_at	AT5G63870
105	252235_at	AT3G49910
106	259193_at	AT3G01480
107	250941_at	AT5G03320
108	265735_at	AT2G01140
109	264421_at	AT1G43170

IV. ***Knockout mutant data***

ANOVA

Source	SS	DF	MS	F	P
Trt	1.494	1	1.494	0.471	0.494
Line	126.048	4	31.512	9.928	0.000
Trt * Line	28.013	4	7.003	2.206	0.073
Error	361.824	114	3.174		

Effect	trt	line	trt	line	P
trt*line	c	sail1252	uc	sail1252	0.471
trt*line	c	salk0193	uc	salk0193	0.419
trt*line	c	Gabi864	uc	Gabi864	0.265
trt *line	c	col	uc	col	0.019
trt*line	c	ler	uc	ler	0.094



* Data approximate normality with sqrt transformation with homogeneity of variances (Levene's Test .203, p=0.653).

Treatment	Line	Siliques
c	sail1252	89
c	sail1252	92
c	sail1252	91
c	sail1252	70
c	sail1252	89
c	sail1252	78
c	sail1252	63
c	sail1252	133
c	sail1252	59
c	sail1252	89
c	sail1252	92
c	sail1252	91
c	sail1252	70
c	sail1252	89
c	sail1252	78
c	sail1252	63
c	sail1252	133
c	sail1252	59
uc	sail1252	70
uc	sail1252	79
uc	sail1252	95
uc	sail1252	98
uc	sail1252	112
uc	sail1252	98
uc	sail1252	132
uc	sail1252	89
uc	sail1252	59
uc	sail1252	70
uc	sail1252	79
uc	sail1252	95
uc	sail1252	98
uc	sail1252	112
uc	sail1252	98
uc	sail1252	132
uc	sail1252	89
uc	sail1252	59
c	salk019323	83
c	salk019323	102
c	salk019323	123
c	salk019323	98
c	salk019323	71
c	salk019323	59
c	salk019323	65
c	salk019323	83
c	salk019323	102
c	salk019323	123

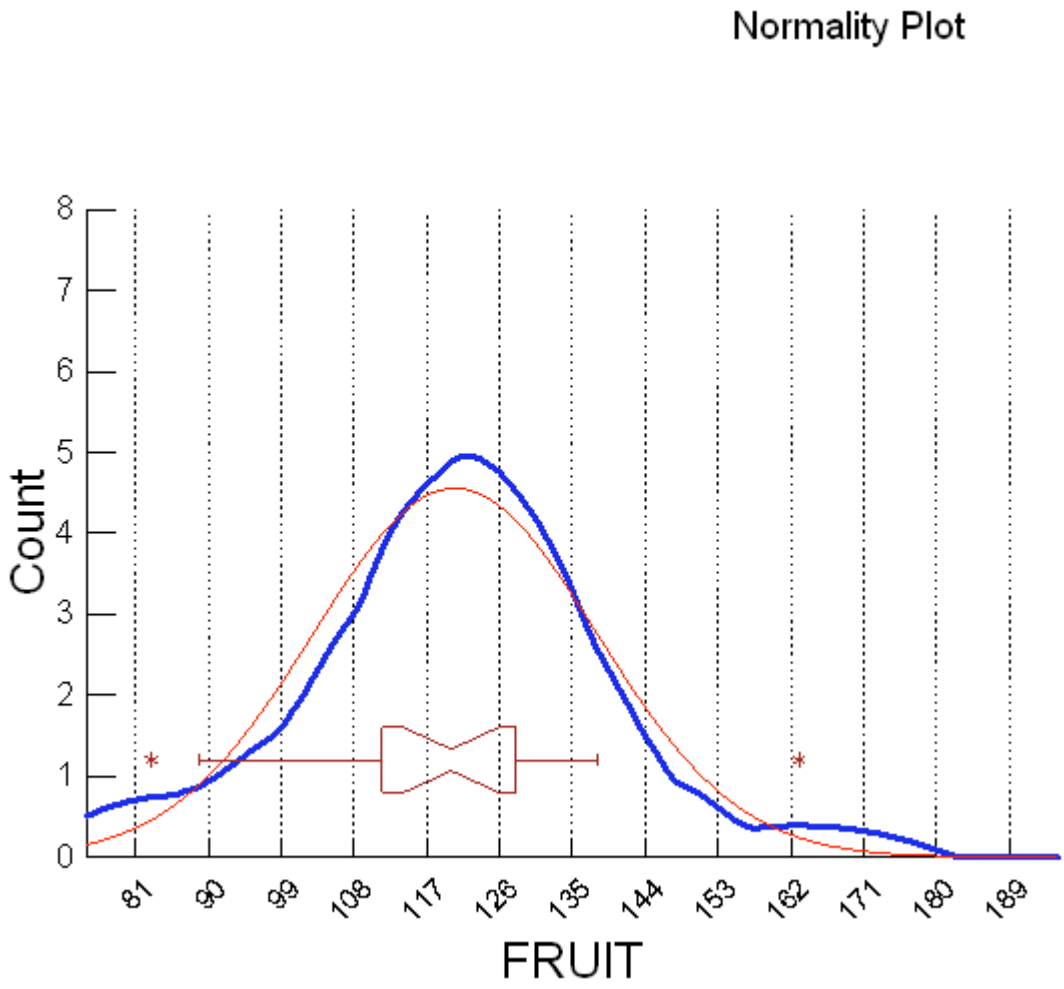
c	salk019323	98
c	salk019323	71
c	salk019323	59
c	salk019323	65
uc	salk019323	125
uc	salk019323	79
uc	salk019323	92
uc	salk019323	88
uc	salk019323	92
uc	salk019323	98
uc	salk019323	89
uc	salk019323	125
uc	salk019323	79
uc	salk019323	92
uc	salk019323	88
uc	salk019323	92
uc	salk019323	98
uc	salk019323	89
c	N173950	200
c	N173950	81
c	N173950	57
c	N173950	57
c	N173950	188
c	N173950	106
c	N173950	200
c	N173950	81
c	N173950	57
c	N173950	57
c	N173950	188
c	N173950	106
uc	N173950	139
uc	N173950	262
uc	N173950	266
uc	N173950	71
uc	N173950	50
uc	N173950	50
uc	N173950	139
uc	N173950	262
uc	N173950	266
uc	N173950	71
uc	N173950	50
uc	N173950	50
c	col	193
c	col	159
c	col	152
c	col	187
c	col	149
c	col	165
c	col	186
c	col	115

c	col	171
uc	col	106
uc	col	119
uc	col	116
uc	col	119
uc	col	118
uc	col	128
uc	col	132
uc	col	112
uc	col	119
c	ler	133
c	ler	125
c	ler	115
c	ler	119
c	ler	115
c	ler	142
c	ler	112
c	ler	111
c	ler	89
uc	ler	125
uc	ler	190
uc	ler	147
uc	ler	132
uc	ler	162
uc	ler	197
uc	ler	114
uc	ler	137
uc	ler	140

V. *Complementation Data*

Analysis of Variance

Source	Type III SS	df	Mean Squares	F-Ratio	p-Value
TREATM$	1,036.80	1	1,036.80	3.901	0.064
Error	4,784.20	18	265.789		



* Data normally distributed with homogeneity of variances (Levene's Test .119, p=0.734).

Treatment	Siliques
C	138
C	128
C	137
C	118
C	105
C	117

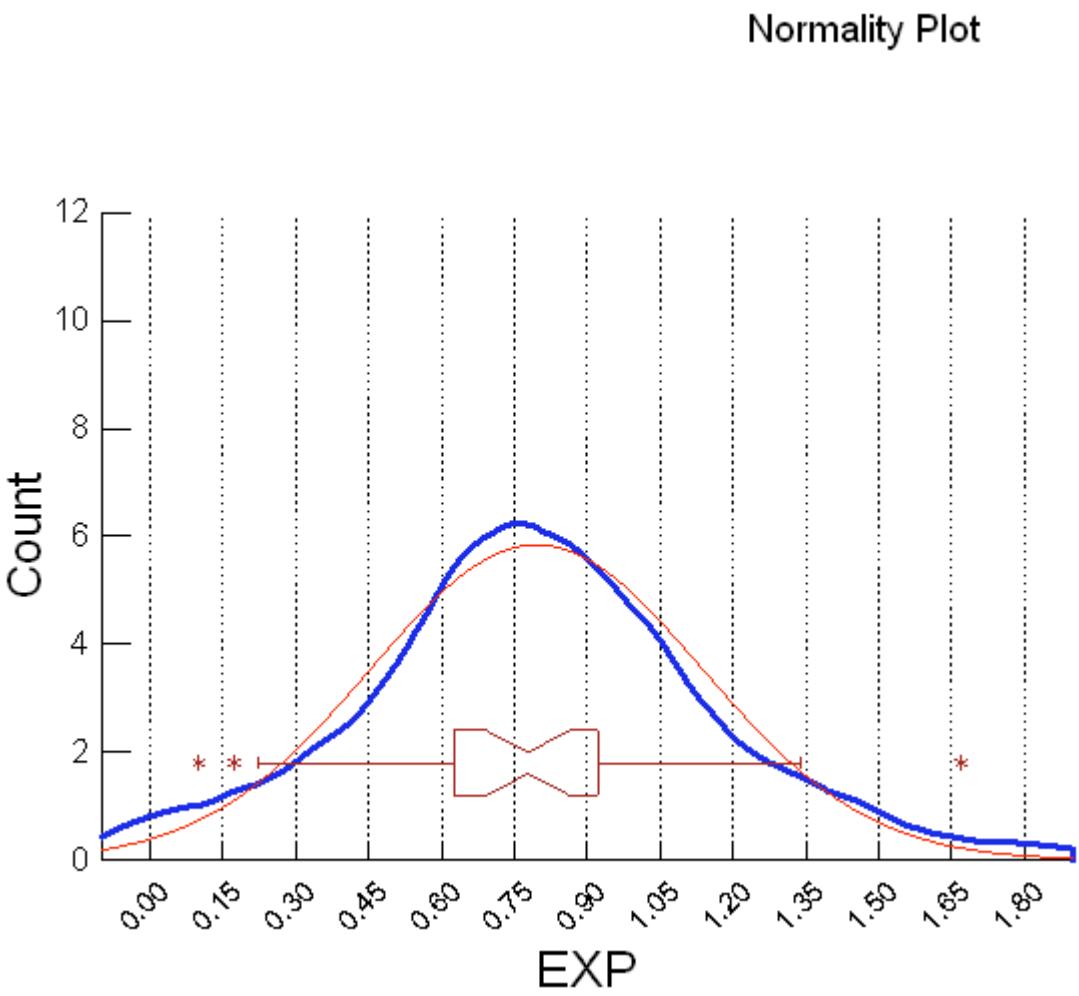
C	119
C	163
C	124
C	128
Uc	128
Uc	108
Uc	118
Uc	128
Uc	110
Uc	121
Uc	113
Uc	89
Uc	135
Uc	83

VI. *Expression Data*

Analysis of Variance

Source	Type III SS	df	Mean Squares	F-Ratio	p-Value
TT$	0.373	1	0.373	6.001	0.024
GRP	0.809	4	0.202	3.253	0.033
TT$*GRP	0.954	4	0.239	3.837	0.018
Error	1.244	20	0.062		

Effect	Trt	group	_trt	_group	Estimate	Standard Error	DF	t	Pr
trt*group	Col	1	ler	1	-0.4293	0.2036	20	-2.11	0.0478
trt*group	Col	2	ler	2	0.2133	0.2036	20	1.05	0.3073
trt*group	Col	3	ler	3	0.4053	0.2036	20	1.99	0.0604
trt*group	Col	4	ler	4	0.2867	0.2036	20	1.41	0.1745
trt*group	Col	5	ler	5	0.6393	0.2036	20	3.14	0.0052



* Data normally distributed with a sqrt transformation with homogeneity of variances (Levene's Test .686, p=0.608).

Treatment	Expression	Group
col	0.1	1
col	0.566	1
col	0.458	1
col	0.656	2
col	0.755	2
col	0.819	2
col	1.208	3
col	1.175	3
col	1.342	3
col	1.261	4
col	0.775	4
col	0.917	4
col	1.054	5
col	0.849	5
col	1.67	5
ler	0.922	1

ler	0.624	1
ler	0.866	1
ler	0.742	2
ler	0.624	2
ler	0.224	2
ler	0.877	3
ler	1.049	3
ler	0.583	3
ler	0.781	4
ler	0.843	4
ler	0.469	4
ler	0.768	5
ler	0.714	5
ler	0.173	5

File S2
Combined Phenotypic Genotypic data

Available for download as a CSV file at
http://www.genetics.org/lookup/suppl/doi: 10.1534/genetics.113.154351 /-/DC1