

**Table S6 Summary of multiple QTL analysis of variation in probability of responding by omega turns.**

	df	Type III SS	LOD	% var	F value	Pvalue(Chi2)	Pvalue(F)
III@140.0	4.0000	0.5186	4.9341	11.8678	5.8171	0.0001	0.0002
IV@199.0	4.0000	0.5362	5.0879	12.2701	6.0143	0.0001	0.0002
V@164.0	4.0000	0.3403	3.3276	7.7872	3.8169	0.0041	0.0057
III@140.0:IV@199.0	2.0000	0.0095	0.0986	0.2185	0.2142	0.7969	0.8074
III@140.0:V@164.0	2.0000	0.1041	1.0581	2.3831	2.3362	0.0875	0.1007
IV@199.0:V@164.0	2.0000	0.0293	0.3015	0.6705	0.6573	0.4994	0.5199
III@140.0:IV@199.0:V@164.0	1.0000	0.0038	0.0389	0.0862	0.1690	0.6720	0.6817

Summary of Multiple QTL Model with Reversal to Omega transition Probability