

Additional data file 1. 75 genetic-interaction inequalities in 9 modes of genetic interaction.

Inequality	Mode	Asymmetry^a
A=AB<WT=B	noninteractive	
B=AB<WT=A	noninteractive	
WT=A<B=AB	noninteractive	
WT=B<A=AB	noninteractive	
WT=A=B=AB	noninteractive	
AB<WT=A=B	synthetic	
WT=A=B<AB	synthetic	
A=B=AB<WT	asynthetic	
WT<A=B=AB	asynthetic	
A<WT=B=AB	suppressive	A ← B
B<WT=A=AB	suppressive	A → B
WT=A=AB<B	suppressive	A → B
WT=B=AB<A	suppressive	A ← B
A<B=AB<WT	epistatic	A ← B
B<A=AB<WT	epistatic	A → B
A=AB<B<WT	epistatic	A → B
B=AB<A<WT	epistatic	A ← B
A<WT<B=AB	epistatic	A ← B
B<WT<A=AB	epistatic	A → B
A=AB<WT<B	epistatic	A → B
B=AB<WT<A	epistatic	A ← B
WT<A<B=AB	epistatic	A ← B
WT<B<A=AB	epistatic	A → B
WT<A=AB<B	epistatic	A → B
WT<B=AB<A	epistatic	A ← B
WT=A<AB<B	conditional	A ← B
WT=B<AB<A	conditional	A → B
WT=A<B<AB	conditional	A ← B
WT=B<A<AB	conditional	A → B
A<WT=B<AB	conditional	A → B
B<WT=A<AB	conditional	A ← B
AB<WT=A<B	conditional	A ← B
AB<WT=B<A	conditional	A → B
A<AB<WT=B	conditional	A → B
B<AB<WT=A	conditional	A ← B
AB<A<WT=B	conditional	A → B
AB<B<WT=A	conditional	A ← B
A<AB<WT<B	additive	
B<AB<WT<A	additive	
A<WT<AB<B	additive	
B<WT<AB<A	additive	

A<WT=AB<B	additive	
B<WT=AB<A	additive	
AB<A<B<WT	additive	
AB<B<A<WT	additive	
WT<A<B<AB	additive	
WT<B<A<AB	additive	
AB<A=B<WT	additive	
WT<A=B<AB	additive	
A<AB<B<WT	single-nonmonotonic	A ← B
B<AB<A<WT	single-nonmonotonic	A → B
A<WT<B<AB	single-nonmonotonic	A → B
B<WT<A<AB	single-nonmonotonic	A ← B
AB<A<WT<B	single-nonmonotonic	A ← B
AB<B<WT<A	single-nonmonotonic	A → B
WT<A<AB<B	single-nonmonotonic	A → B
WT<B<AB<A	single-nonmonotonic	A ← B
A<B<AB<WT	double-nonmonotonic	
B<A<AB<WT	double-nonmonotonic	
A<B<WT<AB	double-nonmonotonic	
B<A<WT<AB	double-nonmonotonic	
A<B<WT=AB	double-nonmonotonic	
B<A<WT=AB	double-nonmonotonic	
A=B<AB<WT	double-nonmonotonic	
A=B<WT<AB	double-nonmonotonic	
A=B<WT=AB	double-nonmonotonic	
AB<WT<A<B	double-nonmonotonic	
AB<WT<B<A	double-nonmonotonic	
AB<WT<A=B	double-nonmonotonic	
WT<AB<A<B	double-nonmonotonic	
WT<AB<B<A	double-nonmonotonic	
WT<AB<A=B	double-nonmonotonic	
WT=AB<A<B	double-nonmonotonic	
WT=AB<B<A	double-nonmonotonic	
WT=AB<A=B	double-nonmonotonic	

^a Blank table fields indicate symmetric interactions. Arrows indicate a conventional representation of asymmetry. These conventions are used in visual representations throughout this work.