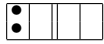
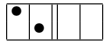
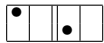


**Table S1** Recursion matrix for calculating two-locus autosomal haplotype probabilities in the generation of four-way RIL by sibling mating

State at $k$		State at $k + 1$		
		1	2	3
1		$1 - r$	0	$1/4$
2		$r$	0	$1/4$
3		0	1	$1/2$