

TABLE S3**Components of the direction vectors for simulations C-2 and C-3**

	w^1	c^2	w^2	c^2
C-2.1	$w_j^1 = 0.577,$ $j = 11, 12, 13.$ $w_j^1 = 0$ $j = 1, \dots, 10, 14, \dots, 145.$	0.5	$w_j^2 = 0.707,$ $j = 136, 137.$ $w_j^2 = 0$ $j = 1, \dots, 135, 138, \dots, 145.$	1.5
C-2.2	same as above	1	same as above	3
C-3	same as above	$\sim \text{Unif}(-0.3, 0.3)^*$	same as above	1.5

Direction vectors for the first and second hidden components (i.e., eQTL mechanisms) are represented by w^1 and w^2 and the corresponding control sizes are by c^1 and c^2 , respectively. *: The control size is set to 0.5 for transcript number 30.