

S1 Table. Map distances measured in spores from *non-4* spore-viable tetrads

Strain	Interval (chromosome)	# Recombinant Spores	Total Spores	cM (S.E.)	% WT
<i>S.c. ZIP1 MSH4</i>	<i>HIS4-CEN3 (III)</i>	67	274	24 (.03)	100
	<i>CEN3-MAT (III)</i>	58	274	21 (.02)	100
	<i>MAT-RAD18 (III)</i>	92	274	34 (.03)	100
	<i>RAD18-HMR (III)</i>	48	274	18 (.02)	100
	<i>SPO11-SPO13 (VIII)</i>	72	274	26 (.03)	100
	<i>iLEU2- iTHR1 (XI)</i>	21	274	8 (.02)	100
<i>S.c. ZIP1 msh4Δ</i>	<i>HIS4-CEN3 (III)</i>	70	1066	7 (.01)	29
	<i>CEN3-MAT (III)</i>	75	1066	7 (.01)	33
	<i>MAT-RAD18 (III)</i>	168	1066	16 (.01)	47
	<i>RAD18-HMR (III)</i>	115	1066	11 (.01)	61
	<i>SPO11-SPO13 (VIII)</i>	131	1066	12 (.01)	46
	<i>iLEU2- iTHR1 (XI)</i>	59	1066	6 (.01)	75
<i>K.l. ZIP1 MSH4</i>	<i>HIS4-CEN3 (III)</i>	348	1498	23 (.01)	96
	<i>CEN3-MAT (III)</i>	371	1498	25 (.01)	119
	<i>MAT-RAD18 (III)</i>	334	1498	22 (.01)	65
	<i>RAD18-HMR (III)</i>	298	1498	20 (.01)	111
	<i>SPO11-SPO13 (VIII)</i>	420	1498	28 (.01)	108
	<i>iLEU2- iTHR1 (XI)</i>	135	1498	9 (.01)	113
<i>K.l. ZIP1 msh4Δ</i>	<i>HIS4-CEN3 (III)</i>	344	1804	19 (.01)	79
	<i>CEN3-MAT (III)</i>	336	1804	19 (.01)	90
	<i>MAT-RAD18 (III)</i>	368	1804	20 (.01)	59
	<i>RAD18-HMR (III)</i>	297	1804	16 (.01)	89
	<i>SPO11-SPO13 (VIII)</i>	492	1804	27 (.01)	104
	<i>iLEU2- iTHR1 (XI)</i>	167	1804	9 (.01)	113