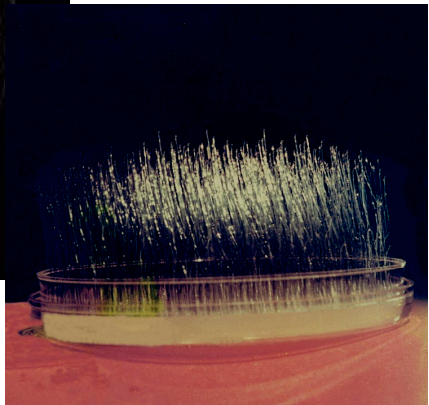
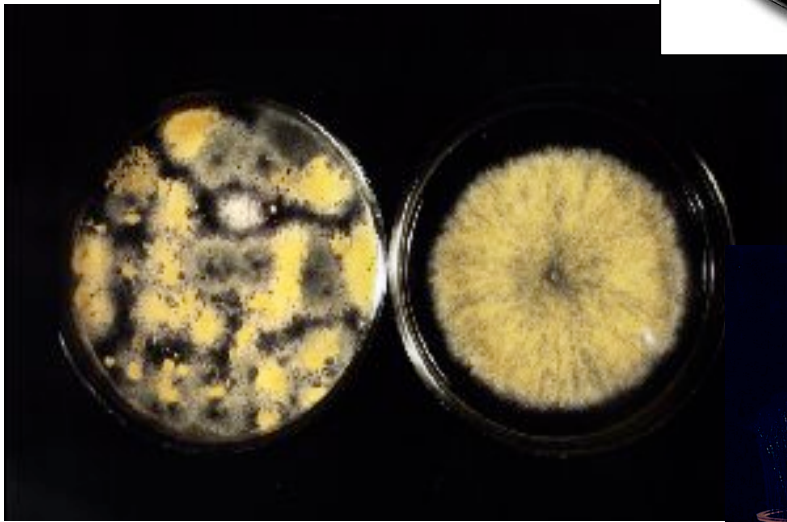
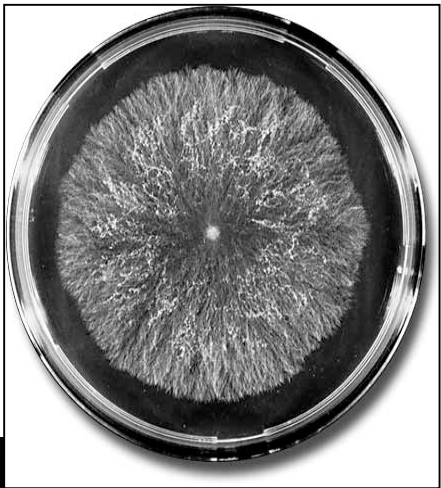
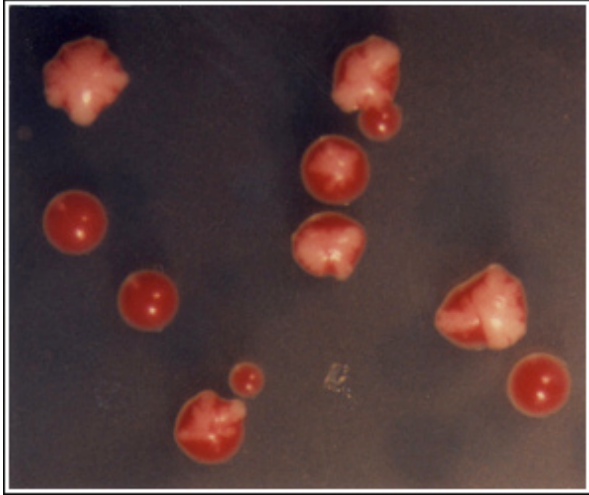
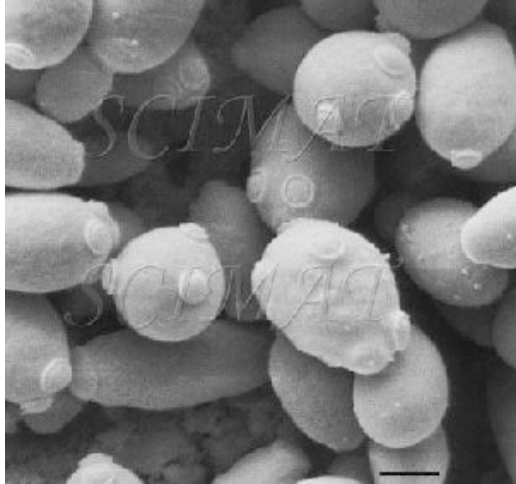
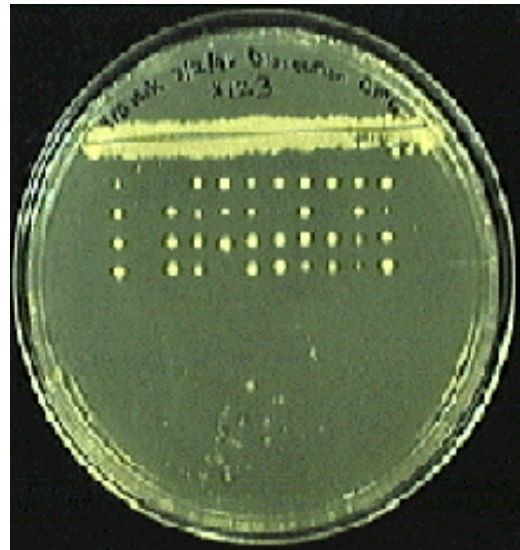
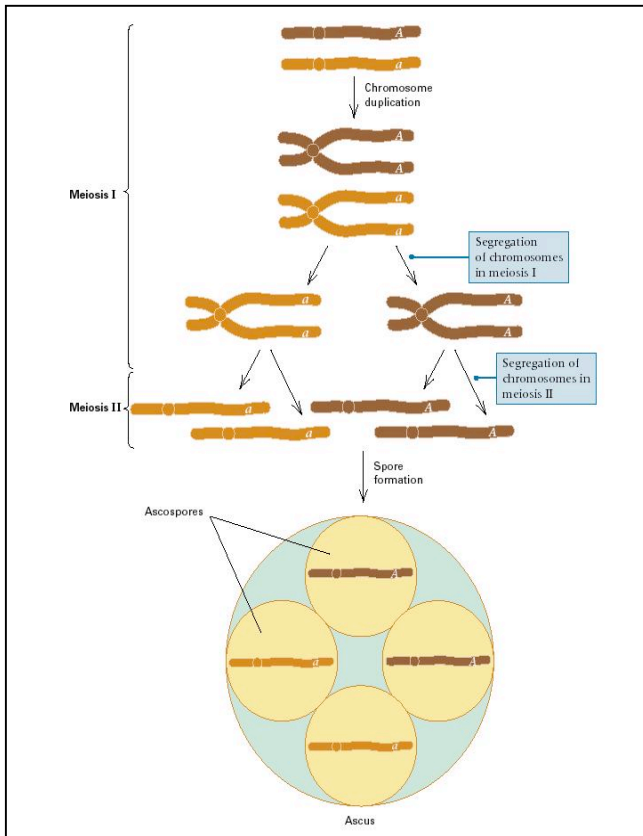
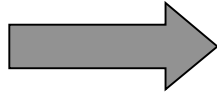
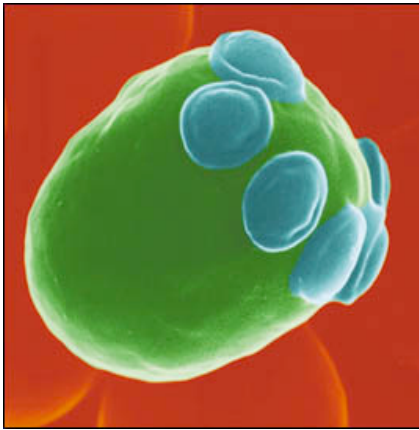


Tema 5

**Análisis genético y
mapas genéticos en
haplontes**

Organismos haploides



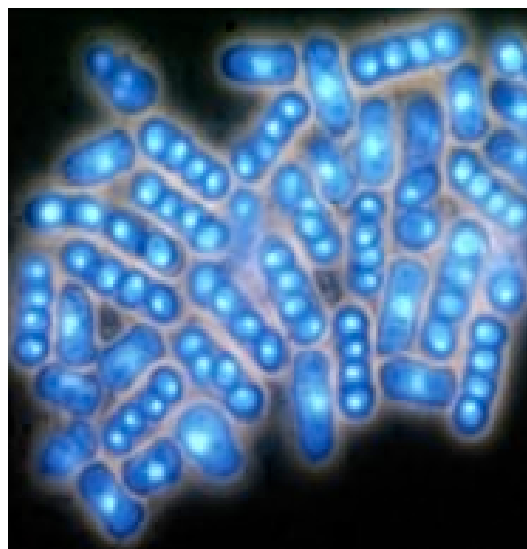
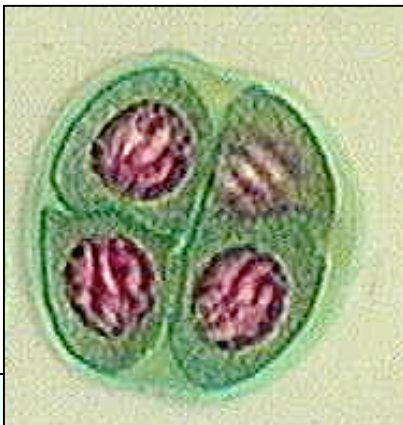


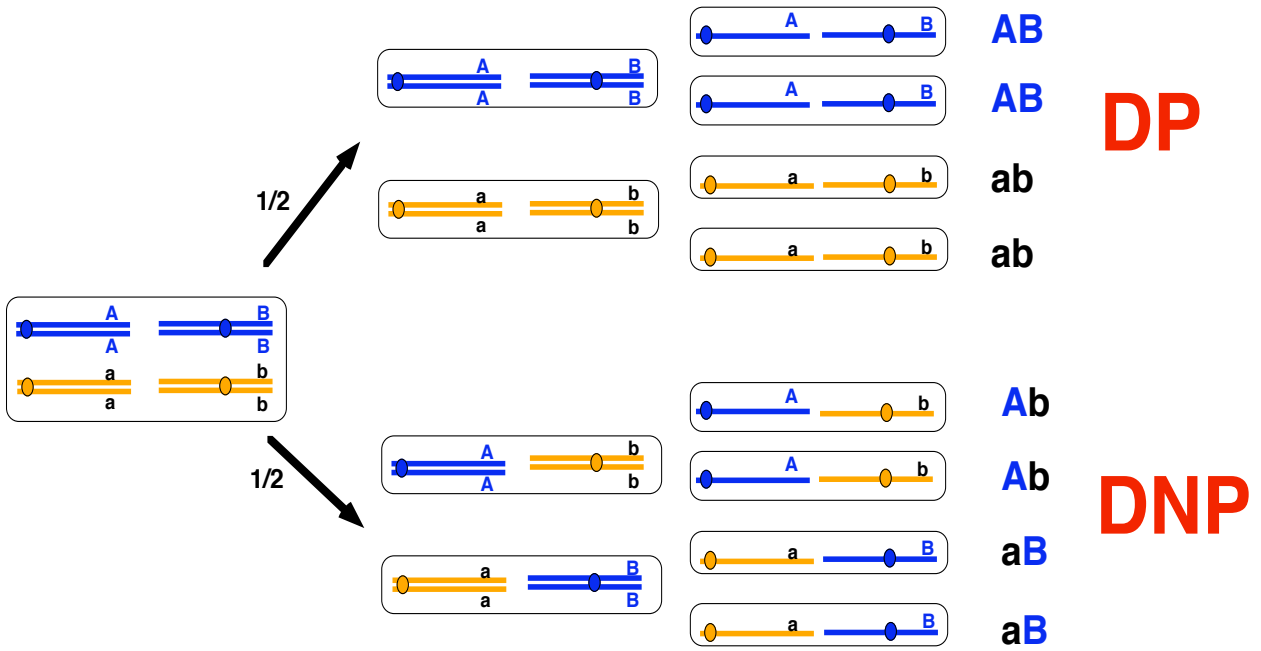
Análisis genético en levaduras

1. Análisis en masa

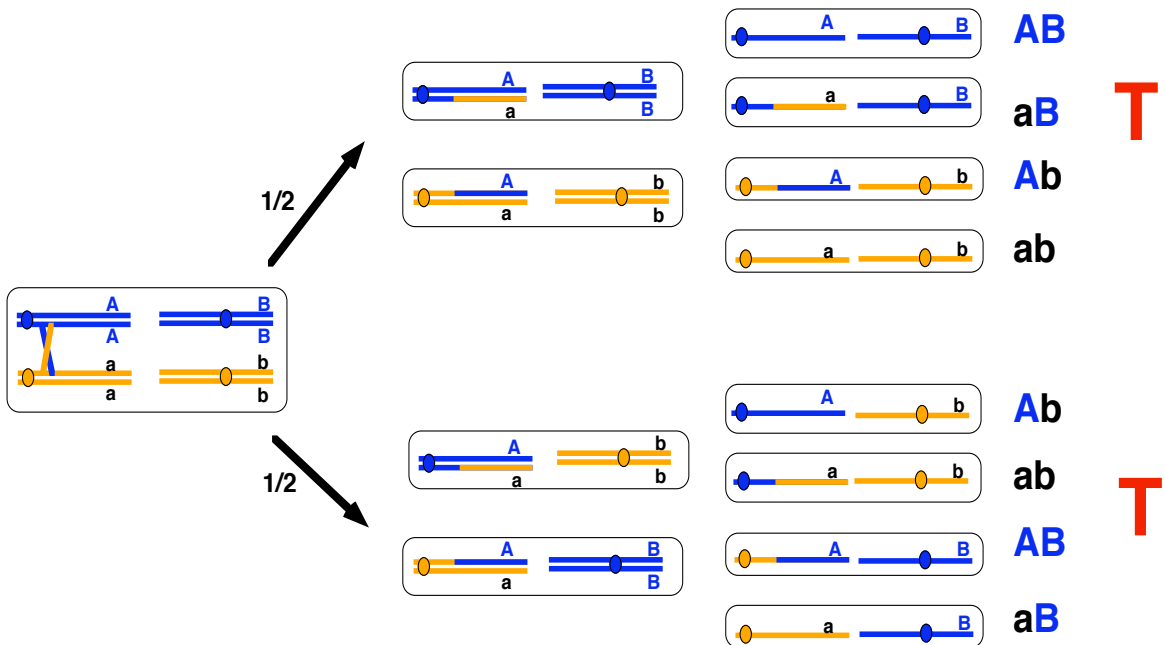
FR: n° colonias recombinantes / n° total

2. Análisis de tétradas

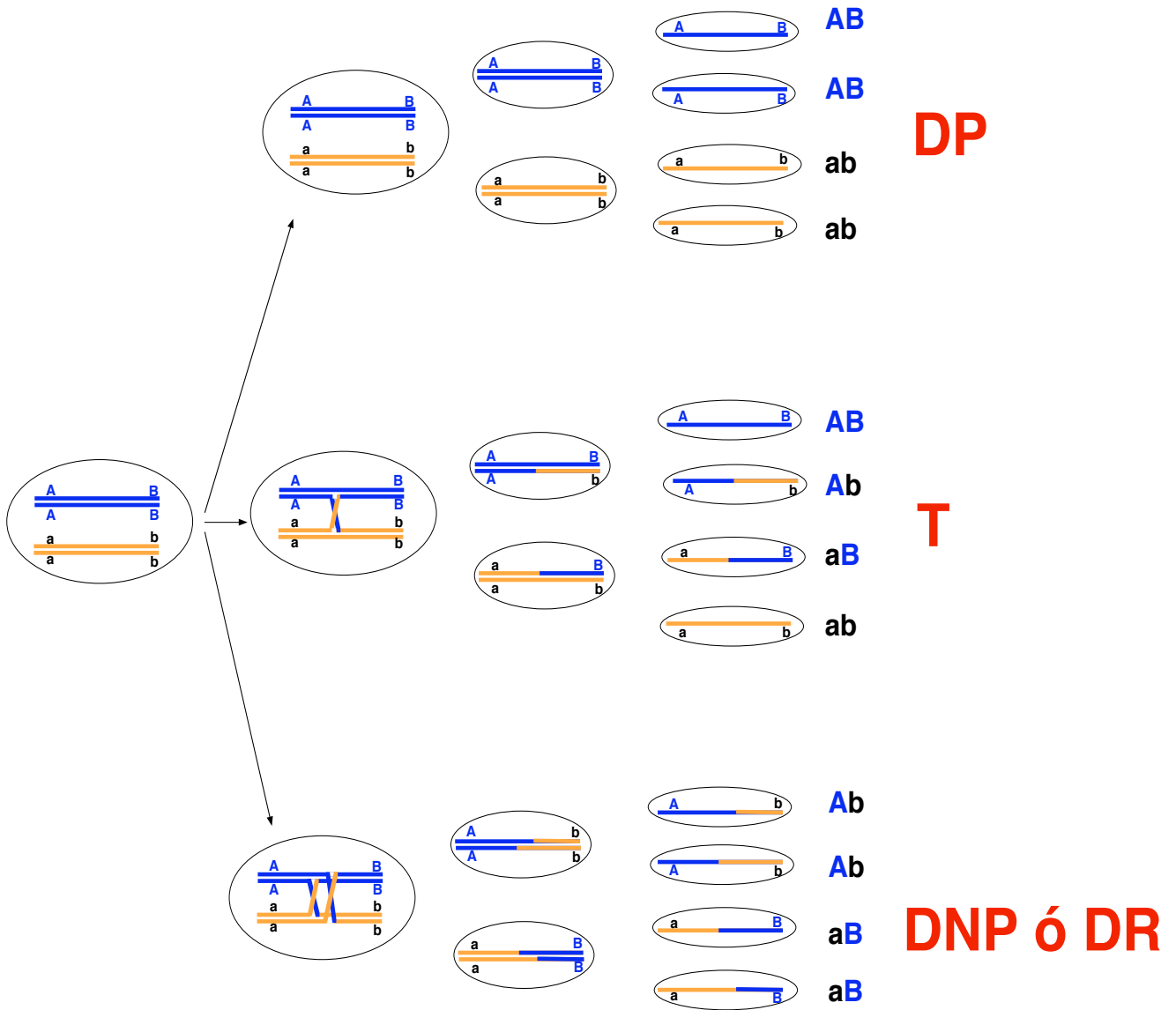




DP = DNP



↑ T → ↑ Distancia al centrómero

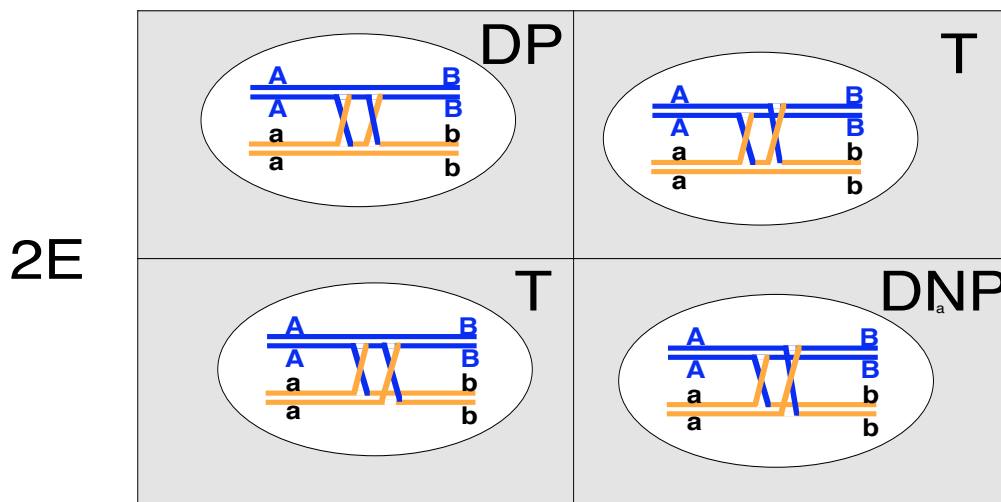
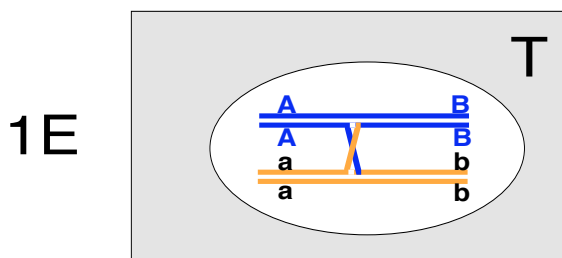
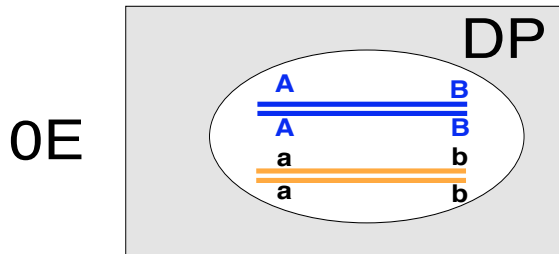


DP > DNP
T > DNP

$$FR = \frac{1/2 T + DNP}{\text{Total tétradas}}$$

↑ Distancia entre A y B → ↑ recombinación → ↑ T y DNP

FRECUENCIA DE RECOMBINACION EN TETRADAS



$$2E = 4DNP$$

$$1E = T - 2DNP$$

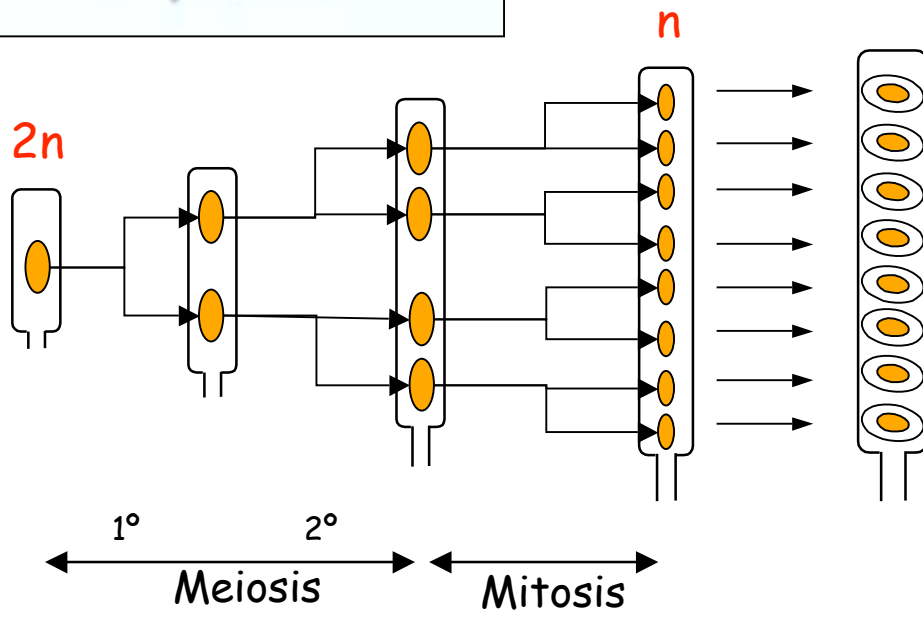
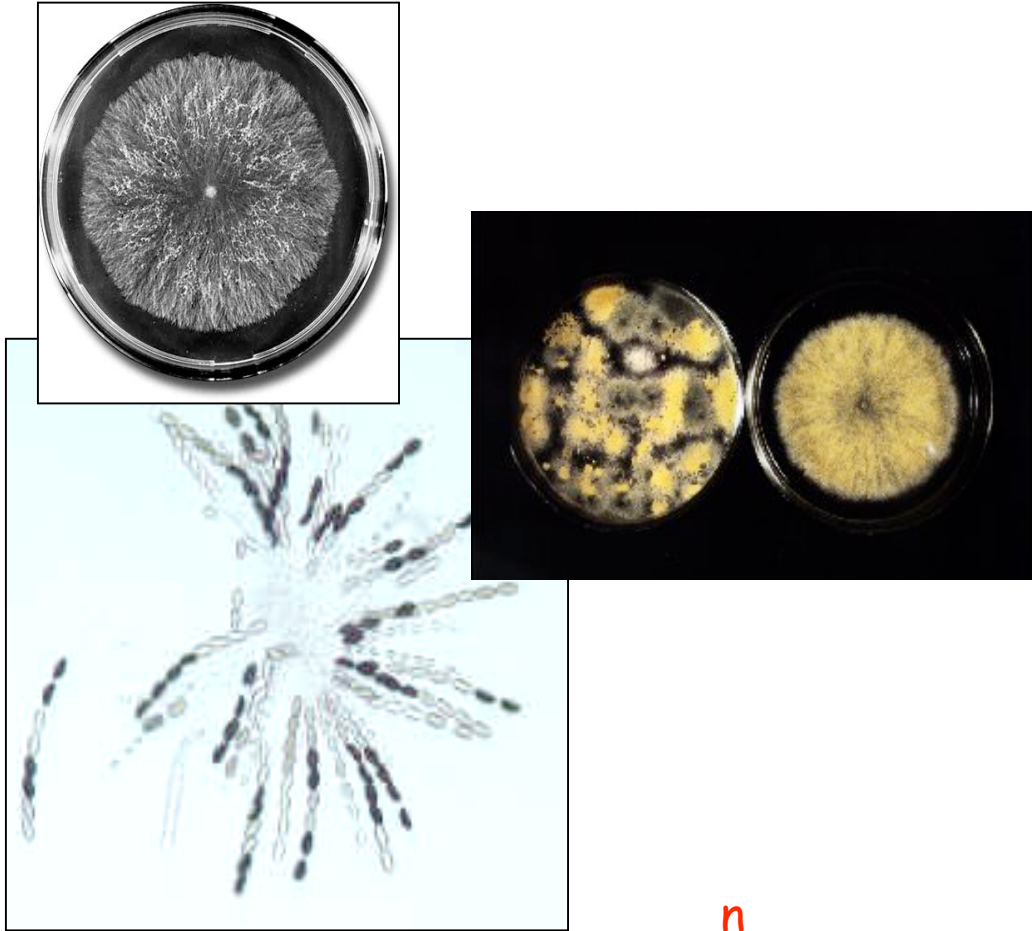
$$0E = 1 - (1E + 2E)$$

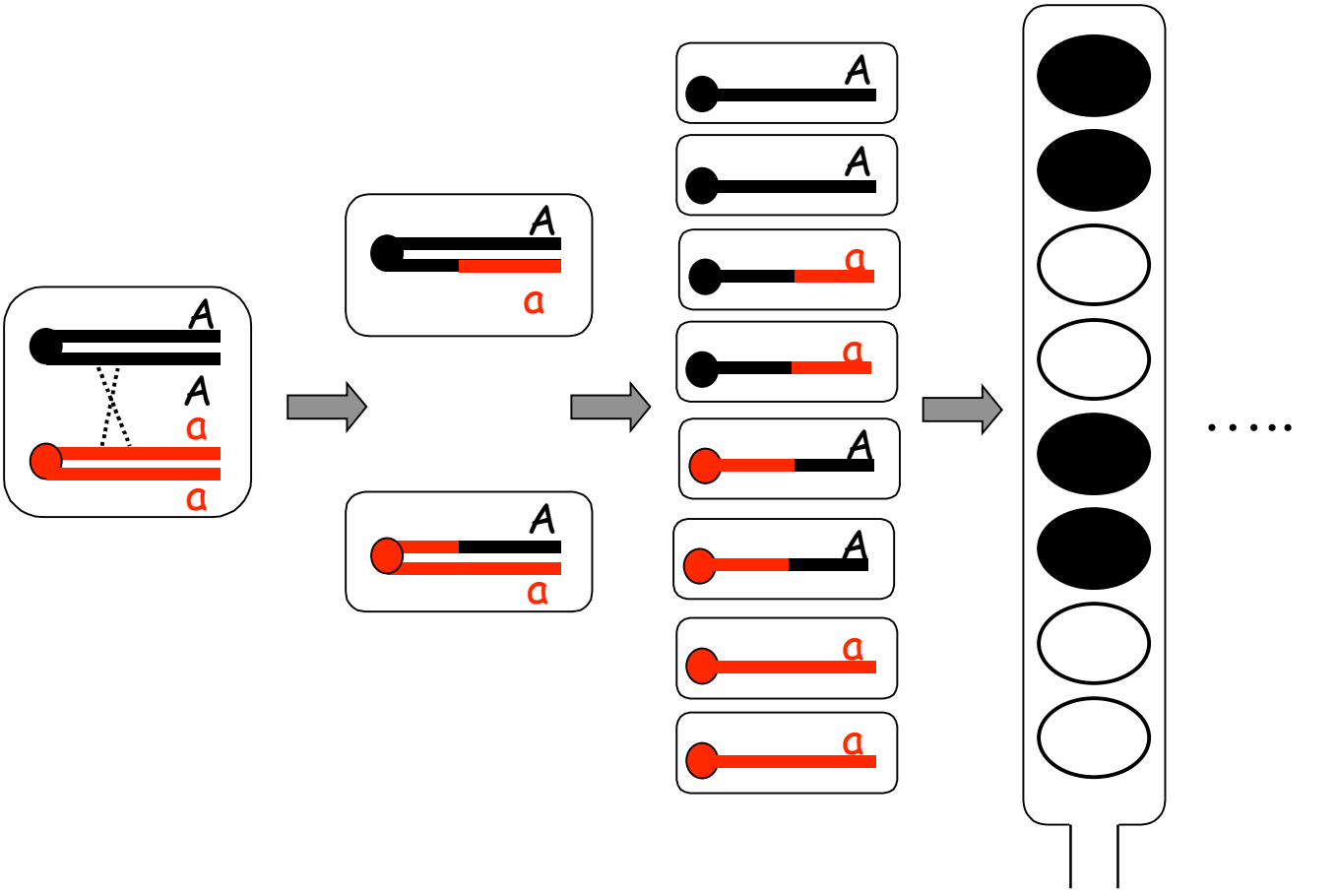
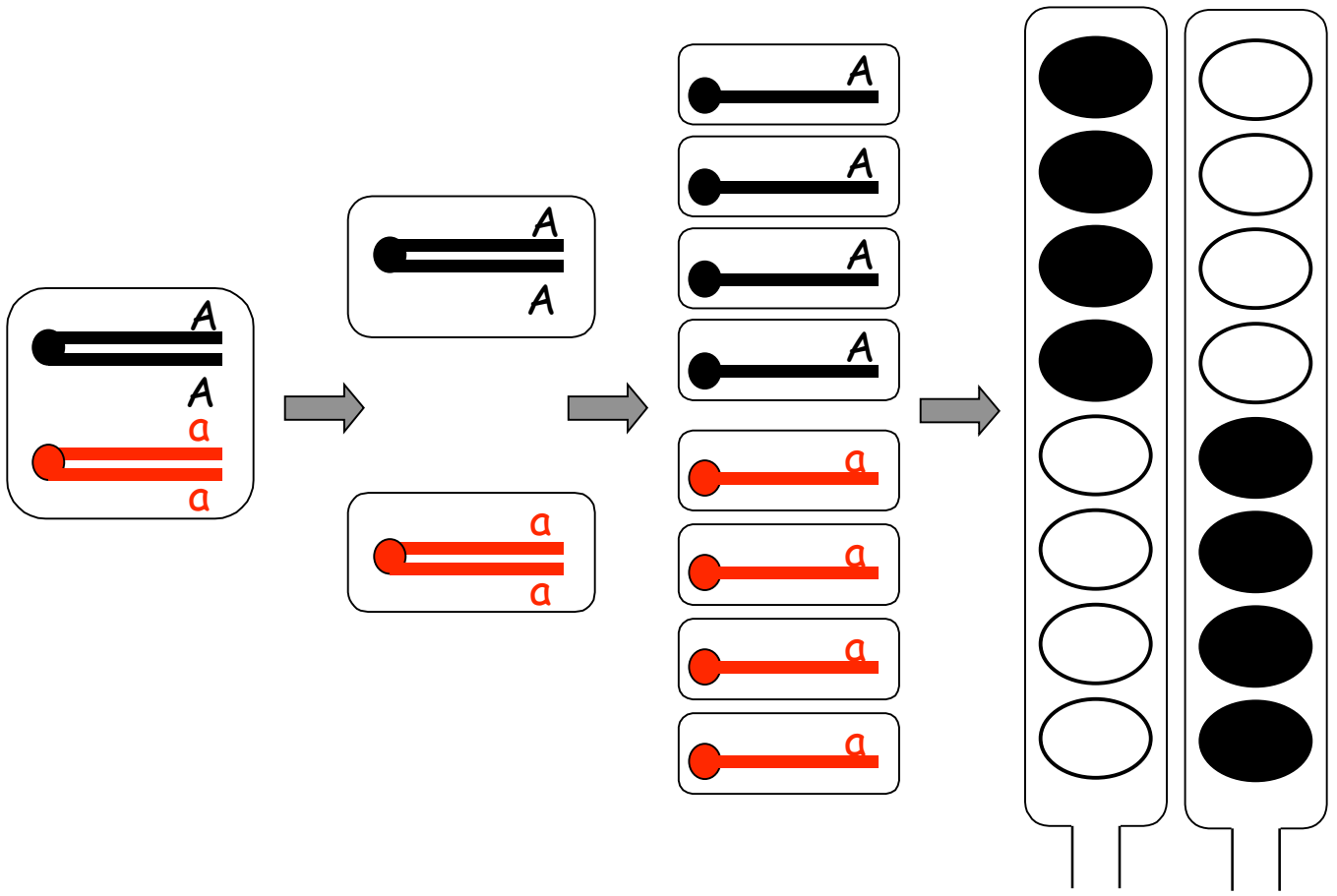
$$FR = 1/2 (1E) + (2E) / \text{Total}$$

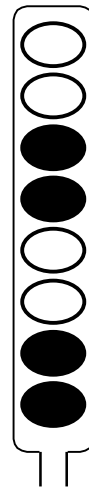
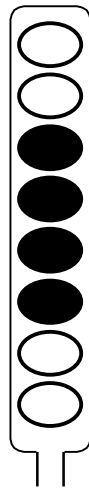
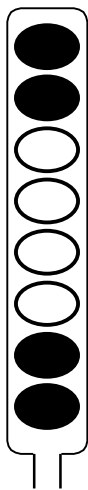
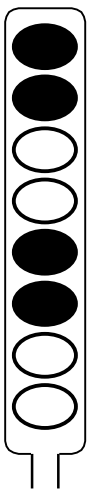
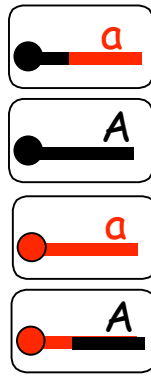
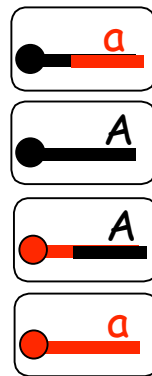
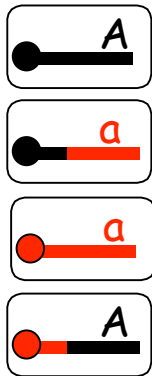
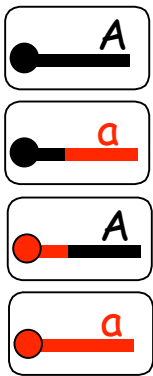
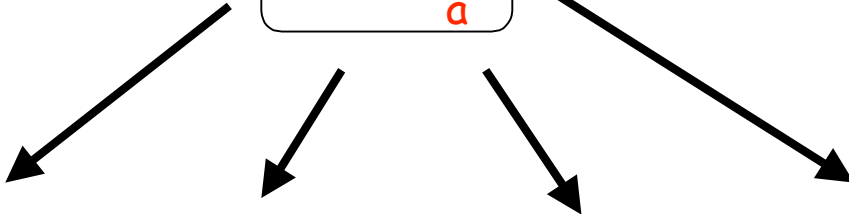
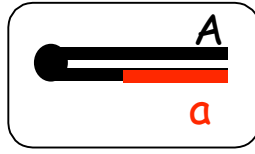
$$FR = 1/2 (T - 2DNP) + (4DNP) / \text{Total}$$

$$FR = (1/2 T + 3DNP) / \text{Total}$$

Tétradas ordenadas



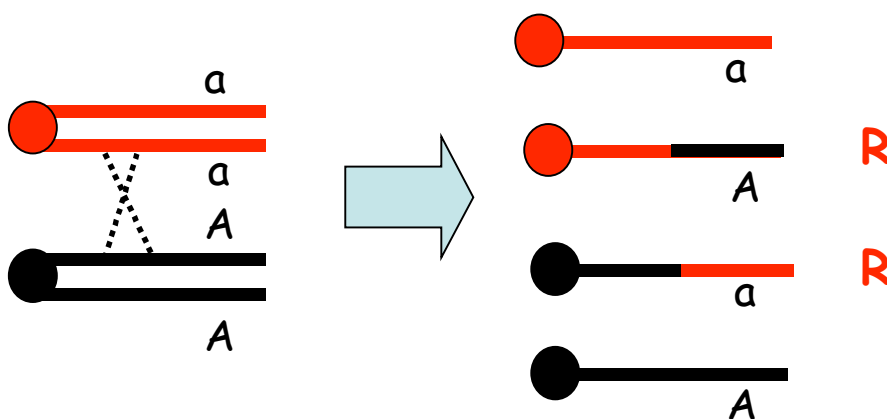




A	a	A	a	A	a
A	a	A	a	A	a
A	a	a	A	a	A
A	a	a	A	a	A
a	A	A	a	a	A
a	A	A	a	a	A
a	A	a	A	A	a
<u>a</u>	<u>A</u>	<u>a</u>	<u>A</u>	<u>A</u>	<u>a</u>
126	132	9	11	10	12

La distancia se A al centrómero es proporcional a la frecuencia de la tétradas recombinantes

$$FTR = 9 + 11 + 10 + 12 / 300 = 14\%$$



Distancia del gen A al centrómero: frecuencia de cromátidas recombinantes

$$\text{Distancia} = FTR / 2$$

$$\text{Distancia} = 14 / 2 = 7\% = 7 \text{ um}$$

Neuróspora

Color (gen *y*) $\begin{cases} \blacktriangleright + \\ \blacktriangleleft y \end{cases}$

Síntesis de adenina $\begin{cases} \blacktriangleright + \\ \blacktriangleleft ad \end{cases}$

$+ ad \times y +$

1	2	3	4	5	6	7
+ ad	++	++	+ ad	+ ad	++	++
+ ad	++	++	+ ad	+ ad	++	++
+ ad	++	+ ad	y ad	y +	y ad	y ad
+ ad	++	+ ad	y ad	y +	y ad	y ad
y +	y ad	y +	++	+ ad	++	+ ad
y +	y ad	y +	++	+ ad	++	+ ad
y +	y ad	y ad	y +	y +	y ad	y +
y +	y ad	y ad	y +	y +	y ad	y +
808	1	90	5	90	1	5

Distancia entre *Ad* e *Y*

$$FR = FTR/2$$

Distancia entre genes *y*
sus centrómeros

$$FR = (1/2 T + 3DNP) / Total$$